California Digital Learning Integration and Standards Guidance

Submitted by:

Sacramento County Office of Education

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Introduction

Years of substantial investment in technology infrastructure for schools, including equipping students and teachers with internet connectivity and devices, have set the conditions for transformative innovation of learning. When used effectively in online (synchronously or asynchronously), hybrid, or face-to-face environments, digital tools can accelerate sound pedagogical practices and facilitate student growth as lifelong, empowered learners. Benefits of strategic technology use to support learning include:[1]

- promoting active student engagement in the learning process;
- nurturing opportunities for ongoing collaboration with peers, educators, families, and a global community of experts;
- building on prior knowledge to deeply reinforce essential skills, such as executive functioning, critical thinking and reasoning, creativity, communication, cross-cultural understanding, and decision-making;
- providing means of authentically connecting students' learning to the world beyond their physical learning environment; and
- fostering student agency to set personal learning goals and plans and continuously monitor and evaluate their own progress.

In addition to the benefits for students, technology can serve as an important tool for educators to cultivate supportive relationships with students and families, redesign instruction using competency-based learning models, equitably differentiate instruction, support individual learner needs, and build student knowledge of effective digital learning practices through connections with peers, experts, and professional learning networks.

Many leaders and educators from across California have already recognized that the post-pandemic moment provides a unique opportunity for the education system to shift towards a reimagined learning model in which technology is not perceived as a supplementary resource but a core tool to ensure student success.

To support schools in the effective implementation of technology to support learning, the *California Digital Learning Integration and Standards Guidance* provides strategies to build educator and system capacity. The guide is based on foundational, research-based digital learning practices, including engaging in personal interaction, building classroom communities, promoting collaboration, incorporating authentic assessment, designing active learning activities, and cultivating student-centered opportunities to build agency.

[1] https://tech.ed.gov/netp/

The guide connects decades of research on digital learning (See Appendix A) to inform specific topics outlined in Senate Bill 98 (SB 98).[2] SB 98 identifies the topics for the development of a draft distance learning curriculum and instructional guidance for mathematics, English arts, and English language development that includes a framework for addressing critical standards and other topics related to distance learning. Furthermore, two nationally-recognized sets of standards, the International Society for Technology in Education (ISTE) Standards for Educators and the National Standards for Quality Online Teaching, were used as a framework to align recommendations for effective technology use. And finally, input from the California Distance Learning Advisory Committee, parents/caregivers, and students was used to inform the recommended strategies for educators.

The guide is organized into three sections, Sections A, B, and C. Section A presents six distinct areas of need. Addressing each area of need is essential to ensuring digital learning opportunities are effective and equitable. Sections B and C of the guide provide standards guidance for Mathematics and English Language Arts/English Language Development by identifying and addressing critical areas of instructional focus.

- Section A
    - Chapter 1
        - Ensuring Equity and Access
        - Preparing and Supporting Teachers for Digital Teaching
        - Designing Meaningful Online and Blended Learning Experiences
    - Chapter 2
        - Assessing Students in Authentic Ways
    - Chapter 3
        - Infusing Social and Emotional Learning
        - Cultivating Educator and Student Well-being
- Section B
    - Chapters 4-9
        - Standards Guidance for Mathematics
- Section C
    - Chapters 10-16

[2] https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201920200SB98

- Standards Guidance for English Language Arts, Literacy, and English Language Development

This guide incorporates vignettes and interviews featuring California educators throughout the chapters. These vignettes and interviews provide examples of topic-specific, recommended strategies and resources for educators as they teach within and design digital learning environments. The following provides a summary of the key concepts presented in each chapter.

Chapter 1 explores how to best ensure equity and access for all students, especially those who are affected by structural and institutional injustices during health and economic crises (PACE, 2020), including students with disabilities, English learners, foster youth, and students experiencing homelessness (Repetto, Spitler, & Cox, 2018). Chapter 1 also includes a subsection on Preparing and Supporting Teachers for Digital Teaching, as pedagogical approaches and strategies for online and hybrid environments are vastly different than those used in a traditional setting (Archambault & Kennedy, 2018). Therefore, effectively incorporating technology into learning experiences requires strategic professional learning (Kolb & Carter, 2020) that is ongoing, practice-based, culturally relevant, content-specific, and context-specific. Designing Meaningful Online and Blended Learning Experiences is the final topic addressed in Chapter 1. This area provides practical guidance for educators who are designing online and hybrid learning experiences, including key considerations for aggregating time for synchronous and asynchronous learning.

Chapter 2 focuses on the importance of assessments in a digital environment. Specifically, the chapter focuses on suggestions for implementing formative, summative, interim, and diagnostic assessments in online and blended learning environments. These assessments are essential in order to determine effectiveness of pedagogical strategies, understand individual students' needs and supports, and inform and individualize instruction to accelerate learning.

Chapter 3 focuses on fostering healthy, equitable, and inclusive digital communities, including Infusing Social and Emotional Learning (SEL) and Cultivating Educator and Student Well-being. By emphasizing SEL and well-being, schools can create virtual learning environments that are safe and inclusive that support equitable student outcomes.

Chapters 4 through 9 provide standards guidance for mathematics by addressing critical areas of instructional focus. The standards guidance is intended to support teachers as they implement mathematics instruction in online, blended, or in-person learning environments. The standards guidance is organized around the "big ideas" proposed in the draft 2021 *Mathematics Framework for California Public Schools, Kindergarten Through Grade Twelve* (*Mathematics Framework*), with an adoption target date of November 2021, which seeks to support teachers in moving to the teaching of meaningful mathematics and enabling students to develop an interconnected understanding of different concepts. Chapter 4 outlines additional suggestions for digital learning practices relevant to this content area, while Chapter 5 provides an introduction to the standards guidance and highlights the importance of the content and the ways it

is connected to other content and practices. Chapters 6 through 9 organize guidance for standards by grade level.

Chapters 10 through 16 provide standards guidance in English Language Arts (ELA), Literacy, and English Language Development (ELD) by addressing critical areas of instructional focus. The standards guidance will support teachers as they implement ELA, literacy, and ELD instruction in online, blended, and in-person learning environments. The organization of the standards highlights their relationships and reflects an integrated model of literacy instruction. The standards are clustered within and across strands and organized primarily by the five crosscutting themes in the *ELA/ELD Framework for California Public Schools: Kindergarten Through Grade Twelve,*[3] which include meaning making, language development, effective expression, content knowledge, and foundational skills. Chapter 10 outlines additional suggestions for digital learning practices relevant to these content areas, while Chapter 11 provides an introduction to the standards guidance. Chapters 12 through 16 organize guidance for standards by grade level.

California schools have the opportunity to re-envision the education system and take steps to build more equitable learning environments for educators and students using technology. Leveraging the strategies and recommendations featured in this guide, educators can learn about how to change the trajectory of the future of teaching and learning, develop a curriculum map for online instruction, and collaborate with colleagues to build a collection of lessons and activities designed with their students in mind. Through intentional planning and high-quality instruction, educators are at the precipice of a new beginning and have the power to chart a new course for digital teaching and learning to be more student-centered, inclusive, and equitable.

[3] https://www.cde.ca.gov/ci/rl/cf/elaeldfrmwrksbeadopted.asp

Section A: Implementing Research-Based Digital Learning Practices

Chapter 1: Designing Effective and Engaging Digital Learning

Ensuring Equity and Access

High-quality digital learning requires intentional planning and effective online instruction. When designing online or blended learning experiences, research-based guidance is essential in helping meet the needs of every student and educator. Quality technology and focused instruction that is student-centered and engaging enhance students' virtual learning experiences.

A prerequisite to effective digital learning is the availability of reliable infrastructure. When creating a reliable infrastructure, three core elements must be addressed: internet connectivity, digital devices, and content management.

Internet Connectivity

For nearly 20 years, the state has funded the K-12 High Speed Network, with the goal of ensuring reliable internet connectivity at schools throughout the state. When the COVID-19 global pandemic emerged, however, that reliable school network was not able to meet the needs of the approximately one million CA learners who lacked internet access in their homes. This digital divide became a significant barrier, impacting economically disadvantaged families and students of color at disproportionate rates. To address this situation, CA legislation and a variety of California Department of Education (CDE) sponsored initiatives were implemented.[4] County offices of education and school districts also leveraged varying approaches to provide connectivity to their learners during the pandemic as can be seen in the following examples.

The Fullerton Joint Union High School District purchased and distributed 500 Wi-Fi hotspots for students without internet access at home.[5] This is an example of the immediate response of many districts throughout the state that purchased hotspots and computer devices for students as they pivoted to distance learning.

West Contra Costa Unified, a 30,000-student district in the East Bay Area with more than 65 percent of its students eligible for free and reduced-price meals, created a

[4] https://www.cde.ca.gov/eo/in/digitaldivide.asp

[5] https://edsource.org/2020/why-distance-learning-is-a-success-in-one-california-district/630051

community wireless network to make Wi-Fi available to students without internet service.[6]

Moreno Valley Unified School District equipped school busses with Wi-Fi hot spots to offer internet access to students who did not have access at home. Busses were parked at strategic locations around Moreno Valley to offer internet access to its students.[7]

Many other districts have devised creative ways for providing internet connectivity for students. Nevertheless, many students have been significantly hampered (or impeded) due to limited access or slow internet connectivity. Feedback generated from online surveys and parent and student focus groups validated the lack of adequate connectivity for home-based instruction. It is critical that teachers and school staff speak with each family to ensure a reliable connectivity plan is in place for them as the foundational element of effective digital learning. To assist with connecting families to affordable offers for internet service, CDE has identified the Internet For All Now web page as a useful resource.[8]

Digital Devices

The second core element essential for the successful implementation of effective online and blended learning is a personal digital device, not only for students but also for educators (e.g., access to additional monitors).[9,10] At the beginning of the COVID-19 pandemic, the CDE partnered with major technology companies to create programs to make it easier for schools to acquire necessary equipment and services for their students. Tony Thurmond, State Superintendent of Public Instruction, said, "We cannot stop until we know that we have leveled the playing field for every student in California by connecting them to the technology they need to succeed now, and in the years ahead."[11] Realizing the importance of equipping every student with a digital device, both large and small CA districts are devising solutions. Los Angeles Unified School District (LAUSD) authorized an emergency investment of $100 million to provide laptops for students who did not already have one. LAUSD Superintendent Austin Beutner shared, "This is an unprecedented commitment, but a necessary one. Many of our families are

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[6] https://edsource.org/2021/california-schools-build-community-wireless-networks-to-bridge-digital-divide/645919

[7] https://www.mvusd.net/apps/news/article/1350096

[8] https://www.internetforallnow.org/get_affordable_internet_today

[9] https://www.twoscreensforteachers.org/

[10] https://www.edsurge.com/news/2021-01-27-a-shockingly-simple-way-to-improve-online-school

[11] https://www.cde.ca.gov/nr/ne/yr20/yr20rel81.asp

struggling to make ends meet and cannot afford to do this on their own — but their children deserve the same opportunity those in more affluent communities have."

Oakland Unified School District (OUSD) created a coalition to increase the number of students and teachers with access to devices and strong internet connectivity. Serving as a model of collaboration across diverse stakeholder groups, the coalition includes partners from the OUSD, Office of the Mayor, and charter school leaders, as well as representatives from community organizations, such as Tech Exchange, Oakland Public Education Fund, and Oakland Promise.

To augment state and public-school efforts, a number of nonprofit agencies in California are helping to make computers available for low-income families. For example, Computers for Schools will provide refurbished computers available to schools in which 75 percent of the students qualify for free or reduced-priced meals at a highly reduced cost. In addition to Computers for Classrooms, dozens of other nonprofit organizations make computers and laptops available for low-income families. The best way to find these programs is to do a simple web search using the search string, "California low cost computers for schools."

Content Management

Learning Management Systems

With connectivity and devices in place, a third key element of a digital learning infrastructure is a learning platform or platforms. Learning platforms help organize learning, enable communication, and provide tools for participation in online learning. Many schools have a synchronous digital learning platform (e.g., Zoom or Microsoft Teams) for classes to meet in real time. Another common learning platform is a learning management system (LMS). An LMS is generally used as a platform to store digital learning content, maintain class calendars, and manage assignment submissions and feedback. LMS platforms help provide an organizational structure for both online and in-person learning, as well as provide means of asynchronous communication between teachers and students.

Schools and districts often invest considerable financial resources in LMSs to support instructional delivery and assessment. After schools and districts have selected an LMS, teachers can begin to share learning materials aligned to the district curriculum. It is critical for teachers to understand how to use an LMS and to participate in ongoing professional learning to ensure students and teachers are supported in the use of the platform. As teachers become proficient in using the LMS, they can begin to incorporate specific grade-level or course content.

Other Content Management Supports

There are many other types of online learning platforms that can be used to support in-classroom or online learning. These include video libraries, collaboration tools, polling/assessment systems, and digital portfolio systems. Rarely does any one single

online learning platform meet all of the learning needs of a school or district. Schools and districts should identify the types of learning interactions they want to enable and seek top-rated platforms to enable these interactions. Services, such as the EdSurge Product Index, can help provide reviews of the functionality of various digital learning platforms.

Lack of access to the internet, electronic devices, and appropriate learning software inhibits effective digital learning. Educators need time and support to familiarize themselves with the resources their district has available. CDE provides guidance related to equity and access, emphasizing that "LEAs should assess how all students will be able to access e-learning, looking at:

- whether a student has access to the internet,
- whether a student has access to a device and what alternatives exist for them to access a device,
- what support students need in order to comply with student privacy guidelines,
- how familiar a student is with the device and necessary support to ensure they are familiar with navigating its features, and
- additional support for teachers."[12]

With internet service and devices in place for students, schools and districts may also need to provide training on how to use the technology. This training would include basic information about how to use the devices, or how to navigate the user interface to access materials required for students' learning. Families and caregivers might also need to learn about their role in supporting digital learning. Specific activities, such as remote testing, may also require additional support for students and their families.[13] Part of this training can also include topics, such as attendance expectations and monitoring, student data privacy, security, safety, acceptable use for devices, and accessibility features or integration of assistive technologies for inclusive access.[14] Districts and schools might also consider providing training in multiple languages and via various communication methods based on their needs of their community.

Ongoing technical support is crucial as well. Some districts rely on a technical support department that provides just-in-time assistance to students, families, and caregivers. Whether teachers rely on technical support from a district team or are involved in providing direct technical support to students and families/caregivers, they play a critical role in ensuring that students, families, and caregivers have the knowledge, skills, and tools needed to support learning. This is especially true for vulnerable populations, such

[12] https://www.cde.ca.gov/ci/cr/dl/dlconsiderations.asp

[13] https://edsource.org/2021/california-schools-struggle-to-test-english-learners-progress-during-pandemic/648365

[14] https://tech.ed.gov/files/2021/01/Teacher-Digital-Learning-Guide.pdf

as students with disabilities, English learners, foster youth, and youth experiencing homelessness.

Meeting the Needs of Students with Disabilities

Shifting to a distance learning environment has offered both challenges and opportunities for students with disabilities, their families, educators, and related service providers. In that individualized education programs (IEPs) have typically been customized to an in-person learning environment, these challenges are exacerbated for students who require a significant level of support in order to access their education. For some students, however, distance learning presents an opportunity to reimagine delivery of their education, and online learning may mitigate some barriers that previously existed during in-person learning. This section of the guide is intended for both general and special education teachers and staff to support deep partnership through mutual goals of reaching and teaching every learner.

It is essential that LEAs plan for future and sudden pivots so that students with disabilities are provided the right to a free appropriate public education (FAPE) in their Least Restrictive Environment (LRE) under the Individuals with Disabilities Education Act (IDEA), regardless of in-person or distance learning. The speed at which schools had to shift to distance learning during the pandemic underscored the need to plan ahead for any future school site closures. It also prompted legislation requiring LEAs to include distance learning plans in all future IEPs. In general, the extent to which education (online, hybrid, or in-person) is provided to students without disabilities sets the foundation of what should be provided to students with disabilities. For example, if an LEA is offering three hours a day of distance learning, it must offer at least that to students with IEPs. That does not mean, however, that an LEA cannot offer more.

In addition, students with disabilities, regardless of a shift to distance learning, are required to receive their education, to the maximum extent appropriate, with nondisabled peers just as they are when learning in person. It is also important to note that although students may be accessing their education from home, LEAs remain responsible for ensuring FAPE and student outcomes when learning environments transition to online settings at home.

To ensure each student with an IEP has access to the tools and support they need to access their learning, an IEP distance learning plan should specify how a student will access the general education curriculum (accommodations and modifications), receive related services, and interact with peers without disabilities. Providing inclusive opportunities should remain an important component/consideration in distance learning as it is for in-person school. In planning for distance learning options, it is essential for school districts to consider how to implement all aspects of a student's IEP via distance learning. This includes not only access to curriculum and instruction, but also includes provision of related services. In addition, school districts must consider the accessibility of the curriculum and how students with disabilities may require modifications both to the technology (assistive technology) and the information being delivered. Provision of related services may require special technology (e.g., large screens, multiple devices, additional specialized equipment for students who are blind or low vision, or hard of

hearing) for services, such as speech therapy, occupational therapy, counseling, and language interpretation.

Unlike some other federal and state laws and regulations that were suspended during the pandemic, no provisions of the IDEA were waived or suspended. This means that students with disabilities had and continue to have the right to access their education in accordance with all existing rules, regulations, and statutory timelines. The U.S. Department of Education has released a Q&A[15] outlining LEA's responsibilities to children with disabilities during the pandemic.

As LEAs reflect on lessons learned from school closures due to the pandemic, there is a renewed opportunity to improve access for all students, including students with disabilities. These reflections offer a chance to identify and work on both previous IEP goals as well as mastery of new skills that may have been illuminated during distance learning. It also offers the opportunity for students to gain important skills in accessing technology, augmentative communication, and adaptive equipment that will assist them throughout their lives.

Assistive technology and augmentative communication allow additional opportunities for meaningful access to the general curriculum, peers, social and emotional health, and related activities both online and in-person. For students who are non-verbal, attaining skills in augmentative communication is essential to accessing a virtual environment.

Educators who need guidance on the accessibility of technology might use the resources from Educating All Learners Alliance,[16] a National Network of Educational Experts who created a resource library to help teach all learners during the pandemic. The California Open Access Project, a state-funded project at the Placer County Office of Education, also offers a set of best practices districts might consider as they refine and extend their distance learning support.[17] Two additional important resources include the California Department of Education Special Education COVID Guidance and Resources[18] web page and the U.S. Office of Special Education Programs IdeasAtWork[19] website.

Students with significant cognitive disabilities, who often require extensive support in school, will likely need additional support and planning as they pivot to distance

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[15] https://sites.ed.gov/idea/idea-files/q-and-a-providing-services-to-children-with-disabilities-during-the-coronavirus-disease-2019-outbreak/

[16] https://www.educatingalllearners.org/about

[17] https://sites.google.com/placercoe.k12.ca.us/accessible-distance-learning/making-learning-virtual/best-practices-for-distance-learning?authuser=0

[18] https://www.cde.ca.gov/ls/he/hn/specialedcovid19guidance.asp

[19] https://osepideasthatwork.org/continuity-learning-during-covid-19-resource-database

learning. The challenge to meet the needs of this unique group of students has prompted work by a number of research and technical assistance organizations who have created many evidence-based practices, suggestions, and roadmaps for consideration. One of these entities is the federally funded TIES Center (National Technical Assistance Center on Inclusive Practices) at the University of Minnesota. TIES has developed a distance learning framework known as the 5C Process, which is universal and applicable to all students including neurodiverse students learning in a virtual environment. [20] According to the Center, there are two underlying principles of the 5C Process:[21]

1. A student's learning priorities do not change just because the learning environment changes. Learning priorities are specific to the student. Learning priorities are tied to the long-term vision and planning for each student. As part of their education, students must learn and practice skills related to each priority in multiple settings. For example, if a student has a learning priority of initiating communication with peers and adults in order to reach a long-term vision of greater independence, then this priority would remain a constant regardless of where instruction happens. An annual IEP goal related to this learning priority would be developed. The IEP goal may or may not need to be modified during periods when instruction is happening at school versus home. What will need to be modified is how, when, and where the instructional plan for this IEP goal will be taught and who will support student learning in each environment. To make this shift, it is important to think about space and time differently. Learning does not just happen when students are together in the same building or space at the same time. Learning occurs both in class times and non-class times throughout the whole day.

2. An IEP is not the student's curriculum. The general education curriculum and routines and the IEP comprise a student's educational program. All students are general education students first. Special education services supplement grade-level general education curriculum and routines in order to provide access and make progress in those areas of learning. Special education services also support other learning priorities in order to enhance a student's independence or interdependence across school, home, and other typical community environments. Inherent in the 5C Process is the opportunity for teams to create IEPs that enhance and plan for meaningful, active, and engaging participation within the grade-level content with peers while also addressing the individual needs of a student.

This process is useful when considering and planning for all students with IEPs, not just those with significant cognitive disabilities. It is also important to note that special education was designed to be a support and service to allow students with disabilities

[20] https://publications.ici.umn.edu/ties/building-engagement-with-distance-learning/5c-process

[21] https://tiescenter.org/

access to the general education environment/curriculum, not a location, although some students with extensive needs may require a specialized program that is partially or completely delivered outside of the general education classroom. In such cases, students must still receive instruction in their appropriate grade-level standards whether in distance learning, hybrid learning, or in person.

While there is no single strategy to ensure students with disabilities are able to access distance learning, there are a few foundational ideas to keep in mind when thinking about students with disabilities and distance learning:

1. An IEP should be designed to provide equity and access to each student with a disability – both in-person at a school-site and in distance learning. As in face-to-face instruction, distance learning should be customized based on factors related to each student, and IEP teams will also need to consider unique home and family circumstances. The development or review of a distance learning plan, now required under California law, is an opportunity to evaluate what has worked during the pandemic and what might need to be addressed to allow a student access should an LEA need to pivot to distance learning in the future.

2. The more general education curriculum and instruction is made accessible and designed for all learners in a classroom, the less special education will need to supplant or modify to meet the needs of students with IEPs. The Universal Design for Learning (UDL) framework and guidelines were created to eliminate barriers to learning and to make learning accessible for all students and are universal. Using the tenets of UDL to purposefully build both in-person and distance lesson plans, and having special and general educators co-planning lessons, will allow for more inclusive and accessible lessons for all students especially students with disabilities. Student learning can be optimized when teachers believe in their ability to learn, design accessible lessons with UDL principles in mind, and create opportunities for meaningful practice.

3. Early, often, and individualized communication with families is essential for distance learning to be successful. The partnership between the family and school should be trusting and collaborative to support learning and growth among students.

For more information on building UDL lessons, the developers of UDL at the Center for Applied Special Technology (CAST) Institute, have made a set of free, curated resources including UDL Guidelines.[22,23,24] Visit *Building Accessible Lessons through a*

[22] https://www.cast.org/impact/universal-design-for-learning-udl

[23] https://www.cast.org/our-work/remote-online-environments

[24] https://udlguidelines.cast.org/binaries/content/assets/udlguidelines/udlg-v2-2/udlg_graphicorganizer_v2-2_numbers-no.pdf

Universal Design for Learning Framework under *Accessibility* that appears later in this chapter.

Accessing education in a distance learning environment for students with disabilities is only possible through a strong partnership between families and schools. Learning Policy Institute offers suggestions and strategies for *Home-School Partnerships Key to Supporting Students with Disabilities*[25] during distance learning. And, to ensure equity and access for families of diverse populations, who have had to take on new roles during the pandemic and who may need additional support in order for them to support their children in distance learning, WestEd offers strategies and resources[26] for communicating, engaging, and partnering with families from diverse populations.

Voices from the Field: Angela Barnett | Willow Elementary School | Lakewood, CA

One of the many concerns voiced this past year has been the challenges of meeting both the learning and social and emotional needs of students, particularly those with disabilities, during the implementation of remote instruction. In spite of the myriad of challenges, third grade teacher Angela Barnett has demonstrated—by effectively deploying technology and offering lots of personalized support—that all students can succeed, whether in-person or virtually.

An 11-year veteran who currently teaches at Willow Elementary in the ABC Unified School District, Barnett shared with us some of her experiences teaching online.

Can you walk us through some of the challenges and successes that you and your students have experienced since moving to fully remote instruction?

My students have enjoyed lots of success this year. I am continually impressed with their resilience and resourcefulness. Although there have been challenges, it's their problem-solving skills that I continue to see grow.

In terms of deploying technology to address my learners' needs, especially my English learners and those receiving speech services, closed captioning has been very beneficial. I use GoGuardian [a student information and learning management suite] to observe them working in real time and see closed captioning on quite a bit. I use video a lot, and whether I am using EdPuzzle [video-based lessons] or YouTube clips inserted into Google Slides, the students are using closed captioning.

When teaching face-to-face in a classroom, I can walk around and do quick checks for understanding. This is harder to replicate online. It's about building a digital and virtual classroom culture. I do lots of check-ins—via camera, audio, or chat. It's okay to use all of these at different times. We have to create the environment online where we get used

[25] https://learningpolicyinstitute.org/blog/covid-home-school-partnerships-key-supporting-students-disabilities

[26] https://www.wested.org/wested-insights/engaging-students-families-during-covid-19/

to checking on one another.

How does IEP implementation change in a remote learning environment vs. face-to-face?

One example is how I work to meet with my students to provide their small group instruction, primarily focused on speaking, writing, and reading opportunities. I utilize Flipgrid [video-based discussion software] a great deal across all content areas because I can hear and listen to students. I can share these videos with support staff, and they can be used to show growth over time to support an IEP. Flipgrid also has the ability to add a co-teacher. So, I can add support staff, such as our English Language Arts (ELA) intervention teacher, who can watch and comment on videos. Any platform that allows me to add a co-teacher is beneficial to students with IEPs and students receiving extra support or interventions.

To what extent does social and emotional learning (SEL) factor into your instruction and the creation of supportive learning communities for your students?

I have worked hard to have an intentional and focused part of every day be about SEL. I have integrated class jobs and leadership roles as a way to create culture and have an effective classroom. Sample roles include attendance monitor, teacher's assistant, point tracker—where we use ClassDojo [a school communication hub]—and our meteorologist, who gives a weather report in Flipgrid.

This is about student agency built through independence and responsibility. I also use programs, such as Leader In Me [a school community framework] and "The 7 Habits Of Happy Kids" [a children's book by Sean Covey], to support my interpretation and implementation of growth mindset.

I have also been focusing on executive functions. When introducing new uses of technology with my students, I explicitly and systematically teach them. For example, I introduce Pear Deck [a formative assessment platform] with my beginning of year expectations lesson. We don't want to assume that students know how to use the technology or know how to use it in a meaningful and academic way.

How do you strike a balance between analog and digital tools in your class?

I am a huge proponent of blended learning. My students are using a spiral notebook and a digital device simultaneously. Obviously, during distance learning, we've been using our online resources more. For math, as an example, we have a workbook, utilize white boards, and then also use tools, such as Pear Deck.

Sometimes, it's not about one tool or resource being better than the other. It's often about mixing it up to keep it engaging. They get bored like the rest of us. If they get bored, especially virtually, that is when I don't get completed work. Virtual instruction has really reminded us that engagement has to happen first.

Meeting the Needs of English Learners

In California, approximately 1.3 million students are English learners.[27] The California English Learner Roadmap is a comprehensive policy that provides guidance to districts to ensure English learners have meaningful access to relevant and rigorous education in a safe and affirming learning environment, including in-person, online, and hybrid.[28] This begins with recognizing that the languages and cultures EL students bring to their education are assets that contribute to their learning and development. These assets are valued and built upon through culturally-responsive instruction, which creates inclusiveness and a positive school culture that honors diversity and equity.

The EL Roadmap also calls for:

- explicit literacy instruction, especially in early grades;
- peer-assisted and small-group learning opportunities;
- academic language support during content area instruction, along with structured opportunities for oral and written language skills development;
- appropriate assessment in various forms (e.g., formative benchmark, summative, including home language assessment) to understand and support student learning;
- instruction that is responsive to different EL levels and characteristics (newcomer, long-term English learner, dually-identified EL student with disabilities); and
- processes related to social emotional development and identity formation.

In online and blended learning environments, supports for English learners may include, but are not limited to, the following:[29,30]

Family Engagement and Student Supports

- Leverage technology and applications to establish two-way communication with students and their families/caregivers in their preferred languages to promote meaningful relationships.
- Clarify expectations for distance learning, including attendance and grade and course requirements.

[27] https://www.cde.ca.gov/sp/el/rm/elroadmappolicy.asp

[28] https://www.cde.ca.gov/sp/el/rm/

[29] https://www.cde.ca.gov/sp/el/er/eldfaqs.asp

[30] https://www.cde.ca.gov/sp/el/er/ellearningaccleration.asp

- Select relevant and timely multilingual support services and tools, including translators/interpreters for families and students.
- Cultivate home-school partnerships between family, educators, and community to support the student in virtual learning.
- Bridge home-school learning with trainings for families on the use of technology and applications required for student learning.
- Establish a hotline for technical support that is linguistically accessible.
- Provide students access to mental health counselors/social workers.
- Assess family/home technology needs and ensure students and families have access to digital devices and internet connectivity.

Instructional Supports

- Implement high-quality integrated and designated English Language Development (ELD) instruction and related supports as part of the regularly-scheduled day and across synchronous and asynchronous instructional activities in all content areas.
- Establish a virtual help desk for homework and technology assistance that is linguistically accessible with home language support.
- Use screencasting for recording instructions and lessons so that EL students can watch again.
- Use an online share document or collaboration platform (e.g., Flipgrid, Google Docs, Jamboard, Padlet) to have students record their responses, then analyze their language use to plan for linguistic supports.
- Group students purposefully in breakout rooms during synchronous learning so that EL students have an opportunity to engage with peers at more advanced levels of English proficiency; whenever possible, group students by language alike to support reinforcement of concepts in home language use.
- Provide scaffolds and routines for discussion in online collaborative spaces (e.g., talk moves, assigned roles, self-assessment rubrics, sentence stems).
- Design linguistically and culturally-relevant tasks, and use materials that reflect multiple cultures and languages.
- Integrate digital tools for translation and language supports, video-based discussions, formative assessment platforms, communication hubs, student feedback, and collaboration.

- Encourage EL students to use their home language to produce digital representations of their full understanding of the content or tasks.
- Promote an inclusive, safe, and welcoming online learning environment by creating classroom structures to facilitate home language use, student voice, positive online interactions, and connections to students' lived experiences.

Additional resources to help educators support EL students in online and blended learning environments are located in Appendix C: Section Resources under Section A.

Vignette: Bridging the Gap—Engaging English Learners in a Virtual Classroom

The world of education was forced into an educational experiment when the pandemic crisis abruptly ended in-person classes. Among the most vulnerable populations: English learners. In years past, the annual promotion ceremony for Newcomer students at Abraham Lincoln Middle School in Fresno County was a celebration attended by hundreds of family, school, and community members. It recognized the achievements of those in the Newcomer Program, which serves EL students who have been in the country for three years or less. At this gathering, Newcomer teacher Efrain Tovar would introduce students in their primary language.

"Arabic, Punjabi…Zapotec," says Tovar, who was himself an EL as a Spanish-speaking child attending school in the Central Valley. "It means so much to the students and their families to elevate their language as an equal to English."

This particular gesture may seem like a small detail, but attention to students and their families' experience is essential to addressing the needs of EL students. Personalized attention has become increasingly important during the pandemic and the shift to distance learning.

"During my 25 years of teaching, I've continually affirmed that, before we teach, we must reach," says Tovar. "We reach or engage when we empathize with our students' experiences and situations."

Involving Families and Caregivers

In a June 2020 webinar ("Communicating with Families of English Learners During Distance Learning" sponsored by WestEd in collaboration with the California Teachers Association and the California Department of Education), Tovar shared that one of the first challenges of distance learning was simply being able to get students to respond to contact attempts. In brainstorming ways to optimize communication, Tovar and his colleagues found that they could best serve families by utilizing technology to establish and maintain daily communication.

The group created a Google Form [a surveying tool] to update student and family contact information, collect data on students' current internet access availability, and provide families in rural areas with internet options. They were also able to leverage

Google's accessibility features to connect with families using their preferred language. "Google Translate," Tovar says, "is a great tool to do this."

After synthesizing the families' data, the group learned that 100 percent had access to smartphones. "Through their cell phones," Tovar said, "we were able to know how to tailor communication according to their needs and language preferences. Leveraging these technologies helped us all stay connected."

For example, Tovar uses Remind.com [a messaging tool] to engage parents when he cannot write in their home language. The application allows him to have a two-way conversation with them and be able to send important documents and even short videos – without giving out his personal cell phone number. "Videos can be a powerful way to engage parents," Tovar added, "especially when you use a few phrases in the parents' language."

Tovar is adamant that knowing specifics about the students' internet situation matters when meeting EL students' learning needs. Internet speed and capacity impact their ability to use the apps designed to support their learning. By identifying gaps and deficits in internet services, Tovar says, "we can connect students to the resources they need to help them maintain their learning."

Using Synchronous and Asynchronous Activities Strategically

Beyond the technological challenges, Tovar notes that moving students to a distance learning model was a significant shift pedagogically. "Teaching in a classroom meant the teachers could create an optimal environment for learning, minimize distractions, and help, support, and clarify lessons as needed at that moment," says Tovar. "Contrast this with a sudden home environment potentially filled with factors that are not conducive to learning. Aside from the initial emotional and psychological uncertainties students encountered, they now have to create a space for themselves to shift into self-guided learning suddenly. We encountered students trying to learn in environments where they were helping take care of their siblings, where internet access was too slow or inaccessible for learning, and a host of challenging home distractions and hardships."

Given those conditions, Tovar finds that his students do not typically engage well during asynchronous learning. However, one of the factors he can control for students is synchronous learning time.

"By providing a well-designed project lesson that focuses on core ELD standards with time to complete lesson components (typically a week)," Tovar says, "I can provide support and increase student engagement through task organization, management, and in-class completion. Students have reported a sense of accomplishment after learning to break down tasks and set goals for themselves in their learning."

Although synchronous time is only 33 minutes, Tovar still manages to infuse social and emotional learning (SEL) into the students' learning experience by asking inference questions when reading articles together. "I pose questions that aim to teach empathy and compassion for others while helping them recognize their emotional patterns. I also

make space for regular check-ins where I ask students to rate their current mood while in class."

Leveraging Engaging and Supportive Digital Tools

To make learning fun during their time together, Tovar engages students around realia, objects found in daily life, particularly items from within their home – a powerful language development tool. For example, on most Mondays in his virtual meeting classroom, three students are assigned to be "special guests." These students practice their oral language development skills by showcasing a meaningful object from their home. The rest of the class practices listening skills and asks follow-up questions.

Digital tools can make virtual learning a bit more seamless. Most Fridays in Tovar's class, students experience PechaKucha, Japanese for "chit chat." Students are given an image and have twenty seconds to tell a story about the picture by recording their story on the digital platform Flipgrid [video-based discussion software]. Tovar says his Newcomers have shared their love for the tool because of its ease of use and the "save recording" feature, which allows them to return to previous recordings and measure progress throughout the year.

Another valuable tool for Tovar has been the Immersive Reader. He says the Chrome extension has been "game-changing" for his Newcomers. The tool provides access to reading content in visual and auditory forms while also providing primary language translations. Immersive Reader may also be used in text-to-speech format so that students can hear how words are pronounced and see how multisyllabic words are decoded.

While the digital tools themselves are excellent resources for learning, it is vital not to make assumptions about student abilities. Tovar realized during the first two weeks of distance learning that there were disparities in his students' skill levels when it came to their technological proficiencies.

"This was a turning point in my teaching in that I realized I had to teach to the students' current levels and pace," Tovar says. "I trained my students on how to use all of the educational tools that we would be utilizing throughout the school year. I continue to teach them to become self-sufficient in troubleshooting and how to become a resource for others in this area."

Meeting the Needs of Foster Youth and Youth Experiencing Homelessness

In 2019-2020, California schools served over 45,000 foster youth in grades K-12.[31] According to a 2018-19 survey conducted by the University of California Los Angeles, almost 270,000 students in K-12 schools in California lacked stable housing. A disproportionate number of students experiencing homelessness are Latinx (70%) and

[31] https://dq.cde.ca.gov/dataquest/foster/fosterCntyJuris.aspx?year=2019-20

Black (9%).[32] For the mobile youth experiencing homelessness, it can be a challenge to ensure that students have access to adequate digital devices and a stable internet connectivity. Additionally, they may be experiencing food insecurity, limited or no access to academic support, and more. Students may be living in inadequate and unsafe housing situations, and in densely populated situations, making it difficult to focus on online learning. The services schools provide may be the only source of food, educational experiences, contact with consistent caring adults, and safety during the day. Students experiencing homelessness are highly mobile and are many times unlikely to benefit from initiatives that are based on a stable and safe home environment. Addressing the unique needs of these populations can be challenging but can also be seen as an opportunity to expand capacity to ensure equity and access for all students.

The CDE has developed resource web pages to mitigate the impacts of COVID-19 and the transition to distance learning for foster youth and students experiencing homelessness.[33,34] Included are webinar topics, such as *Safeguarding Children Through Distance Learning* and *The Engagement in Distance Learning*. In addition, CDE partnered with the California Department of Social Services to develop resources to support foster youth, including guidance on outreach to foster caregivers, cell phone access for foster youth access, and extended flexibilities for foster care programs.

As part of their work as technical assistant providers, Foster to Youth Services Coordinating Programs under CDE's Technical Assistance Provider (TAP) grant, Sacramento County Office of Education (SCOE) has created a website that provides education resources for county and district foster youth liaisons.[35] For example, the California Foster Youth Education Task Force's recently published *Supporting School Stability for Youth in Foster Care During Virtual Learning and the Transition Back to In-Person Instruction,*[36] which is available in English and Spanish, as well as a monthly Trauma Informed Practices for Schools (TIPS) newsletter focusing on supporting foster youth in the classroom.

As students transition to distance learning, the number of students meeting the eligibility criteria of homelessness may become more challenging to identify. This can be due to a number of possible factors, including reduced in-person interactions with students and families, limited number of McKinney-Vento trained staff assisting with the enrollment process, and inconsistent use of the housing questionnaire. CDE's Integrated Student

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[32] https://edsource.org/2020/california-schools-see-big-jump-in-number-of-homeless-students/641752

[33] https://www.cde.ca.gov/ls/pf/fy/fyscpcovid19.asp

[34] https://www.cde.ca.gov/sp/hs/

[35] https://fyscptap.scoe.net/

[36] http://www.cfyetf.org/publications_24_3964370760.pdf

Support and Programs Office has developed identification strategies[37] to ensure that students and families are connected to resources and support services needed to mitigate further learning loss. To support the identification of students experiencing homelessness, SCOE's Project TEACH maintains an online training for LEA liaisons, which includes major aspects of the liaison role and professional development tools to conduct workshops for teachers and school staff. Project TEACH also released a video entitled "You Can Enroll in School!"[38] Based on the CDE's statewide poster, this free video explains the educational rights of youth experiencing homelessness and is used by LEAs and community agencies to train staff.

In addition, San Diego County Office of Education has provided distance learning guidance[39] for supporting foster youth and students experiencing homelessness. These best practices can be considered in both blended and fully online environments across grade-levels. Key components addressed are expanding the equity lens, digital content delivery, digital devices and internet access, non-tech options, community partners and resources, and recommended practices for youth experiencing homelessness.

In virtual learning environments, teachers and school staff are key to identifying students in need. Teachers are working directly with families and students and are often the first to find out if a student is in need. If teachers create an inclusive online learning environment, checking in with students allows for the identification of students in unstable housing. If a teacher suspects a student is experiencing unstable housing, the teacher should notify the district or county office of education homeless liaison contact. Additional guidance to create a supportive virtual environment includes but is not limited to the following:

- Be flexible with deadlines and synchronous participation requirements.
- Ensure the student has access to internet connectivity and a digital device.
- Be mindful of student privacy and living situations, and offer students the option to change their virtual background to create equity.
- Offer non-technology options, and make accommodations for students to complete work.
- Use multiple methods for communication (e.g., email, phone call, text message, mail), and check in frequently.
- Offer options for providing learning materials and resources (e.g., delivery, pick up, mail).

[37] https://www.cde.ca.gov/sp/hs/cy/

[38] https://www.youtube.com/watch?v=WlZqWtU3gLI

[39] https://docs.google.com/document/d/1ub-Zq-Xd_FslmmC5d_JU3V67Zdfc_PgmK9ceF69rDl0/edit

Preparing and Supporting Teachers for Digital Teaching

Research shows that teacher quality is the most influential factor in promoting student success, regardless of the learning environment. LEAs and teacher preparation programs play a critical role in preparing and supporting teachers for teaching in digital learning environments, as the pedagogy required for online learning is different than that for traditional in-person classrooms (Archambault & Kennedy, 2018; Kolb & Carter, 2020). National standards can help guide practices for effective digital teaching and learning.

National Standards to Guide Effective Digital Teaching and Learning

Effective use of technology can accelerate the creation of learning environments that are active, collaborative, constructive, authentic, and goal directed.[40] The 2017 National Education Technology Plan from the U.S. Department of Education elaborates on specific, effective learning strategies unlocked through the integration of technology, including experiential learning opportunities, as well as ongoing interactions with a global network of experts and peers.[41] Together, these examples show that, when integrated strategically into learning environments, technology can facilitate students' growth as lifelong, empowered learners.

National education technology leaders, including previous leadership at the U.S. Department of Education, state that guiding educators to use technology in such meaningful ways requires a framework of empowering learning practices enabled through technology.[42] The International Society for Technology in Education (ISTE) Standards for Educators[43] is an internationally-adopted framework for educators as they make decisions about curriculum, instruction, professional learning, and how to transform pedagogy enabled by the thoughtful, purposeful, and strategic use of technology. The ISTE Standards describe the various roles educators must take as they facilitate effective digital learning:

- Learner: Educators continually improve their practice by learning from and with others and exploring proven and promising practices that leverage technology to improve student learning.

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[40] https://fcit.usf.edu/matrix/wp-content/uploads/2019/05/2019_TIM_Summary_Descriptors_Portrait_Color-US.pdf

[41] https://tech.ed.gov/netp/

[42] https://static1.squarespace.com/static/5f85f5a156091e113f96e4d3/t/5fbbc55458f7584e716bd479/1606141269131/OnlineLearningPaper_FINAL_11.20_reducedsize.pdf

[43] https://www.iste.org/standards/for-educators

- Leader: Educators seek out opportunities for leadership to support student empowerment and success and to improve teaching and learning.
- Citizen: Educators inspire students to positively contribute to and responsibly participate in the digital world.
- Collaborator: Educators dedicate time to collaborate with both colleagues and students to improve practice, discover, and share resources and ideas, and solve problems.
- Designer: Educators design authentic, learner-driven activities and environments that recognize and accommodate learner variability.
- Facilitator: Educators facilitate learning with technology to support student achievement of the ISTE Standards for Students.[44]
- Analyst: Educators understand and use data to drive their instruction and support students in achieving their learning goals.

While the ISTE Standards describe how technology can be used to advance digital learning in any setting (including online, blended, and face-to-face), the National Standards for Quality Online Teaching[45] provide additional descriptions of effective fully online learning environments. Elements of the National Standards for Quality Online Teaching include the following:

- Professional Responsibilities: The online teacher demonstrates professional responsibilities in keeping with the best practices of online instruction.
- Digital Pedagogy: The online teacher supports learning and facilitates presence (teacher, social, and learner) with digital pedagogy.
- Community Building: The online teacher facilitates interactions and collaboration to build a supportive online community that fosters active learning.
- Learner Engagement: The online teacher promotes learner success through interactions with learners and other stakeholders and by facilitating meaningful learner engagement in learning activities.
- Digital Citizenship: The online teacher models, guides, and encourages legal, ethical, and safe behavior related to technology use.
- Diverse Instruction: The online teacher personalizes instruction based on learner's diverse academic, social, and emotional needs.
- Assessment and Measurement: The online teacher creates and/or implements assessments in online learning environments in ways that ensure the validity and

[44] https://www.iste.org/standards/for-students

[45] https://www.nsqol.org/the-standards/quality-online-teaching/

reliability of the instruments and procedures. The teacher measures learner progress through assessments, projects, and assignments that meet standards-based learning goals, and evaluates learner understanding of how these assessments measure achievement of the learning objectives.

- Instructional Design: The online teacher curates and creates instructional materials, tools, strategies, and resources to engage all learners and ensure achievement of academic goals. For an expanded set of standards for online course design, see the National Standards for Quality Online Courses.[46]

Both the ISTE Standards for Educators and National Standards for Quality Online Teaching provide a set of indicators for deepening practice related to each of the specific competencies. To ensure alignment to these national frameworks, the following subsections feature descriptions around how strategies presented are anchored in specific indicators for these standards.

The remainder of this part of the chapter addresses guidance on four key areas that are critical to prepare and support teachers: Professional Responsibilities; Teacher Presence; Digital Citizenship; and Data-Informed Instruction. Each is noted with direct connection to the relevant indicators within the ISTE Standards for Educators and the National Standards for Quality Online Teaching. Each area also includes educator vignettes and interviews that describe instructional strategies in detail.

Professional Responsibilities

ISTE Standards for Educators Indicators

- Learner: Set professional learning goals to explore and apply pedagogical approaches made possible by technology and reflect on their effectiveness.
- Learner: Pursue professional interests by creating and actively participating in local and global learning networks.
- Collaborator: Dedicate planning time to collaborate with colleagues to create authentic learning experiences that leverage technology.

National Standards for Quality Online Teaching Indicators

- Professional Responsibilities: The online teacher is a reflective practitioner.
- Professional Responsibilities: The online teacher continuously pursues knowledge and skills related to online learning and pedagogy.

Because digital learning strategies are continuously evolving and online and blended teaching require distinctly different pedagogical approaches than traditional in-person learning environments, the ISTE Standards for Educators and National Standards for Quality Online Teaching emphasize the vital importance of teachers' participation in

[46] https://www.nsqol.org/the-standards/quality-online-courses/

quality professional learning. Research indicates that professional learning must be ongoing, practice-based, culturally-relevant, context-specific, and standards-aligned to best improve educator practice (Kolb, 2019; Pew, 2013; Dawson & Dana-Fichtman, 2018).

Furthermore, such professional learning develops educators' competencies to use technology effectively in a variety of ways, such as those outlined in the ISTE Standards for Educators and National Standards for Quality Online Teaching. Focusing on competency-based opportunities, rather than those tailored to a specific tool, helps ensure that educators are best prepared to use technology effectively no matter which specific digital resources may be available.

In California, there are many options for professional learning focused on online and blended teaching:

- California Teachers Association (CTA)[47]: The CTA offers webinars, reports, booklets, and handouts to support educators with online and blended instruction.
- Leading Edge Certification:[48] This California-based organization is a national alliance of nonprofits, universities, and educational agencies that have created a curriculum grounded in national standards for effective digital teaching and learning. There are four certification options for educators, including Leading Edge Online & Blended Teacher; Leading Edge Administrator; Leading Edge Digital Educator; and Leading Edge Professional Learning Leader.
- California Collaborative for Educational Excellence (CCEE):[49] CCEE offers distance teaching and learning modules focused on serving underserved populations, SEL and mental health, best practices in online and blended learning, learning acceleration, goal setting, scope and sequence with pacing guidance, family engagement, and more.
- California Coalition for Inclusive Literacy:[50] CDE, CCEE, and the Center for Applied Special Technology (CAST) have created a page with resources that include links to webinar series, recommendations on remote design, video assessments in the virtual class, lesson planning guides, and more.

[47] https://www.cta.org/for-educators/professional-development/ipd-2

[48] http://www.leadingedgecertification.org/online-and-blended-teacher.html

[49] https://ccee-ca.org/resources/distance-teaching-learning/

[50] https://padlet.com/jlevine_CAST/CCIL

- Computer-Using Educators (CUE):[51] CUE provides customized professional learning for educators, schools, and districts.
- ISTE:[52, 53] ISTE provides professional learning for online and blended learning through their annual conference, webinars, ISTE Certification, and other professional learning opportunities. Furthermore, ISTE U offers self-paced courses to help K–12 educators learn foundational digital learning principles so they are prepared to teach in ways that effectively leverage technology.
- Digital Promise Micro-credentialing Library:[54] The goal of Digital Promise is to "infuse the latest learning science research into the development and improvement of products and programs to advance public education and improve learning." Digital Promise has a Micro-credentialing Library filled with courses for preparing educators for online and blended learning environments.
- Accessible Blended Learning Education:[55] Created by the Computer Science and Digital Learning Subcommittee within the Curriculum and Instruction Steering Committee (CISC), a committee of the California County Superintendents Educational Services Association (CCSESA), this page serves as an introductory guide for educators to support all students in distance and hybrid learning environments.
- KQED Media Academy for Educators:[56] An NPR and PBS affiliate nonprofit, KQED provides free professional learning to teachers that is focused on digital media.
- Digital Learning Collaborative (DLC):[57] DLC offers two teacher professional learning courses, one focused on teaching grades K–6 and the other on grades 7–12.

In addition to ongoing professional learning, educators benefit from continuous reflection on their practice to understand what is going well and what they might do to improve. Some educators also use check-ins with their students to gather feedback regarding what the students think could be improved. Other educators welcome colleagues and instructional coaches, including teachers on special assignments

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[51] https://cue.org/pl/

[52] https://www.iste.org/explore/topic/professional-development

[53] https://www.iste.org/learn/iste-u

[54] https://digitalpromise.org/micro-credentials-covid19-library/

[55] https://sites.google.com/stancoe.org/accessingblendedlearning/home

[56] https://teach.kqed.org/media-academy-for-educators

[57] https://www.digitallearningcollab.com/teacher-professional-learning

(TOSAs), to observe and provide constructive feedback to improve their pedagogical approaches. This collaboration among colleagues is also aligned to the "Leader" standard of the ISTE Standards for Educators, which calls on teachers to model the identification, exploration, evaluation, curation, and adoption of new digital resources and tools for learning.

Finally, educators can share their knowledge about effective digital learning practices with students and families/caregivers so that they feel prepared. Districts can provide forums to achieve this goal, including online orientations to new learning environments.

Vignette: Supporting Teachers with Professional Learning

During the past year, professional development has been crucial in Adelanto Elementary School District (AESD) for teachers to make optimal use of educational and technological resources. As soon as the pandemic hit, Dr. Marguerite Williams, Assistant Superintendent of Academic Services, worked diligently with district leaders to support teachers' transition to a distance learning model. Professional development focused on weaving in ISTE Standards and pedagogy into current instructional environments.

Identifying Teacher Needs

To serve students' remote learning needs, the Academic Services department worked with the San Bernardino County Superintendent of Schools (SBCSS) to deliver high-quality professional development (PD), focusing on the key areas of need based on stakeholder input: early literacy, early numeracy, online engagement, and social-emotional learning.

"All of our teachers were trained to fully implement Google Classroom during full-distance learning, which added new learning opportunities in an unprecedented time," says Dr. Williams.

Training also included Google Classroom Plus, online lesson design, best practices for online learning, online engagement strategies, trauma-informed practices, mindfulness, Universal Design for Learning, building relationships, Ellevation [instructional support platform for EL students], HyperDocs [digital lesson plans], Kami [a Chrome-based app that allows for annotation on digital documents], and grade-level planning with modified curriculum guides.

Promoting Teaching Collaboration and Structured Supports

School teams developed professional learning plans collaboratively–a key element in encouraging teacher ownership. The plans included ongoing structured professional learning opportunities, success criteria, and key performance indicators, resulting in a coherent Professional Learning Plan for Academic Services. In this way, says Dr. Williams, the Academic Services staff has been positioned to be "more deliberate and intentional in the type of professional learning opportunities offered to support each school sites' professional learning focus. We are now offering micro-credentialing to our teachers in the area of 'Digital Educator.' Our teachers are becoming experts at

integrating technology into their day utilizing a variety of different apps including, but not limited to, Jamboard [collaborative digital whiteboard], Kami, Nearpod [a formative assessment platform], Pear Deck [a formative assessment platform], and much more."

Micro-credential programs are competency-based; facilitators from SBCSS lead teachers in pre-scheduled synchronous sessions. Teachers then work asynchronously to produce artifacts reflective of their learning. There are plans for additional micro-credentials in teacher clarity, literacy, and mathematics. Each program integrates technology as a valuable tool for teachers to utilize as they deliver high-leverage practices.

During the transition from classroom teaching to distance learning, the district provided ongoing support and training to teachers and support staff. Each school went through a comprehensive process to identify two professional learning goals for their team and developed a multi-year learning plan.

"The Academic Services Department utilized the three Curriculum Coordinators and other members from the team to coordinate professional development based on surveys conducted, which asked about the type of PD the teachers wanted to see, goals identified in the district's Learning Continuity Plan, and student needs," says Dr. Williams. "The district also provided four PD Days, as well as a comprehensive Professional Development Program, in response to needs identified by the survey and each school's professional development focus."

Addressing Other Key Priorities

Attention to educators' social and emotional needs, especially related to the challenges of the COVID environment, has been an essential part of professional development. Resources and professional learning have included such activities as an SEL focus group during back-to-school preparedness sessions, virtual mindfulness sessions, and SEL-focused sessions, including keynote speakers.

According to Dr. Williams, another priority for professional learning support in response to COVID-19 has been in special education. Through PD and other forms of training, teachers and administrators learned to apply current procedures and practices of special education in the school. Each group is now employing more robust techniques and services to meet the goals of students with special needs.

Professional development is a critical building block in the structure to support student learning. "We deeply believe that it is essential that we build the knowledge, skills, and capacity of our teachers to provide high-quality instruction for all students," says Dr. Williams.

Teacher Presence

ISTE Standards for Educators Indicators

- Collaborator: Collaborate and co-learn with students to discover and use new digital resources and diagnose and troubleshoot technology issues.

- Collaborator: Demonstrate cultural competency when communicating with students, parents, and colleagues and interact with them as co-collaborators in student learning.

National Standards for Quality Online Teaching Indicators

- Digital Pedagogy: The online teacher uses digital pedagogical tools that support communication, productivity, collaboration, analysis, presentation, research, content delivery, and interaction.
- Digital Pedagogy: The online teacher demonstrates basic troubleshooting skills and addresses basic technical issues as they arise.

Online and blended learning environments that feature effective teacher presence are infused with human elements of collaboration, interaction, communication, well-being, and support (Kennedy & Ferdig, 2018). Aligned to the ISTE Standards for Educators and National Standards for Quality Online Teaching, teachers can encourage teacher-student and student-student interactions that foster collaboration and promote the use of high-order thinking skills, such as analysis, synthesis, and evaluation.

Through such interactions, particularly within a project- or problem-based learning approach, teachers can help students build a sense of belonging in their learning community. Some specific strategies for educators include:

- asking students to signal their understanding using a thumbs up or thumbs down;
- requesting students to create visual representations to show their understanding or to teach a concept to others; and
- inviting students to incorporate their own perspective on how they understand a topic and what prior knowledge helped them get to that understanding.[58]

Furthermore, instruction that is culturally-responsive affirms racial and cultural identities to further cultivate inclusive conversations. Resources for cultural responsiveness can be found on CDE's Culturally and Linguistically Responsive Teaching web page.[59] Teachers may also visit TeachingBooks,[60] where they can find book lists that reflect diversity and also help guide conversations. Additional resources related to Asset-Based Pedagogies include, but are not limited to Culturally Sustaining Pedagogy, Culturally and Linguistically Responsive Teaching, and Culturally Relevant Pedagogy and can be found on the CDE Asset-Based Pedagogies web page.[61]

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[58] https://www.edutopia.org/article/8-quick-checks-understanding

[59] https://www.cde.ca.gov/pd/ee/responsiveteaching.asp

[60] https://www.teachingbooks.net/

[61] https://www.cde.ca.gov/pd/ee/assetbasedpedagogies.asp

Finally, teacher presence includes meeting students' basic technical needs in a timely manner so that learning is not impeded. While technical troubleshooting is not always a responsibility of the teacher, they can be prepared with a contact list of support staff who can help students with technical issues so that the students can get back to learning as soon as possible.

Vignette: Leveraging Teacher Presence to Create a Supportive Digital Community

When Tory Wadlington shares his thoughts about being a K-5 special education teacher in the Murrieta Valley Unified School District for the past six years, it becomes clear that trust is a foundational piece upon which he builds relationships with students and parents. Teacher presence is paramount in the learning environment he creates, which is crucial when navigating distance learning. This approach involves an intentional effort to build a sense of community in a virtual environment by creating opportunities for positive interactions, being responsive to student's needs, and engaging parents and caregivers.

Wadlington currently teaches K-1 in the Resource Specialist Program. Students with IEPs who receive their education in a general education classroom, work with Wadlington to receive individualized support in areas such as math, reading, and writing. As the case manager of his students' IEPs, Wadlington provides academic support as well as accessibility modifications for students who are deaf, hard of hearing, or visually impaired.

To build confidence in his students as learners, Wadlington is generous with words of encouragement. He begins each session by asking about their day and if anything is bothering them. He ends each session with positive comments about their work. He understands the importance of creating a supportive, positive classroom environment and incorporates these strategies daily.

He takes time to reach out individually to students who are having difficulty, listening and responding to their challenges. When any new lesson proves to be challenging and causes frustration or discouragement, Wadlington stops the class and allows the student to explain "what they understand, what they find confusing, and how I can better help them understand it." He recognizes the importance of modifying a lesson to respond to student needs.

In his virtual classroom, Wadlington shared a daily Flipgrid [video-based discussion software] message to all his students. Wadlington wraps up the virtual session with a mindfulness activity of the students' choosing. "Some like breathing and imagining a balloon. Others want to dance like crazy," Wadlington says. "I let kids be kids, but with a little guidance. I think of how I would have wanted my teacher to treat me had I been in their situation."

Wadlington's support for his students extends to his relationships with their parents. In a May 2020 webinar hosted by Common Sense Education, Wadlington stated that his goal has always been to build relationships with parents. When speaking with parents about their child's IEP, he is mindful that parents already know their own child best.

Wadlington contacts parents every week and nurtures the relationship to cultivate a community of collaboration and growth. The parents know they may speak candidly with him and trust that he will put their child's success first.

Digital Citizenship

ISTE Standards for Educators Indicators

- Citizen: Create experiences for learners to make positive, socially responsible contributions and exhibit empathetic behavior online that build relationships and community.
- Citizen: Model and promote management of personal data and digital identity and protect student data privacy.

National Standards for Quality Online Teaching Indicators

- Digital Citizenship: The online teacher facilitates learning experiences that model and promote digital citizenship.
- Community Building: The online teacher creates expectations for appropriate interaction among learners, including establishing netiquette requirements, modeling implementation, and enforcing the requirements.

Digital citizenship, as one of the core tenets of both the ISTE Standards for Educators and National Standards for Quality Online Teaching, calls on teachers to model, guide, and encourage legal, ethical, and safe behavior related to students' technology use.

As a first step, educators can establish norms for respectful communication in online and blended learning environments. Such online etiquette or "netiquette" expectations can allow for more productive conversations and help reinforce students' sense of safety and belonging. Educators must note that students may need multiple opportunities to practice such behaviors.

The DigCitCommit competencies developed by ISTE take digital citizenship a step further than safe and healthy communication and comprehensively define this topic as being composed of five distinct competencies that educators can help students build:

- Inclusive: I am open to hearing and respectfully recognizing multiple viewpoints, and I engage with others online with respect and empathy.
- Informed: I evaluate the accuracy, perspective, and validity of digital media and social posts.
- Engaged: I use technology and digital channels for civic engagement, to solve problems, and be a force for good in both physical and virtual communities.
- Balanced: I make informed decisions about how to prioritize my time and activities online and off.

- Alert: I am aware of my online actions and know how to be safe and create safe spaces for others online.

Suggested strategies for educators grounded in the ISTE Standards for Educators to foster these competencies include the following:[62]

- Hold a group discussion on what it means to be positive, socially responsible, and empathetic online. What does it look like? Brainstorm ways that students can practice these behaviors.
- Review your own social media and online footprint, and ask yourself how it might be perceived by various stakeholders, including your students.
- Identify an opportunity to model the use of posting to social media in front of your class and perform a "think aloud" as you craft your post.
- Provide students with a checklist to validate authenticity and validity of online resources. Older students can help develop the list or evaluate an existing list for gaps.
- Develop a lesson in which students compare news from varied sources to illustrate media bias.
- Ask students to find online articles about the same event that present different facts. Use this as an opportunity to discuss heuristics and fallacies, such as confirmation bias.
- Start conversations with colleagues about the online sources they choose to share with students and why.
- Encourage students to ask for sources when that information is not provided.
- Let students practice communicating and sharing with different tools, platforms, and modalities to build their media fluency.

The DigCitCommit coalition convened by ISTE provides additional helpful ideas and strategies for reinforcing each of these five competencies.[63] Refer to chapters 4 and 10 for strategies on how these competencies, including media and information literacy skills, may be reinforced in the context of specific content areas.

Other digital citizenship resources from California include, but are not limited to, the following:

[62] https://www.iste.org/standards/for-educators

[63] https://digcitcommit.org/resources

- *Succeeding in a Digital Classroom: A Parent and Student Guide for Distance Learning*:[64] The Santa Monica-Malibu Unified School District shares several student behaviors that educators can model and promote. These include being mindful of tone, language, and gestures when communicating or sharing, as well as acquiring permission from others before recording or sharing images.
- CDE Digital Citizenship Web Page:[65] In collaboration with Common Sense Education,[66] CDE curates resources to reinforce various student skills, including managing online information, protecting privacy and online reputation, building positive connections, and evaluating online information, among others.
- CDE Media Literacy Resources Web Page:[67] This web page provides a collection of media literacy resources for teachers to incorporate into their classrooms. The web page includes links to curriculum, lessons, professional development, and more.
- Los Angeles Unified School District (LAUSD) Digital Citizenship Web Page:[68] LAUSD shares various resources that have been foundational to their district-wide digital citizenship initiative. This includes a responsible use policy where the "agreements" are framed to emphasize student empowerment and digital citizenship competencies,[69] as well as other learning resources aligned to the DigCitCommit competencies.
- California School Library Association (CSLA):[70] CSLA provides various learning modules that educators can use to learn more about digital citizenship and how to incorporate the topic into students' learning experiences.
- Model School Library Standards for California Public Schools: Kindergarten Through Grade Twelve:[71] The standards provide guidance for teachers related to information and media literacy for their students. The standards "help students to learn and work with twenty-first century skills and apply responsible research

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[64] https://www.smmusd.org/DistanceLearningGuide

[65] https://www.chconline.org/california-department-education-offers-free-resources-digital-citizenship-week/

[66] https://www.commonsense.org/education/digital-citizenship/curriculum

[67] https://www.cde.ca.gov/ci/cr/ml/

[68] https://achieve.lausd.net/domain/569

[69] https://achieve.lausd.net/Page/8617

[70] http://csla.net/

[71] https://www.cde.ca.gov/be/st/ss/documents/librarystandards.pdf

practices, be respectful to others when using digital devices, and continue to grow as lifelong learners."

Vignette: Digital Citizenship and Netiquette

In schools with a strong culture of digital citizenship and media literacy, students think critically, behave safely, and demonstrate an understanding of the nature, techniques, and impact of media messages and productions – all while being responsible participants and creators in the digital world.

That sounds like a virtual space most educators would readily promote. But what does it take to get there?

Sonal Patel is the Digital Learning Innovation Coordinator for the San Bernardino County Superintendent of Schools (SBCSS). Laurel Aguilar-Kirchhoff is the SBCSS Digital Learning Project Specialist and the co-president of the ISTE Digital Citizen professional learning network.

They support teachers to embed digital citizenship and media literacy into what they are already accomplishing with their students, whether via distance learning, hybrid learning, or in-person instruction. They approach their work from multiple perspectives: 1) building digital citizenship learning and capacity in teachers, 2) making digital citizenship/media literacy relevant for students, and 3) reaching out to support families and caregivers.

For all of the aspects of digital citizenship and media literacy, SBCSS focuses on sound pedagogical practices from a variety of vetted, high quality, and reliable sources, such as the ISTE Standards for Educators, National Standards for Quality Online Teaching, and the Collaborative for Academic Social Emotional Learning (CASEL).

The following is an overview of the areas that are addressed.

Media balance and well-being. Generation Z students tend to see technology and media as an extension of themselves and may not consider the potential negative impact of technology. Using this perspective to frame the discussion of limiting media consumption can positively impact students' health and well-being. The discussion can start early; Common Sense Education[72] has lessons that address media balance for students beginning in kindergarten. Unplugging and finding balance with technology is equally important and should be broached in family engagement sessions.

Privacy and security. Patel and Aguilar-Kirchhoff spend considerable time working with teachers to ensure they are aware of state and federal laws surrounding student data privacy, as well as sound professional practices. Teachers can also use their district's Acceptable Use Policies as a resource and teaching tool with their students.

[72] https://www.commonsense.org/education/digital-citizenship/curriculum

There are many ways to engage students in the conversation surrounding guarding their online privacy. Google's "Be Internet Awesome"[73] gamifies digital citizenship for younger students with "Interland," a free online game for students ages 7-12 that specifically addresses internet safety and privacy. Older students may enjoy CommonSense Education's Digital Passport and Digital Compass free online games,[74] which address multiple aspects of digital citizenship and online privacy in a fun, age-appropriate manner. Both are available in English and Spanish.

Intellectual property. "Teachable moments" related to intellectual property may begin with the youngest students and increase in both understanding and rigor in the upper grades. Patel and Aguilar-Kirchhoff use various resources to help teachers share grade-appropriate lessons on intellectual property with their students. They also work with educators to understand what materials and media are available under Fair Use Laws and what should be cited or not shared with students due to copyright laws.

Teaching students about intellectual property, copyright, and how to cite and give proper credit is an essential first step in creating multimedia projects and content. The National Archives has a collection of learning materials[75] to help teachers and students utilize and vet materials and sources, as does the Library of Congress[76] and Smithsonian Open Access.[77] Learning for Justice also has teacher lessons and resources[78] for assisting students in evaluating content. After evaluating sources, students need to know how to cite them–a crucial step in building a culture of digital citizenship that dovetails with the topic of academic integrity. Teachers must set clear expectations and instructions for students. BrainPop for Educators[79] has a variety of resources that begin with lessons in 3rd grade.

Academic integrity. Teachers have found academic integrity to be a particular concern during distance learning. Patel and Aguilar-Kirchhoff have worked with teachers in San Bernardino County to bolster academic integrity and look at the reasoning behind a student's choice to plagiarize or engage in academic dishonesty. Building trust, rapport, and a digital citizenship culture within the online classroom can encourage students' positive choices. Consistent and fair policies to address academic dishonesty are also important.

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[73] https://beinternetawesome.withgoogle.com/en_us/

[74] https://www.commonsense.org/education/

[75] https://www.archives.gov/education

[76] https://www.loc.gov/education

[77] https://www.si.edu/openaccess

[78] https://www.learningforjustice.org/classroom-resources/lessons/evaluating-online-sources

[79] https://educators.brainpop.com/bp-topic/citing-sources/

Digital footprint and identity. Students can learn to guard their mental and social-emotional health by not creating a false persona or identity online. At the same time, they can be encouraged to curate a professional digital footprint (or digital tattoo). The "what to post" conversation can be as powerful as the "what not to post" conversation with students. Discussions with older students about social media may include topics related to who they are online, how they represent themselves through their actions (likes, comments, tagging, etc.), and how others may perceive them online.

Relationship and communication. In the distance learning world, nurturing relationships with students online can be difficult. Using learner engagement strategies and building a classroom community of trust and digital citizenship are vital components in helping students learn how to engage with others appropriately, known as "netiquette." When working with teachers throughout the county, Patel and Aguilar-Kirchhoff have found that basic netiquette skills are essential for student understanding of the classroom rules in a virtual setting. By clearly communicating classroom expectations and netiquette, teachers may build a strong foundation for a digital citizenship culture.

Cyberbullying, digital drama, and hate speech. As early as 2nd grade and continuing through 12th grade, students may engage in free, age-appropriate lessons about these tough topics from Common Sense Education. The lessons are based on the ISTE Standards for Students, American Association of School Librarians, CASEL Practices, and Common Core ELA standards.

By creating the digital citizenship culture of trust and respect, students may be more likely to speak to their teacher if cyberbullying, digital drama, or hate speech is happening in the online classroom. According to Patel and Aguilar-Kirchhoff, conversations about cyberbullying and digital footprints are very much interrelated, and "teachable moments" about these topics are important, as "one-off" lessons rarely make a lasting impact on student behavior or understanding.

News and media literacy. Patel and Aguilar-Kirchhoff have high praise for Jennifer LaGarde and Darren Hudgins' work on social and emotional learning and the emotional impact that news and media literacy can have on students. The *School Library Journal* published an article[80] about the necessity of including SEL to complement news and media literacy, with questions for learners to think about when it comes to media literacy and their emotions and success criteria and evidence of mastery for students to work toward. There are many resources available to help both teachers and students tackle this topic.

Although the scope of work in building a digital citizenship program may feel daunting, Patel and Aguilar-Kirchhoff have helpful advice for schools or districts beginning the process.

[80] https://www.slj.com/?detailStory=News-media-literacy-must-include-social-emotional-learning-SEL-librarians

Consider the current status of a school or district regarding digital citizenship and media literacy. Examine what role digital citizenship/media literacy plays in the current school culture in online, hybrid, and in-person environments. Identify teachers' and staff beliefs regarding digital citizenship, media literacy, technology, and online/hybrid learning and practices. Identify the policies that are currently in place. Do the current policies match staff beliefs for the online school and digital citizenship culture? Where are the teachers and staff willing to start? Continue? Digital citizenship and media literacy are cross-disciplinary, so all educators have a stake in this and would benefit from incorporating it into their curriculum.

Look for authentic and meaningful ways to provide professional development and training for teachers, students, and parents/caregivers. There are many professional learning networks (PLN) opportunities for educators to collaborate, share resources, and learn from experts. The Computer-Using Educators (CUE) Media and Information Literacy Network is free to join for CUE members and offers a range of opportunities for collaboration, publicizing digital literacy work, and professional growth. The ISTE Digital Citizenship Professional Learning Network is free to join for ISTE members. They host quarterly webinars and professional development and networking opportunities, such as "watch parties" and social hours. There are also PLN groups geared explicitly toward digital citizenship and media literacy on Twitter and Facebook.

The digital world is here to stay. Creating a strong culture of responsible citizens in the virtual space can only enhance students' journeys toward becoming the innovators and leaders of tomorrow.

Data-Informed Instruction

ISTE Standards for Educators Indicators

- Analyst: Use technology to design and implement a variety of formative and summative assessments that accommodate learner needs, provide timely feedback to students, and inform instruction.
- Analyst: Use assessment data to guide progress and communicate with students, parents, and education stakeholders to build student self-direction.

National Standards for Quality Online Teaching Indicators

- Assessment and Measurement: The online teacher evaluates learner readiness and progress using formative and summative assessments and learner feedback throughout the course.
- Assessment and Measurement: The online teacher customizes instruction to personalize the learning experience based on performance and assessment data and learner needs.

Both the ISTE Standards for Educators and National Standards for Quality Online Teaching emphasize teachers' ongoing use of data to inform their instruction. Adding to this, Thomas Arnett, senior research fellow in education for the Christensen Institute,

recently shared how these practices can help educators individualize learning progressions to make the learning process more student-centered and personalized.[81]

Various digital tools provide data analytics that allow educators to consider individual students' understanding of specific concepts or skills, which additionally provide insights into specific supports a student or groups of students may need.

Suggested strategies to consider, grounded in the ISTE Standards for Educators,[82] include the following:

- Explore a variety of digital formative assessment tools and strategies that measure student knowledge in real time or shortly after a lesson.
- Share results of a digital formative assessment with the students and ask them what they learned about themselves or other members of the class. Model for students how to use data and assessments to develop next steps.
- Identify and experiment with technology tools that provide personal feedback, such as recording, video, or commenting tools.
- Empower students to provide each other feedback or to gather feedback from people outside the classroom using checklists and rubrics, peer-to-peer conferences, and online forums.
- Draw student attention to embedded feedback mechanisms in digital tools, such as grammar and spelling flags, hints and support tips in online tutorials, search functions, and gamification feedback based on wins and losses. Work with students to set goals for how they will recognize and use these kinds of feedback.
- Use low-stakes assessments, such as exit slips, online quizzes, and games, to check in with students and provide formative assessments.
- Use checklists or online polls for students to self-assess and track their own progress.
- Develop a schedule to meet regularly with students to analyze and interpret assessment data, and work with students to set personal goals based on the data.
- Identify tools students can use to create personal tracking systems to track goals and progress.

[81] https://www.christenseninstitute.org/blog/will-pandemic-shift-to-online-classes-speed-progress-toward-student-centered-learning/

[82] https://www.iste.org/standards/for-educators

More specific guidance on this topic, including types of assessments appropriate for a given context, can be found in Chapter 2.

Voices from the Field: Chris Flores | Tewinkle Middle School | Costa Mesa, CA

Most educators have been hearing about data-driven instruction for years. In plain terms, this is about gathering and using assessment data to determine what comes next in instruction. The data comes primarily from two sources: formative and summative assessments.

Chris Flores is an 11-year classroom veteran who currently teaches U.S. history at Tewinkle Middle School in the Newport-Mesa Unified School District. He spoke with us about using learning analytics embedded in educational technology to inform his instruction and support his students in real time, leveraging formative assessments as both a tool for comprehension checks and a means of deepening student engagement.

What does data-driven instruction look like in your classes?

Data-driven instruction means that I use data analytics to drive, change, and adapt instruction in real time—throughout the lesson or unit. I use multiple, mini-formative assessments throughout each day to know where my students are and how they are understanding the content and task. If we don't know what our students know in real time, they will get frustrated and fall behind. If we don't do this in class each day, they will also struggle outside of class.

It doesn't have to be super "techy" or complicated. It can start with a simple thumbs up or thumbs down. That being said, tools, such as Google Forms [online polling tool], can be used to gather feedback to get all the responses in aggregate.

Another favorite is Answer Garden [a student feedback tool]. It's quick, easy, and perfect for one-word summaries. We can look globally at the class Answer Garden and then, without singling anybody out, we can see the outliers—hearing different viewpoints and explanations.

I also use Quizizz [an online quiz creation platform] because of the quantity and quality of the data. I want to know where my students are struggling and how I can support them. It informs my instruction.

I have found that student engagement is even more challenging at home. I have had success with the tools that are gamified, such as Pear Deck [a formative assessment platform] and Kahoot [a learning game platform]. I've also been able to use Nearpod [a formative assessment platform] to support these efforts. Using these types of applications is the only way I am going to get over 90 percent engagement and participation—and also know that number in real time. I have to know when students are engaged or not.

In what ways do you employ digital tools to enhance what may be done in a traditional classroom setting?

It's about the formative assessment and data I can gather in real time. I think both analog and digital are important here. Currently, it's much more tech-focused. Other than discussion, analog activities are more challenging right now because I'm not able to make sure all students have access to hands-on activities or manipulatives. So, the technology really has to be maximized right now.

Students can now draw or use sticky notes in Pear Deck. They do lots of things digitally that they have traditionally done on paper. When we're in person, I like to mix it up between digital and analog for engagement purposes. I might use sticky notes digitally, or I might use actual sticky notes on the wall. It may be challenging to do a think-pair-share in-person right now with the six feet of distance required, but we can do this in Flipgrid [video-based discussion software]. Another tool that I am using to facilitate some great discussions is Google Jamboards [collaborative digital whiteboards].

How do you effectively balance synchronous and asynchronous learning experiences for your students?

I have learned that my students appreciate video of my instruction to be used asynchronously. I'm also using the Chrome Extension Mote [a student feedback tool] that makes it easy for anyone to add voice notes and feedback to documents and assignments. I used to rely on written comments and suggestions for my students, but I can't really tell if they even read the feedback. Mote can track each individual comment, and I can manage the dashboard to see who has reviewed the feedback. This system is new to me, but I polled a few students, and they preferred hearing me rather than more reading.

Designing Meaningful Digital Learning Experiences

With expanding use of online and blended learning approaches, educators' knowledge and understanding of how to best integrate active learning experiences into these unique environments is essential.

Four key areas that educators should consider as they design effective digital learning experiences include: 1) Aggregating Quality Synchronous vs. Asynchronous Instructional Time; 2) Developmental Considerations; 3) Accessibility; and 4) Engaging and Motivating Students. Each area is noted with direct connection to the relevant standards indicators within the ISTE Standards for Educators and the National Standards for Quality Online Teaching.

Aggregating Quality Synchronous vs. Asynchronous Instructional Time

ISTE Standards for Educators Indicators

- Designer: Use technology to create, adapt, and personalize learning experiences that foster independent learning and accommodate learner differences and needs.

- Designer: Explore and apply instructional design principles to create innovative digital learning environments that engage and support learning.

National Standards for Quality Online Teaching Indicators

- Learner Engagement: The online teacher designs learning experiences that use technology to efficiently engage learners.
- Instructional Design: The online teacher incorporates diverse media into online learning modules.

Both the ISTE Standards for Educators and National Standards for Quality Online Teaching call on educators to design learning experiences that are best suited for the context. In an online learning environment, one way to think about effective design is to appropriately aggregate time between synchronous and asynchronous learning opportunities. The CDE defines these two terms as follows:[83]

- Synchronous learning takes place in real-time, with delivery of instruction and/or interaction with participants, such as a live whole-class, small group, or individual meeting, via an online platform or in-person when possible.
- Asynchronous learning occurs without direct, simultaneous interaction of participants, such as videos featuring direct instruction of new content students watch on their own time.

In general, research has found that keeping synchronous learning time short by chunking content in smaller amounts can prevent the learner from being overwhelmed and experiencing cognitive overload (Cavanaugh, 2001). Furthermore, when using synchronous sessions, educators can most effectively engage students by keeping learning active. For instance, synchronous sessions can be dedicated to engaging conversations, collaborations, and critical debates (Martin, Ahlgrim-Delzel, & Budhrani, 2017).

Other strategies to maximize the use of synchronous learning time include the following:

- Send lessons and/or materials to students ahead of time, and use the synchronous time for more active learning, such as discussion, questions, collaboration, and problem solving (Martin, Ahlgrim-Delzel, & Budhrani, 2017).
- Invite students to co-create the learning environment and the rules, empowering them to have agency and voice and to be part of the decision-making process.[84]

[83] https://www.cde.ca.gov/ls/he/hn/guidanceplanning.asp

[84] https://www.iste.org/explore/In-the-classroom/Invite-students-to-co-design-their-learning-environment

- Do not recreate what is done in the in-school schedule online, as it is not sustainable.[85]
- Use one-on-one and small group meetings, differentiating and meeting the needs of students based on where they are.[86]
- Incorporate small group instruction with guided discussion (Cavanaugh, 2001; Means et al., 2010).

The balance of time between synchronous and asynchronous depends on a variety of factors, including students' age and level of development, which is described in more depth in the next subsection. For example, in an EdSurge article, Stephen Noonoo identifies several strategies for engaging young learners, including limiting screen time whenever possible and engaging learners by limiting synchronous sessions to 15-minute segments.[87]

For examples of how some California districts differentiated between synchronous and asynchronous time and activities, the California Teachers Association developed a resource entitled, *An Overview: Distance & Hybrid Teaching Practices.*[88] Some strategies from this resource are shared below.

Synchronous learning activities might include the following:

- Whole-group instruction (e.g., live lectures, mini-lessons, explanations, demonstrations, modeling, teacher-led discussions, calendar time, feedback, and re-teaching)
- Small-group or individual instruction (e.g., live mini-lessons, explanations, demonstrations, modeling, teacher-led discussions, feedback, re-teaching, office hours, and two-way communications with students, parents, and/or guardians)
- Live learning application activities (e.g., classwork activities, including practice, applications, interaction, live student-led discussions, small-group work, and collaboration)
- Live formative assessment (e.g., live quizzes and polling and checking for understanding)

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[85] https://www.edsurge.com/news/2020-12-16-now-is-the-time-to-redefine-learning-not-recreate-traditional-school-online

[86] http://www.ascd.org/publications/newsletters/education-update/may20/vol62/num05/Why-We-Need-Differentiation-Now-More-Than-Ever.aspx

[87] https://www.edsurge.com/news/2021-01-19-can-you-provide-a-quality-preschool-education-over-zoom

[88] https://aarjb2jw4n53e35fhbquj418-wpengine.netdna-ssl.com/wp-content/uploads/2020/12/CTA-IPD-Overview-of-DL-Hybrid-Practices-1.pdf

- Live comprehensive assessment (e.g., live quizzes, tests, writing prompts, and other tasks completed individually and unassisted for evaluation)

Asynchronous learning activities might include the following:

- On-demand instruction (e.g., student-paced recorded read-alouds, explanations, demonstrations, simulations, videos, audiobooks, podcasts, and virtual field trips)
- On-demand online application activities (e.g., student-paced work on learning software, online reading, word processing, audio and video recording, creating slideshows, digital art, online student collaboration, partner reading, small-group work, and peer review)
- On-demand offline application activities (e.g., student-paced paper and pencil work, journaling, reading printed materials, mathematics calculations, graphing, hands-on science, visual and performing arts practice, and physical activity)
- On-demand formative assessments (e.g., student-paced quizzes and polling, either as a check for understanding or for student self-assessment)
- On-demand assessment (e.g., student-paced quizzes, tests, writing prompts, and other tasks completed individually and unassisted for evaluation)

Voices from the Field: Amanda Sandoval | Eleanor Roosevelt High School Corona, CA

Amanda Sandoval—who currently teaches U.S. history at Eleanor Roosevelt High School in the Corona-Norco Unified School District—approaches her subject thematically, not chronologically. She uses technology and a focused look at the pressing challenges of our day as a means to engage and inspire her students about history and our collective future.

What does good instructional design look like in practice?

I think pedagogy is a priority over everything. Content and learning objectives are foundational. I continually ask myself, “What is the content, and how are the learners going to engage in it?” We always start with an essential question, and all we do has to relate to that. I’m going to continually break things down into smaller chunks for learners to synthesize.

I believe in quality visual elements. However, I try to emphasize pedagogy over pretty. I love educational technology. It does have the power to enhance learning; however, I think it’s about continually evaluating what my students are doing and learning.

Across digital and analog tools, working synchronously or asynchronously, how do you promote student agency and ensure high-quality, authentic learning experiences at all times?

The focus—whether for distance learning or in-school—is always about students being engaged in interactive and meaningful work. Prior to distance learning, I was able to

walk around and check in with my students easily. But when I started this school year, it was hard to see the students working. So, I started using Pear Deck [a formative assessment platform] more in order to be able to see them work in real time. Now, I can see every student working, even with blank screens. I can give private feedback in real time. I can be synchronous or release them asynchronously.

I surveyed my students at the end of the first semester, and they evaluated my strategies and tools. Pear Deck by far was the most appreciated by students. I will continue to use Pear Deck when we return face-to-face. It's really great for bridging that gap for all learners, especially English learners or those with special education needs. It's good for building background, scaffolding, and support for all students' reading, writing, and speaking needs. It helps with close reading, annotation, and so much more.

I often use sketchnoting, too. Students don't have to type everything. For example, they can listen to a podcast, and then they can sketchnote it. It works to have a notebook for many activities rather than everything on the computer. Sometimes, you can't beat handwritten notes.

I use many of these more analog things to front-load; it gets students to start thinking about the content. I allow them to have choice, and they can always use technology. For example, my students watched a video today on propaganda, and they could take notes using their preferred method. Some used a notebook, some used their computers, and some even used their phones. I don't want to dictate how. They can choose their medium. Also, for the semester final, they had to answer an essential question. They could choose to address the questions through a multiple choice test or an art project.

What do you look for when selecting education technology for your classes?

I like to learn new applications and resources. If it makes learning easier or more accessible for my students, then I am interested. It has to be user-friendly—for my students and me. If it requires one to create an account, my students won't be interested.

I like it when technology makes things more equitable. For example, if an application translates, I will be more likely to incorporate it. If it has an immersive reader, then my students will more likely see the benefits. Immersive readers are really beneficial in terms of accessibility—for students who need text read to them, text translated, text enlarged, or even the background color changed.

Developmental Considerations

ISTE Standards for Educators Indicators

- Designer: Use technology to create, adapt, and personalize learning experiences that foster independent learning and accommodate learner differences and needs.

- Designer: Explore and apply instructional design principles to create innovative digital learning environments that engage and support learning.

National Standards for Quality Online Teaching Indicators

- Learner Engagement: The online teacher communicates frequently with stakeholders regarding learner progress and strategies for supporting learner engagement.
- Instructional Design: The online teacher is able to incorporate subject-specific and developmentally appropriate digital learning resources into online learning modules.

The ISTE Standards for Educators and National Standards for Quality Online Teaching note the importance of providing personalized support and learning experiences. This is especially critical when planning instruction for younger students, who typically need more guidance and structure to help learn foundational skills, such as autonomy and social skills (Rice, 2006; Vazquez & Straub, 2012; Cavanaugh et al., 2004).

As a first step, educators can ensure that young students have an opportunity to become familiar with online learning and related routines. Educators are encouraged to carefully and intentionally plan how to introduce the virtual environment, practice unfamiliar routines, monitor student progress, and consider modifications as necessary.

Furthermore, guidance from Policy Analysis for California Education (PACE)[89] emphasizes four key considerations for practice when working with students in grades K–3 (Cottingham, 2020):

- Prioritize quality interactive synchronous learning over quantity of screen time.
- Maximize the number of available adults to support student learning at a distance through partnerships and increased funding for childcare providers.
- Communicate directly and regularly with parents to understand their needs and to adjust support over time.
- Develop ready-to-use curriculum and resources that help teachers and parents support students in distance learning.

As mentioned above, developmental guidance suggests that younger students spend more time in synchronous activities that feature intentional structure and support. Examples of this guidance in practice include the following:

- According to Rachel Barr, a professor of psychology at Georgetown University and director of the Georgetown Early Learning Project, it is important for early learners to have caregivers or parents present at the end of a lesson to help with the transfer of learning to real-world situations, as the translation between the

[89] https://edpolicyinca.org/sites/default/files/2020-12/pb_cottingham_dec200.pdf

screen and the real world may be difficult for learners aged 5 or younger.[90] Barr identifies additional strategies for engaging young learners, including using video chat, focusing the screen on a single person at a time, and incorporating a variety of activities that promote activity or interaction.

- The National Association for the Education of Young Children (NAEYC) suggests that teachers create a distance learning toolbox for each student.[91] This toolbox might include learning material for student use throughout the year, including such items as blocks, cut-out shapes, headphones, schedules, journals, laminated alphabet and number charts construction paper, stickers, markers, crayons, print books, charts, number cards, and mood meters.
- Edutopia suggests several strategies for engaging preschool students in synchronous learning sessions.[92] Some ideas include asking students to take pictures or videos offline to share during synchronous time and building representations of what they are learning using non-digital materials.
- When thinking about asynchronous activities that do not require screen time, parents/caregivers might encourage students to be storytellers (using their home languages and/or emerging English skills), bringing a variety of characters to life as they share. Children can also be detectives in their house to find representations of topics they are learning. Music and dancing can engage students to move as well and step away from their devices.

In working with the youngest students, educators must work with parents/caregivers as critical partners for learning. Creating this collaborative relationship not only allows parents/caregivers to understand the "why" behind the pedagogical approaches, but this approach also more equitably provides students with a secure foundation as they participate in online learning. To this end, considerations for educators may include the following:

- Frequently communicate student progress to families/caregivers.
- Provide wraparound services, including those in the family's preferred language.
- Structure a schedule that is a predictable routine for families.
- Make sure activities are developmentally appropriate and can be done at home.
- Maintain records of communication.

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[90] https://www.edsurge.com/news/2021-01-19-can-you-provide-a-quality-preschool-education-over-zoom

[91] https://www.naeyc.org/resources/blog/distance-learning-toolbox-families

[92] https://www.edutopia.org/article/7-tips-managing-distance-learning-preschool

There are many other resources available to support teachers and parents/caregivers of young students, including the following:

- The Early Childhood Technical Assistance Center at the University of North Carolina developed a series of short videos to share experiences of educators and families who are supporting preschoolers through online learning.[93]
- Early Edge California provides a webinar series that features practical guidance in English and Spanish on reading books with preschoolers, infants, and toddlers; empowering families to develop oral language; and elevating assets-based online teaching for dual language learners in TK.[94]

Vignette: An Innovative Approach to Teaching Kindergarten Online

The first few minutes of Ben Cogswell's online kindergarten class at Bardin Elementary School in Alisal Union School District are always a surprise for students. One day, they may start with a video focusing on square-breathing, and the next day, it may be Alpha Bots or Number Bots, with an adventure into the world of numbers to kick off the lesson. Sometimes it's a favorite: "We're Going on a Letter Hunt," a song that guides students through a study on commonly confused letters. And on Fun Fridays, music plays in the background, and smiling students bop their heads and sing along from the minute they log on.

The classroom introduction may be a daily surprise for students, but these educational moments are intentional for Ben. For example, the square-breathing exercise is a children's meditation technique that involves slow, deep breaths intended to heighten performance and concentration. For an online classroom filled with young learners and a 'no-mute' rule (he doesn't mute his students unless their learning interferes with others), starting with a mindfulness activity has been an effective approach for this teacher. "My selections are dependent on the kind of mood I want to set for the day or the focus for the day if I'm introducing a new concept. Sometimes the selection is for students to feel good and to help give them different ideas and techniques on how to deal with some of the emotions that have come with online learning," says Ben.

For Ben's part, success in the new online world comes down to three main factors: environment, excitement, and blending analog and digital. He doesn't rely on a multitude of apps – he keeps it simple: Google Meet for live online classes (the background photo is his classroom) and Seesaw [portfolio-based learning application] for students to post their assignments and comment on their classmates' videos. "Seesaw is a great tool for learner interaction, both as a teacher-to-student and student-to-student engagement tool."

Creativity and expression are encouraged in Ben's virtual classroom. By creating a fun learning environment, the students' attention rarely waivers from the learning going on,

[93] https://ectacenter.org/topics/disaster/preschoolpandemic.asp

[94] https://earlyedgecalifornia.org/distance-learning-webinars-from-early-edge-california/

especially when the teaching comes from “Bot,” Ben’s robot puppet. With a heavy Texan drawl, Bot uses the Addams Family theme song to sing “Days of the Week,” a lesson that guides students through weekdays, sight words, and sounds/phonics. “My puppets work for a few reasons. They give me someone to talk to and talk with when I need to model skills. I give the puppets personalities to make them more interesting for the students as well.” In this environment, play is planned and purposeful.

Using a document camera, Ben prerecords his lessons and uploads them to Seesaw, allowing students to go back and learn and relearn at their own pace. “I find students are most engaged when they are writing and drawing, and my videos let me model these skills.” On Seesaw, students interact with Ben when they're watching his videos and responding in their activity. Students record their Seesaw activity and receive teacher-to-student interaction asynchronously and student-to-student interaction by welcoming and giving comments on their classmates’ videos. “As for digital citizenship, there are so many positive impacts resulting from teaching kids from a young age how to comment and be kind to one another and leave kind comments,” Ben says.

An added benefit of the Seesaw app, Ben finds, comes in the form of monitoring student progress through the student video recordings. During a recent ABC sort lesson, Ben was able to gauge how fluent the students were with correctly sorting the alphabet by listening to their recordings and watching how they manipulated some of the pieces in the Seesaw activities as they recorded. “I can listen to every single one of my students because they all submit a video. This is different from the in-person classroom because I might not be able to do that just from a piece of paper. When I have a recording, it takes my understanding of student progress to the next level. Even though we're not face-to-face, all of this is useful data.”

Teaching small children on a computer can be extremely challenging. Ben makes sure that his KinderRockets’ needs are central to his approach to every aspect of the classroom environment, activity, and instruction. “I do my best to make both synchronous and asynchronous lessons as engaging as I can for students. Using puppets, bringing in manipulatives to class, writing, and drawing are all a part of it.” Importantly, Ben considers what interests the students and incorporates those interests in unique and exciting ways.

“I want to make sure kids are doing something on the other side of the screen. Creating creativity.”

Accessibility

ISTE Standards for Educators Indicators

- Designer: Use technology to create, adapt, and personalize learning experiences that foster independent learning and accommodate learner differences and needs.
- Designer: Explore and apply instructional design principles to create innovative digital learning environments that engage and support learning.

National Standards for Quality Online Teaching Indicators

- Diverse Instruction: The online teacher communicates with appropriate school staff regarding specific accommodations, modifications, or needs, and works in collaboration with others to address learner needs.
- Diverse Instruction: The online teacher recommends assistive technologies where appropriate to meet mandated needs and address learner preferences.

The ISTE Standards for Educators and National Standards for Quality Online Teaching emphasize that educators must design digital learning experiences that take individual learner differences into careful consideration. This includes paying close attention to and seeking guidance related to web accessibility.

An accessible online environment benefits all students in the classroom. According to the W3C Web Accessibility Initiative, "Web accessibility means that websites, tools, and technologies are designed and developed so that people with disabilities can use them." In addition, the U.S Department of Health and Human Services requires 508 compliance for any online documents and web pages to ensure students with visual disabilities can use a screen reader and thus can hear what is on a page as well as a description of any images.

CDE's Clearinghouse for Specialized Media & Technology (CSMT) offers instructional resources[95] in accessible formats to students with disabilities in California at no cost to public schools, including Braille, large print, and audio materials.

While students with IEPs and 504s should have the support of their special education teachers in the online environment, the general education classroom teacher should aim to create an online classroom and lessons that are accessible to all students and families. There are some high-leverage considerations for supporting students with specific needs, that general education teachers can keep in mind when shifting their learning environment online to ensure that learning is accessible to all students. These considerations include suggestions for students who are deaf, students who are blind or visually impaired, and students with learning differences.

Individualized Supports for Students with Disabilities

While the strategies and considerations provided in this area are intended to assist in planning and delivering accessible learning, it is important to note that each student with a disability is unique and requires an individualized approach to their learning. Planning for more accessibility when building a lesson saves time, effort, and student frustration and will allow all students to be more included and engaged in online learning. Accommodations and modifications provided during in-person learning should be applied, as appropriate, to online learning and can serve as the foundation for discussing and identifying what a student will need when pivoting to an online learning

[95] https://www.cde.ca.gov/re/pn/sm/

environment. These may include physical supports, assistive technology, and augmentative communication, in addition to digital supports.

Determining when to revisit the IEP and how to make modifications as students come into and out of the online learning environment continues to be critical to ensure that students are receiving the support they need to be successful. Note that determining which accommodations work for individual students during online learning is also key in ensuring the reliability of assessments when students are using the accommodation.

Reducing Barriers to Online Learning for Students with Disabilities

Technology can be extremely useful in eliminating learning barriers for students both in-person and in online learning. Students who may experience challenges with executive function, math, reading, and/or writing can benefit from embedded accommodations in the online environment. For instance, a student can turn on and access the built-in accessibility features many digital devices have, such as text-to-speech, which provides the option to listen to text or to listen while reading.

Apple[96] and Google[97] are among some of the technology corporations that have added significant accessibility options as well as tutorials on how to use them. Microsoft[98] has accessibility options and recommendations delineated by types of disabilities and needs. It is important to continuously evaluate and improve what accommodations work for each student. Teaching students to understand their learning needs and empowering them, when appropriate, with the knowledge necessary to use technology is also important. When students learn to use resources independently, including digital tools, they build educational equity for themselves and acquire life-long self-determination and self-advocacy skills.

Considerations for Students who are Deaf or Hard of Hearing

In a traditional classroom, students who are deaf or hard of hearing often use a sign language interpreter to access daily learning. This is also true in an online learning environment. Educators should partner with the student's speech language pathologist, Deaf and Hard of Hearing teachers and/or service providers to ensure maximum access to the curriculum and continuity of language acquisition skill building in the online environment. Ensuring that distance learning plans address these considerations is essential for continued access and progress in both the general curriculum and in language acquisition.

Supporting Students who are Blind or Visually Impaired

Visual disabilities tend to fall into one of three categories: blindness, low vision, or color-blindness. Students who are blind typically engage with web content with the help of a

[96] https://www.apple.com/accessibility/

[97] https://edu.google.com/why-google/accessibility/chromebooks-accessibility/

[98] https://www.microsoft.com/en-us/accessibility

screen reader. Similar to students with motor or physical disabilities, students who are blind rely on tab order, which a screen reader will use to navigate through a web page. Therefore, teachers can set up documents and slideshows with proper titles and headers so that the screen reader will navigate through in a logical order. If these are not used properly, the screen reader may jump around on the page, leading to learner confusion. In addition to designing content to be navigated with a screen reader, teachers need to include alternative text or "alt tags" on all images. Alt tags describe what is in the image for the student. If there is important text in an image, that needs to be included in the alt tag.

Students with low vision may rely on screen readers, but many may also prefer to use magnifiers and zoom features. Therefore, it is recommended that teachers use true text rather than text in images; when they use text in images and a learner zooms in, that text becomes pixelated and hard to read. WebAIM also suggests, "When possible, horizontal scrolling should be avoided—it is especially difficult to read page content when the user must scroll or pan to read lines of text that extend off the screen."

Lastly, color-blindness is the inability to distinguish certain shades of color. Many students experience color blindness, and teachers can provide necessary accommodations in the online learning environment. Teachers do not need to avoid color altogether; instead, they need to pay attention to color combinations and contrast. There are several contrast checkers available, including Accessible Colors or WebAIM Contrast Checker. WebAIM also suggests that "when colors are used to convey or differentiate information—such as a pie chart or bar graph, or using green and red text to indicate pass/fail or good/bad, etc.—this information should also be provided in another way." By doing this, teachers can ensure that students are seeing the information that they need to see in order to be successful.

Accessibility for Students with Learning Differences

The continuum of learning differences resulting in individualized learning needs is vast. Teachers need to explore what types of accommodations would best meet the needs of the student. Learning differences include dyslexia, dyscalculia, auditory process, slow processing, coordination, executive function, Attention-Deficit/Hyperactivity Disorder (ADHD), and non-verbal learning disabilities. A comprehensive set of considerations and strategies is available at Understood.org, a website which provides comprehensive considerations and strategies for numerous areas of need.[99]

In addition, as learners adjust to learning at home, they may need to share devices and learning spaces with siblings. Therefore, providing transcripts or closed captioning as well as headphones and microphones may make it easier for learners who have situational limitations that prevent them from watching a video, listening to an audio recording, or speaking. Learning more about how to make their classrooms more

[99] https://www.understood.org/en/school-learning/partnering-with-childs-school/instructional-strategies/classroom-accommodations-to-help-students-with-learning-and-thinking-differences

accessible will only enhance teachers' abilities to meet the needs of all of their students with and without disabilities.

To learn more about how to make classrooms more accessible, educators can visit the following resources:

- WebAIM's Accessibility Checklist[100]
- WAVE: This resource will help highlight some of the errors on a specific web page.[101]
- Screen Readers: ChromeVox[102], NVDA for Windows[103], or VoiceOver for Macs[104]
- Alternative Text Basics[105]
- DO-IT Center: Disabilities, Opportunities, Internetworking, and Technology[106]
- National Center for Learning Disabilities and Understood: *Distance Learning Toolkit: Key practices to support students who learn differently*[107]
- Apple Accessibility[108]
- Google Accessibility[109]

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[100] https://webaim.org/resources/evalquickref/: checklist

[101] https://wave.webaim.org/

[102] https://support.google.com/chromebook/answer/7031755?hl=en#:~:text=You%20can%20turn%20ChromeVox%20on,than%20ChromeVox%20will%20start%20speaking

[103] https://www.nvaccess.org/about-nvda/

[104] https://www.apple.com/accessibility/vision/

[105] https://webaim.org/techniques/alttext/

[106] https://doit-prod.s.uw.edu/doit/

[107] https://assets.ctfassets.net/p0qf7j048i0q/3eRr6v417UPiI16kXfbKfw/f19d6d5f9814f13aab3b97f5769af886/Distance_Learning_Toolkit.pdf

[108] https://www.apple.com/accessibility/

[109] https://edu.google.com/why-google/accessibility/chromebooks-accessibility/

- Microsoft Accessibility[110]

Building Accessible Lessons through a Universal Design for Learning Framework

The Universal Design for Learning (UDL) framework and guidelines[111] were created by CAST, an organization that provides guidance on accessibility to eliminate barriers to learning and to make learning accessible for all students. UDL is a design model used to "improve and optimize teaching and learning for all people based on scientific insights into how humans learn",... offer[ing] a set of concrete suggestions that can be applied to any discipline or domain to ensure that all learners can access and participate in meaningful, challenging learning opportunities."[112] UDL encourages educators to promote student engagement with content in multiple ways, to represent content in multiple ways, and to provide multiple ways of expressing what they know. Organizations like the DO-IT Center help promote inclusion and success for students with disabilities. They have a section on their website focused on Universal Design that provides resources for design and development of accessible distance learning environments.

What does UDL look like in an online learning environment? Educators might:

- "survey students about their interests, strengths, and needs" and "incorporate the findings into lessons;"
- clearly describe learning goals and create context by tying to real-life situations whenever possible;
- "use choice menus for working toward goals;"
- "make it easy for students to adjust font sizes and background colors through technology";
- "provide options for engaging with texts, such as text-to-speech, audiobooks, or partner reading";
- "provide calendars and checklists to help students track the subtasks for meeting a learning goal";
- "allow students to show what they know through a variety of formats, such as a poster presentation or a graphic organizer"; and

[110] https://www.microsoft.com/en-us/accessibility

[111] https://udlguidelines.cast.org/binaries/content/assets/udlguidelines/udlg-v2-2/udlg_graphicorganizer_v2-2_numbers-no.pdf

[112] https://udlguidelines.cast.org/

- "provide students with access to common assistive technology and embedded accommodations, such as speech-to-text and text-to-speech."[113]

Online learning is optimized when educators intentionally design lessons that contain the elements of UDL which are universal. This allows students with a wide range of neuro-diversities and learning preferences to access learning and allows for general educators and special educators to build out supports on a foundation of high-quality first teaching. Ideally, general and special educators will co-lesson plan for students in order to teach and engage all learners in a classroom.

Engaging and Motivating Students

ISTE Standards for Educators Indicators

- Facilitator: Foster a culture where students take ownership of their learning goals and outcomes in both independent and group settings.
- Facilitator: Model and nurture creativity and creative expression to communicate ideas, knowledge, or connections.

National Standards for Quality Online Teaching Indicators

- Digital Pedagogy: The online teacher uses different types of tools to interact in online courses in order to nurture learner relationships, encourage learner interaction, and monitor and motivate learner engagement.
- Instructional Design: The online teacher designs learning experiences that use technology to efficiently engage learners.

From the perspective of the ISTE Standards for Educators and the National Standards for Quality Online Teaching, technology can serve as an effective tool to ensure that students are motivated and engaged in the learning process. Strategies aligned to this goal include Building Relationships; Providing Support Structures; Infusing Opportunities for Creativity; Encouraging Authentic Collaboration; and Empowering Learner Agency, Voice, and Cultural Connections, which are described in detail below.

Building Relationships

Building strong positive relationships with students of any age is essential for cultivating trusting and meaningful interactions and in turn increasing engagement and motivation. Educators use a variety of strategies to build relationships with students and their families/caregivers in online settings, including but not limited to the following:

[113] https://www.understood.org/en/school-learning/for-educators/universal-design-for-learning/understanding-universal-design-for-learning

- Send welcome letters or make welcome calls. These initial outreach strategies help to begin student-teacher and teacher-family relationships on a solid foundation.
- Provide orientations for students and parents/caregivers when students encounter a new class, a new content area, or a new technology (Lowes, 2014) . When teaching in an online environment, it is especially important for educators to communicate to students how to get started or how the online classroom is structured. If educators and students are switching from a traditional classroom to an online or blended classroom, Quality Matters suggests drawing comparisons between the two learning environments:[114]
    - Explain the structure.
    - Provide directions for logging into synchronous sessions or other resources that may be used in the course.
    - Provide directions on how to navigate the course, including how to locate and submit assignments.
- Deliver weekly personalized messages via email, phone call, or by mailed letter. The personalized component could be a mention of students' interests or hobbies, which can provide students and parents/caregivers a caring touch point. These messages can also revolve around personalized goals that the student tracks and reflects upon. Personalized messages can also be part of students' regular feedback on projects, which feature clear, actionable strategies.[115]
- Offer online office hours for students and parents/caregivers. These office hours provide a consistent time when students and families can check in with educators if they have any questions about the technology, an assignment, or materials. This time might also provide an opportunity for a well-being check to ensure that the students and caregivers are well and that they have all of their basic needs. Furthermore, office hours can be a way for students to connect with educators for discussion-based assessments or reflections to ensure that a student is supported according to their needs.
- Establish online work sessions where students work on their projects and pose questions among their peers or with the teacher as needed. When major assignments or projects are due, this shared work time can help motivate learners to complete their projects, receive feedback and support, and help others. This strategy also contributes to cultivating a productive learning

[114] https://docs.google.com/document/d/e/2PACX1vTKJSTc2gxVC12Oki9bv3S12dry1ZsfATX8zmdBbuPJZ8ejUBpecTy50Yk_7aOSDwh83WHu0NTpOOK3/pub

[115] https://annenberg.brown.edu/sites/default/files/EdResearch_for_Recovery_Brief_12.pdf

community through group work and helps students feel supported by educators and peers.[116]

- Guide families/caregivers through supplemental instructional resources that they can use to support learning from home. Families in Schools has curated a library of free multilingual resources, ranging from subject-specific digital tools as well as tips for parents to build positive technology habits and skills with young students.[117]

Parent Voice: Family-School Partnerships Matter

Parents and caregivers valued a strong positive relationship with their child's teacher and school. In a distance learning environment, the family-school partnership was essential for parents/caregivers, teachers, and students to work together as a team. Ongoing, coordinated communication among all stakeholders supported collaboration and optimized student success in the virtual space. Digital communication hubs, such as ClassDojo and ParentSquare, facilitated communication and connected families to resources and information. Parents shared that access to multilingual instructional resources and orientation sessions on how to use technology (e.g., Chromebooks, hotspots, communication hub apps) were helpful as families transitioned to distance learning. Parents also appreciated workshops that focused on tips for how to support their child in a subject area and tools to cultivate social and emotional learning skills.

Providing Support Structures

In addition to relationship building, one of the most important features of quality digital learning is providing student support structures. Some states, like Michigan and Wisconsin, have required online learning mentors who offer encouragement and guidance in their online learning process (Borup, 2018).[118] These mentors might be teachers, paraprofessionals, and other instructional support personnel who provide support for online learners around managing time; navigating the online learning environment; monitoring student progress; helping students advocate for themselves; encouraging academic success; providing a connection among the teacher, students, and caregivers as needed; and more. Michigan Virtual Learning Research Institute has done research into online mentor support, and programs that have a strong mentor program have high success rates for their online learners.[119]

Other schools have engaged in a co-teaching model with state-level virtual schools, such as the Vermont Virtual Learning Cooperative. Schools access the state-level

[116] https://tech.ed.gov/files/2017/01/NETP17.pdf

[117] https://www.familiesinschools.org/coronavirus-learning-resources-for-families/

[118] https://michiganvirtual.org/professionals/mentors/

[119] https://michiganvirtual.org/research/

virtual school's content, and the site-level teacher co-teaches with an online teacher. These models provide students with additional support that engages them and motivates them to persist in their learning.[120] This co-teaching model also allows teachers more time to build trusting relationships with their students and families.

With such support strategies, educators can further ensure that students do not feel isolated, which can happen more easily when an online or blended learning environment is not designed with human elements of collaboration, interaction, communication, well-being, and support in mind. Additional strategies to minimize psychological feelings of distance (also known as transactional distance) include, but are not limited to, the following:

- Provide frequent, personalized feedback.
- Give students choice in how they represent and demonstrate their learning.
- Establish a learning community where relationships are highest priority.
- Incorporate support systems, such as wraparound services, wellness programs, and community collaborations.
- Ask students for feedback to continuously improve the learning experience.
- Be clear with students regarding who to contact for help.

Infusing Opportunities for Creativity

Sir Ken Robinson said of creativity: "Creativity is putting your imagination to work. It is applied imagination."[121] With its focus on learning by doing, educators can effectively infuse active learning opportunities into digital learning experiences by allowing students to express their creativity (Bernard et al., 2009; Rice, 2006; Cavanaugh, Barbour, & Clark, 2009). Furthermore, infusing the learning environment with opportunities for students to be creative can heighten student engagement and motivation.

For example, educators can incorporate makerspaces in online and blended learning environments, where students receive a packet of materials that they can use to create a representation of what they are learning and communicate ideas, knowledge, and connections. This creative approach can help students build on their prior knowledge and encourage them to reflect on their learning growth.

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[120] https://www.vtvlc.org/

[121] https://www.kqed.org/mindshift/40217/sir-ken-robinson-creativity-is-in-everything-especially-teaching

Other suggested strategies grounded in the ISTE Standards for Educators to nurture creativity[122] include the following:

- Ask students about digital tools they already use and include those as options to demonstrate mastery.
- Set aside time with students during project work to conference about their learning goals and which digital tools are the best fit to share their learning.
- Gather feedback from beyond the school for a student project.
- Have students share their thinking and solutions with their classmates through blogging and online forums.
- Design and facilitate a project where students have to incorporate something overtly creative with content area knowledge (for example, using coding to create digital art; embedding an animated simulation with original, resonant music; creating a digital assemblage to illustrate a historical event), and have them reflect on the process and its value.

Encouraging Authentic Collaboration

When educators teach in an online environment, they need to consider deliberate and intentional strategies to engage students collaboratively, thereby cultivating relationships and creating a networked learning community. One approach is to create opportunities for cooperative group work where students engage with smaller groups of peers.[123] This can be done by creating small group discussion forums in a learning management system, within project- or problem-based learning contexts (including career and technical education[124]), or via breakout rooms in synchronous sessions held within video conferencing tools.

Teachers can also provide ways to increase students' active engagement through live small group sessions, where they can actively seek ideas, perspectives, and assistance from other students in developing solutions. Reflecting on technology's capacity to foster authentic collaboration, Bhavini Patel, information technology TOSA for Palm Springs Unified and former fifth-grade teacher, wrote in a 2020 California Teachers Association blog, "When it comes to fostering engagement, I love that video conferencing tools have whiteboard features to annotate on screen share. Breakout rooms allow students to communicate and collaborate on projects. I like how the host

[122] https://www.iste.org/standards/for-educators

[123] https://www.cde.ca.gov/ci/cr/dl/lessonsfrfld.asp: Pedagogy

[124] https://www.cde.ca.gov/ci/ct/dl/

(teacher) can jump in among the different breakout rooms during their session to monitor student progress and answer questions."[125]

Kelly Keane, director of the Educational Technology Program at the Loyola University Maryland School of Education, further explained in a 2021 EdSurge article, students "shouldn't be sitting in front of their screens watching or listening to someone talk at them for several hours. They need to be interacting and participating with their peers and what is being learned. An entire group can be responding to questions, sharing their viewpoints, drawing on a slide, or playing an interactive game. Giving students the opportunity to feel involved, valued, and appreciated is critical, especially in the online classroom."[126] Refer to Chapter 3 to learn about more strategies for *Fostering Healthy, Equitable, and Inclusive Digital Communities*.

Empowering Learner Agency, Voice, and Cultural Connections

Finally, another way to foster motivation and engagement in any learning environment, but particularly in online and blended settings, is by empowering students to take ownership of their learning (Cavanaugh, 2001; Vazquez & Straub, 2012; Hasler-Waters, Barbour, & Menchaca, 2014; Pulham & Graham, 2018; Arnesen et al., 2020). When students have a sense of agency, they have more investment in their learning outcomes, thereby reinforcing their executive functioning, perseverance, self-awareness, and tolerance for ambiguity, among other critical skills.

As a start, educators might provide students with choice in how they may present themselves in an online environment and be sensitive to their circumstances. Dr. LeeAnn Lindsey from Edvolve published a helpful resource that educators can use to help students make such decisions for themselves.[127] Educators can also invite students to co-create their learning goals, pace, and trajectories to allow them to take control of their learning, foster their interests, and further personalize their learning.

Quality Matters suggests using an introductory discussion to engage students as they first meet one another.[128] Most learning management systems have discussion forums where teachers can create a discussion assignment for students to introduce themselves and share something, such as their favorite musical artist or a personal hobby or interest. These introductions can help students feel connected in authentic ways to their teachers and peers. These activities can also give students a voice and provide a way for them to incorporate their cultural context in their learning process.

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[125] https://www.cta.org/educator/posts/b2s-virtual-tips

[126] https://www.edsurge.com/news/2021-01-16-3-reasons-i-m-hopeful-about-the-future-of-education-in-2021-and-beyond

[127] https://www.edvolvelearning.com/uploads/8/5/7/6/8576959/camera_on_vs._camera_off.pdf

[128] https://www.qualitymatters.org/

In Fullerton Joint Union High School District, students shared concerns about how difficult it would be to attend live synchronous sessions for every class period. Therefore, the district allows teachers to use a range of options on how to deliver instruction to their students. A 2020 EdSource article reports that "many are now doing a mix of live video sessions, pre-recorded lectures, hands-on projects and other ideas as they come up." Also, with this newfound flexibility, Fullerton's teachers are actively listening to student concerns to co-develop solutions. For example, Greg Platt, an English teacher at Troy High School in Fullerton, recognized the need to be flexible around due dates or late work, as his students may be supporting younger siblings with their own learning or dealing with other issues from home.[129]

Other suggested strategies grounded in the ISTE Standards for Educators to foster student agency[130] include the following:

- Find ways to share responsibility with students (e.g., helping in developing project rubrics, establishing class norms, and defining individual learning goals).
- Teach students how to use a self-assessment rubric to focus on their responsibilities, goals, and learning preferences.
- Use group roles to allow students to manage their own learning, contribute productively in teams, and experiment with different leadership and collaboration styles and roles.
- Seek online projects to promote global collaboration.
- Conduct a student strength inventory at the beginning of the school year to assist in the creation of collaborative groups.
- Guide groups in developing collaboration contracts to help divide tasks so that everyone makes a unique contribution.

Student Voice: Interactive and Engaging Learning Activities are Critical

Students expressed that, at the start of the 2020 pandemic, teachers had limited time to prepare for online teaching and even less time to carefully consider the type of digital tools to use in their virtual classrooms. This situation often resulted in technical problems and student confusion about how to use the digital tools to best support their learning. To address this issue, students recommended that teachers focus on a limited number of quality digital tools that make the learning experience more interactive and engaging. For example, some students enjoyed the incorporation of tools like Desmos [a mathematics lesson building software], EdPuzzle [interactive video-based lessons], and Pear Deck [a formative assessment platform], which immersed them in the learning

[129] https://edsource.org/2020/why-distance-learning-is-a-success-in-one-california-district/630051

[130] https://www.iste.org/standards/for-educators

process and reinforced student interest in the topic.

Other students shared that the use of interactive and engaging learning activities helped them navigate issues associated with adjusting to digital learning. For example, students who typically took handwritten notes found it difficult to type them out during synchronous lectures. Recorded sessions and the use of digital tools, such as voice typing, alleviated some of their challenges and enabled students to engage using different modalities. For instance, students who require more time in understanding concepts during synchronous class sessions were able to review asynchronously (e.g., recorded sessions) on their own time.

Chapter 2: Assessing Student Achievement in Digital Learning

Regardless of the format of school—remote, blended, distance, hybrid, simultaneous, or traditional—assessment continues to drive instruction and intervention. Quality assessments allow teachers to identify unfinished learning and unrealized potential and to take action. As referenced in Chapter 1, according to the ISTE Standards for Educators,[131] effective assessment strategies that leverage technology feature several key characteristics that are explored throughout this chapter:

- Educators provide a variety of pathways for students to demonstrate their competency.
- Educators leverage different assessment types to meet learner needs, provide timely feedback, and inform their instruction.
- Educators use assessment data to drive communication with students, parents, and other stakeholders to reinforce student ownership of learning.

It is clear that some approaches to digital learning have stood the test of time, and new ones have emerged as a result of the technology that is available. For example, collecting and analyzing students' writing is an effective way to understand students' thinking. Writing samples can be used to determine content knowledge, as well as control of language. Students can write at home, on paper, and take photos of their work to submit via a learning management system. In this case, the difference is simply the location and submission format. Past practices such as this remain effective strategies for determining what students have learned and for identifying misconceptions or errors in a timely manner. Of course, students might have written in a collaborative document and shared it with their teacher, but not everything needs to be digitized.

Newer tools useful in assessing learning might include video responses submitted via an online platform, such as Seesaw [portfolio-based learning application] or Flipgrid [video-based discussion software]. In this case, students can plan their response to a specific prompt and then record it for their teacher. They might have access to a rubric, such as a retelling rubric, to guide the content of their submission, and the teacher can use the rubric to determine what students have learned and what they still need to be taught.

In both cases, data are collected, analyzed, and acted upon. That is what teachers have always done and will continue to do. In the past, many educators clearly differentiated between formative and summative assessments. It is important to realize that formative and summative assessments are not discrete categories. The label attached to the assessment tool does not define its use. Most assessments may be used to gather either data or information which can be used in formative or summative ways. This may not seem like an important distinction, but the false dichotomy between formative and summative assessments has resulted in confusion and conflict in many schools and in

[131] https://www.iste.org/standards/for-educators

the broader educational community. Educators collect data from students and use that data to make adjustments to their instruction and report progress and mastery to a variety of stakeholders, including the students themselves, their families, and the community as appropriate.

This chapter focuses on the **use** of assessment information (see Figure 2.1), which occurs along a continuum. It is important to understand the differences between assessment *for,* assessment *as,* and assessment *of* learning. When assessing *for* learning, the emphasis is on collecting information about a student's progress toward a learning goal with the intent of validating or revising the instructional experiences students have. When educators focus on assessment *as* learning, they provide students with opportunities to consider the criteria for success and self-assess their progress. In this case, the assessment itself is a learning experience for students. Lastly, there is assessment *of* learning, which allows students and teachers to make judgements about the students' performance at a specific period of time, often at the end of the unit.

Importantly, when teachers engage in assessment *of* learning, there may still be changes in the next unit or lesson based on the proficiency levels attained by students. Assessment *of*, *as*, and *for* learning are not necessarily discrete and separate. Assessments *of* learning can be designed also to serve as assessments *for* and *as* learning.

Figure 2.1. Assessment *for*, *as*, and *of* learning

ASSESSMENT TYPE	*DEFINITION*
Assessment *for* learning	Collecting moment-by-moment and day-by-day data aligned with learning goals with the goal of improving learning and informing instruction
Assessment *as* learning	Engaging students in self-assessment of the learning goals often using success criteria
Assessment *of* learning	Analyzing information about learning to make judgments about student performance and achievement at the end of a period of instruction

Many school systems have moved to restorative and equitable grading, which allows students to improve their grades as they demonstrate mastery across the year, rather than at a specific moment in time. In those cases, teachers hold the learning goals constant and allow time, instruction, and practice to vary. Without restorative and equitable grading practices, time, instruction, and practice are held constant, and success in meeting the learning goals (and thus grade) varies.

It is also important to note that some of the tools described in this chapter might fit into more than one category, recognizing that the use of the tool can change. CDE has developed guidance on how LEAs can use California's approved assessments to evaluate where students are academically at the beginning of and throughout the school year. The state-approved assessment programs also provide additional resources and assessment tools, including the Smarter Balanced assessment system. In California, the Smarter Balanced assessment system includes assessments *for*, *as,* and *of* learning in an integrated manner consisting of three components: (1) Summative assessments; (2) Interim assessments; and (3) Tools for Teachers, a website designed to support classroom-based formative assessment practices.[132] To align with the state guidance, this chapter will primarily focus on assessment *for* learning.

Assessment *for* Learning

Educators assess *for* learning in order to find out what students know and are able to do. The primary purpose for doing so is to make instructional decisions about what to do next, especially in prioritizing the teaching—and learning—that needs to occur. Many assessment-*for*-learning events are conducted throughout a lesson. They are usually brief in nature and give educators an opportunity to check for student understanding in the moment. They answer questions that are vital to the acceleration process:

- Where might I quicken the pace of my instruction because my students understand this concept or skill?
- Where do I need to slow the pace of my instruction in order to address misconceptions or partial understandings?

The answers to these questions assist teachers in improving the level of precision in their teaching. The evidence related to the use of instructional minutes suggests that there is time to ensure students are learning more and better. Nuthall's 2007 innovative study of the classroom conversations between children unearthed a startling statistic; approximately 40 to 50 percent of the content being taught is already known to the students (Nuthall, 2007). The reality is that different students already know different things. Assessment *for* learning offers opportunities to identify what needs to be taught and who needs to learn it. This is accomplished through close monitoring of student learning and feedback that informs teaching.

Reciprocal feedback between student and teacher promotes student learning. These checks for understanding are first and foremost feedback to the teacher about the current status of learning. Assessment *for* learning, when used to its fullest extent, provides the opportunity for teachers to think about their teaching and make responsive adjustments based on current needs. In doing so, they strengthen the positive impact on student learning. While assessment *for* learning practices are ongoing, they are not chaotic. Consider three assessment cycles: minute-by-minute, daily lesson, and weekly.

[132] https://www.cde.ca.gov/ls/he/hn/guidanceonassessments.asp

The chart in Figure 2.2 provides an overview of strategies. By providing students with multiple means of demonstrating their learning, such assessment types also help further support practices called for in the ISTE Standards for Educators.

Figure 2.2. Types and Uses of Assessments within Assessment Cycles

CYCLE	*METHODS*	*INFORMATION*	*SAMPLE DIGITAL LEARNING STRATEGIES*
Minute-by-Minute	● Observations ● Questions (teachers and students) ● Instructional tasks ● Student discussions ● Written work/representations	Students' current learning status, relative difficulties and misunderstandings, emerging or partially formed ideas, full understanding	● Radio talk ● Positive and nurturing learning climate that invites participation ● Teacher noticing to determine next steps
Daily Lesson	● Observation ● Questions (teachers and students) ● Instructional tasks ● Student discussions ● Written work/ representations ● Student self-reflection (e.g., quick write)	Students' current learning status, relative difficulties and misunderstandings, emerging or partially formed ideas, full understanding	● Interactive videos ● Asynchronous exit slips ● Synchronous entrance slips ● Universal responses (hand signals, interactive whiteboard) ● Polling
Week	● Student discussions and work products ● Student self-reflection (e.g., journaling)	Students' current learning status relative to lesson learning goals (e.g., have students met the goal(s) or are they nearly there?	● Video retellings ● Interactive digital notebooks

Minute-by-Minute Assessments for *Learning*

Much of the informal assessment data gathered occur organically throughout a lesson. Teachers observe the verbal and nonverbal signals of students and listen closely for questions that arise. In distance learning, these observational opportunities are somewhat different than those available during in-person learning. Digital instruction provides more limited visual information to rely on, as students are seen only from the shoulders up, in small digital boxes, and often with their microphones muted. If a student's camera is off, some of these cues are further reduced.

It is important to ensure that the learning climate is supportive and positive and provides opportunities for students to ask questions during the lesson. Discussion can be awkward in a virtual environment. Students are often reluctant to interrupt, and the unintended result might be that teachers engage in extended monologues rather than true discussion. Teach students "radio talk" so that they feel more comfortable inserting themselves into conversation. A radio talk sequence begins with a student saying the teacher's name followed by their name: "Ms. Ramirez. This is Deja." This alerts the teacher to who is speaking and gives the student the floor to comment or pose their question.

Another technique is to remind students at the beginning of each lesson to use the chat function throughout the lesson. Teachers can monitor the chat and actively incorporate students' names and comments into their teaching. Teachers can listen carefully to the questions and observations students make. Student discourse is often reflective of what they know and do not know in that moment. When a student poses a comment, teachers can engage in teacher noticing and try to note concern(s), and consider what students know and what they need to learn next or clarify. The focus here is not just deciding whether a student is correct or incorrect. If their response is incorrect, teachers can take the time to speculate about what may have led the student to that answer. For younger students, emoji checks can also be useful. Students can use the reaction buttons to respond yes/no or put their thumb up.

Assessment for *Learning in Daily Lessons*

Spontaneous interactions with students provide one type of opportunity to assess *for* learning. These should be coupled with intentional intermittent checks for understanding. This is especially important during asynchronous learning when the teacher is not directly present to gauge progress. Interactive videos have the potential to spur on student learning while providing valuable feedback to the teacher. Interactive videos are short recordings made either by the teacher or commercially prepared. The instructional video is segmented into parts, and the video pauses while a multiple-choice or short constructed response question is posed to the viewer. The video cannot advance until the question is answered. In the event of an incorrect response, some interactive video software provides the option to take the student back to the relevant portion of the recording. Interactive videos increase the accountability for students to view and respond during asynchronous learning. Importantly, the data report provides the teacher with valuable information about which students encountered difficulty and

where they did so. Responsive teachers follow up with these students to provide further instruction.

Exit slips submitted after the conclusion of a lesson provide another opportunity for asynchronous assessment. A Google Form, interactive digital notebook, or online discussion board can be used to capture student learning, while also providing closure to the lesson. For instance, teachers can ask students to name something that surprised them in the day's lesson, or pose a more specific content-related question (e.g., "Based on today's discussion of the protagonist's internal characterizations, how would you describe her conflict with the antagonist?"). Younger students can video record their response on Seesaw or another platform.

Entrance slips during synchronous learning alert the teacher to the current level of learning. Teachers can invite students to post their wonderings using a Padlet [a multimedia bulletin board tool] divided into three sections: Certain, Possible, and Uncertain. After introducing the lesson's intention, teachers can ask students to consider what they already know or can speculate. For example, a fourth-grade class learning about the role of 19th century communication technologies in transforming the California economy were asked to respond to this opening question: "How could a recently arrived person in 1850 Sacramento communicate with her family in Ohio to let them know she had arrived safely?" Students' postings on the Padlet alerted the teacher that the class already knew some things about the telegraph but thought that mailing a letter would be an easy thing to do. Students in a first grade class used Mentimeter [an online, real-time polling tool] to respond to an entrance question that the teacher read to them.

These beginning- and end-of-lesson assessments *for* learning might bracket other assessment opportunities that frequently arise throughout lessons. These additional embedded assessment opportunities are intentional, planned in advance, and may also be adapted to provide data in minute-by-minute learning situations. In a distance learning format, these might occur about every 10 minutes in order to maintain high levels of cognitive and metacognitive engagement. Many of these strategies involve the use of universal responses, which are micro-assessments that allow the teacher to check for understanding efficiently across the entire group. These provide more feedback opportunities for the teacher and gather additional data because they are soliciting responses from 30 students, rather than two or three. Simple universal response opportunities include nonverbal ones, such as using hand signals. Thumbs up/thumbs down gestures, as well as fist-to-five signals, enable the teacher to quickly scan to see where students of all ages are in the moment. The teacher is able to assess whether students need more time or are ready to move to the next part of the lesson. Hand signals often provide an intuitive way for younger students to respond.

Many schools supply students with small whiteboards and dry erase markers to show their work. The bright surface and bold lines made by the marker make it easier for the teacher to see student responses. For instance, a teacher might pose a mathematics problem to students and ask them to draw a mathematical model of it on their whiteboard. After students have had sufficient time, they hold their boards up to the camera, and the teacher reads their responses. Teachers can consider taking a

screenshot of the students' work so that the teacher can analyze it later. A kindergarten teacher teaching consonant-vowel-consonant words, such as *mat*, *hat*, and *sat*, had students hold up their personal whiteboards after repeating the target word several times.

When students are hesitant to keep their camera on, teachers might let them know when they will need to provide a visual response to a question. Students can show their thinking on paper, personal whiteboards, or using response cards, such as those with yes/no, A/B/C/D, or other items written on them. Teachers can give students a count when teachers are ready to have "cameras on" for their screenshot. Teachers can remind students that their thinking needs to be visible, not necessarily their faces. When teachers need cameras on, respectful lead times may increase the responsiveness of students.

Polling is a universal response technique that does not require a camera. Polling strategies can be deployed throughout the lesson or used as assessment at the beginning or end of a lesson to gauge student understanding. Many learning management systems have a built-in polling function. In addition, there are popular add-ons, such as Mentimeter, Kahoot [a learning game platform], Formative [a formative assessment platform], and Socrative [a formative assessment platform]. Polls can be set to ask about a mathematics concept, such as identifying when the solution to a problem is an example of a property. When there is widespread disagreement about the answer, teachers might consider resisting the urge to tell students immediately which response is correct. Instead, teachers might invite students into breakout rooms to discuss the possible answer with peers, justifying why they believe their particular response was the correct one. Students then return to the main room and repost the poll again. Most likely, teachers will see more correct answers the second time around because students have had the opportunity to test their assumptions in the company of their peers. In doing so, those who were initially incorrect gain insight into the thinking of others.

Polls do not need to be confined to questions with a single correct answer. Teachers may use opinion polls to spark discussion. Programs, such as Pear Deck [a formative assessment platform], provide students with the ability to place their icon on statements that reflect their opinion. For instance, teachers can create a virtual version of a "four corners" debate activity to solicit opinions and form breakout rooms. A high school class reading a short story about a crime of passion can be asked by their teacher if they believe the main character planned the murder in advance. Students could respond using Strongly Disagree, Disagree, Agree, or Strongly Agree. Their teacher can then open breakout rooms for them to discuss the point with like-minded peers. The students can then return to the main room for a hosted discussion. Methods such as this can be used to approximate the small-group table conversations that are used intermittently during whole group discussion. As with other universal responses, this approach provides a distinct advantage in that all students participate, rather than relying on the handful of students willing to respond to individually-posed questions.

Weekly Assessment for *Learning Opportunities*

Weekly assessment opportunities provide teachers with information about progress toward meeting unit learning goals. Weekly assessments are often accomplished asynchronously by individual students. Teachers might remember that these assessments do not all need to be assigned on Friday. Teachers can consider a rotating schedule in which 20 percent of the class is responding each day. A rotating assessment schedule ensures that teachers are far more accurately informed about the progress of the class and where adjustments need to be made.

Strong lesson design is grounded in stated learning intentions and success criteria to provide students with a clear sense of what they are learning and how they will know they have learned it. Clarity related to the purpose and intended use of assessment is an essential dimension and is manifested when the goals of instruction, the design of the lessons, and the assessments used are aligned. In other words, it does not stand apart from instruction; it is woven within it.

Teachers might consider designing no-stakes assessments *for* learning that are linked directly to stated learning goals. Students can respond in a number of ways. For example, students can record short video responses that address the lesson goals currently being taught. A student can submit a retelling of a story they have read. Retelling is a well-documented method of teaching and assessment for promoting reading comprehension (Schisler et al., 2010). An added advantage is that the teacher is able to view the recorded retelling using a retelling rubric and review segments as needed in order to check for understanding.

Interactive digital notebooks provide teachers with a “one-stop shop” for reviewing students’ written products. These notebooks are actually digital slides, and teachers can continually populate them with writing prompts and other assignments. Because they are stored in a virtual environment, materials and student products can be safely stored in one place. Teachers can assign a reflective writing prompt and then examine students’ efforts. As with retelling, consider spreading these digital writing prompts across the week so that they create a rolling record of how learning is progressing. For instance, a Biology teacher can ask students about Alhazen, a Muslim scientist whose early experiments on light, more than 1,000 years ago, made contributions to the field of optics for hundreds of years. The teacher can populate students’ digital notebooks with questions (e.g., “What were Alhazen’s methods for his experiments?”) and provide written or voice feedback inside these same notebooks.

Assessment *as* Learning

Assessment *as* learning practices and strategies provide students with an opportunity to learn more about themselves. Students might use a variety of assessment tools to monitor the progress they are making toward specific learning intentions. Consider changing the role of educator from that of arbiter and decider of students’ learning to the role of validator and challenger, based on students’ self-assessments. Given that educators are responsible for monitoring student learning, adjusting instruction to

address assessed student needs, and for providing stakeholders with evidence of student progress, consider the opportunities distance learning might provide for improving students' ability to monitor their own progress. Furthermore, the ISTE Standards for Educators calls on teachers to empower students with lifelong skills through actively engaging in monitoring their own learning, recognizing when they are not meeting their learning goals, and seeking and responding to feedback from others.

The value of teaching students to self-assess is reflected in the examples that follow. Among a wide variety of self-assessment strategies are know/show charts, single point rubrics, and ipsative assessments. All of these tools can be made more readily available to students through the use of digital formats. Consider beginning by asking students to self-assess the quality of their breakout room conversations. Teachers can share the learning intentions and success criteria for the day or week on the learning management system and then invite students to rate themselves on each in terms of current knowledge or skill during asynchronous learning prior to live instruction. By creating opportunities for students to use assessment information, they extend their own learning.

The use of know/show charts engages students in self-assessment. A simple chart, as shown in Figure 2.3, can be built using Google Forms [an online polling tool] for students to complete.

Figure 2.3. Learning Intention and Success Criteria

KNOW	*SHOW*
What do I know, relative to the learning intention and/or success criteria?	How can I show what I know?
(Students complete.)	(Students complete.)

In this case, students reflect on what they know at the time and record it in the left column. As they do so, they consider the range of ways that they might demonstrate, to themselves and others, what they currently know or understand. Imagine a group of students learning about the ways in which a poem's structure or format influences the meaning. They might have learned to recognize various types of poems, the structures that poets use, such as rhyme schemes and meter, as well as aspects such as line length or repetition. Recognizing that the point of that standard is to focus on meaning and how structure and function contribute to understanding the poem, the second column invites students to consider how they might show where and how the author's use of structure contributes to their understanding of the poem. This strategy also introduces the element of student choice into the assessment picture. Know/show

charts also provide the teacher with the opportunity to review each student's submission and determine which piece of evidence the student might be asked to expand upon.

Another self-assessment opportunity comes in the format of single-point rubrics or checklists. These tools focus on one level of achievement, usually whatever it means to be proficient. These differ from analytic rubrics that contain various levels of performance. Students can use these tools to analyze their own performance and identify areas of additional growth. As such, they become an assessment *as* learning when students' come to understand what they still need to learn by engaging in the assessment itself. For example, a student who has submitted a recording of a retelling of a story, as explained in the previous part of this chapter, might self-assess their own performance using a single point rubric, record a revised and improved retelling, then submit both to the teacher. As shown in Figure 2.4, teachers can consider a single point rubric for constructing a viable argument in mathematics.

Figure 2.4. Sample Rubric for Constructing a Viable Mathematics Argument (Almarode, et al., 2021)

GROWS	*CRITERIA AND DESCRIPTORS*	*GLOWS*
How can I strengthen my work?	My stated assumptions are mathematically accurate.	What are strong aspects of my work?
How can I strengthen my work?	My argument draws upon mathematical definitions and previously established results.	What are strong aspects of my work?
How can I strengthen my work?	My conjectures build a logical progression.	What are strong aspects of my work?
How can I strengthen my work?	I justify my conclusions, communicate them to others, and respond to arguments of others.	What are strong aspects of my work?

GROWS	*CRITERIA AND DESCRIPTORS*	*GLOWS*
How can I strengthen my work?	My argument involves the use of multiple representations (e.g., objects, actions, drawings, diagrams, and labeled equations).	What are strong aspects of my work?

Notice that the student can use the middle column as the criteria. It is assumed that there would have been lessons related to each of the rubric elements before students engaged in self-assessment. Using this tool, students could consider their work and determine where they still needed to grow and where they had already met the criteria for success. In doing so, they focus their attention and learning on areas of need. Teachers can engage students in conversations about their self-assessments and the evidence used to make those judgements, reviewing the evidence to validate and challenge students' thinking.

A third example of assessment *for* learning is known as ipsative assessment. These assessments invite students to compare their current performance to their own past performance (Isaacs et al., 2013). Of course, teachers can engage in ipsative assessment of students' learning, but inviting students into the process can be a learning experience for them. Essentially, the idea is that students set a goal to improve their performance. It is analogous to athletes who focus on their personal bests or personal records (PRs). Of course, athletes and students are eventually compared with others, but the focus on improving self-performance can be motivating.

As teachers consider ways to accelerate learning and ensure that students have the opportunity to demonstrate improved performance, ipsative assessments have a lot of potential. Through ipsative assessment, students can set personal, realistic goals based on their current performance and then monitor their progress using the assessment tools that their teachers provide them. The specific tool is less important here. The critical point is to focus students' effort and attention on improving their own performance and not comparing themselves to others.

Consider these examples:

- Imagine a group of third graders working on fluency. The teacher knows the fluency norms and the evidence about words correct per minute, as well as the risk of focusing only on fluency such that reading rate increases but word knowledge does not. Taking an ipsative approach, the teacher would invite students to self-assess their own fluency. The students video record themselves and then analyze their reading. The students then meet individually with their teacher during a video conference to set goals together. They can discuss goals, including both rate and prosody (the use stress, intonation, pauses, and

emphasis). When students understand their current performance and have a goal, they are more likely to allocate their time and attention to accomplish that goal. In this case, students engage in deliberate practice aligned with their goals because they understand what they are trying to accomplish. It becomes much less teacher-directed and much more student-directed.

- Similarly, a group of Algebra teachers can organize their curriculum by big ideas. For each big idea, they develop performance tasks aligned with those concepts. They ask students to score their own assessments. Students then analyze their results, develop plans, and set a goal for improvement. Each student uses the following frame to analyze their performance:

    > Students are encouraged to participate in additional assessment opportunities and update their analyses. The teachers provide lessons, peer teaching opportunities, practice, and feedback. They also conference with students about their analyses and goals. In doing so, teachers share responsibility for learning with students and invite students into the process. Assessment opportunities that engage students in their own assessment are also valuable tools to utilize during virtual parent-teacher conferences. A student can discuss their progress and goals using the data they have collected during the grading period.

Assessment *of* learning

The final type of assessment focuses on students' demonstration of proficiency or mastery of the standards. Teachers use a number of different tools in the summative assessment *of* learning. Teachers should be aware of the vulnerability of test items to simple internet searches, which requires alternate ways to know what, and how much, students have learned. Such methods are critical to alignment with the ISTE Standards for Educators, which calls on educators to communicate that data on a continuous basis to students, parents, and other relevant stakeholders further guide instruction and learning strategies.

Performance assessments provide an alternative to traditional tests. The key feature of performance assessment is that it requires the student to produce an artifact, such as a report, experiment, or performance, which is evaluated against specific criteria. The range of performance assessments is wide, from speeches and presentations to projects and debates. Examples of performance assessments teachers have used to assess mastery of the content standards include, but are not limited to, the following:

- Physics students were provided materials to make a vehicle powered by a mousetrap. They constructed these devices at home under the guidance of their teacher. They then had to collaborate in small groups to experiment with various designs that met the established criteria, which included propelling the vehicle 10 feet forward and at least three feet backward. They had to record various attempts and document the changes they made each time as they worked toward success. In their final reflection, they were asked to apply principles of physics to the experience using their digital interactive notebooks. Students were

assessed as a group on their scientific skills and individually on their written products.

- Middle school history students were given debate topics and randomly assigned pro or con positions. They conducted individual research asynchronously and worked with their groups during synchronous learning to prepare for debate day. They had been taught debate structures, and the teacher used video conferencing to have students share their screens and make their points.
- Students in fifth grade were tasked with creating reports of information. They were invited to select a topic from a list or propose a similar one. They knew that the written report needed to meet specific criteria in terms of organization and voice. They read their drafts aloud and recorded them for asynchronous peer feedback. They revised their drafts based on the feedback received and submitted them using a collaborative writing tool. In breakout groups, they provided feedback to each other and then finalized their submissions for the teacher.
- Second grade students were given a rich mathematical task to complete. They were tasked with solving the problem and recording a presentation of their findings for their teacher. They understood that they needed to use mathematics terminology and explain their thinking.
- Kindergarten students generated a list of questions based on specific topics and then interviewed people to find the answers. They had been taught to start and stop the recording, and their teacher helped them assemble the various answers before sharing their collective podcast on Spotify [an online streaming platform].

Another assessment *of* learning approach allows teachers to focus on confirmative assessments. These assessments serve to confirm that learning has occurred. This might include formal tests, with some modifications for distance and online learning. Most learning management systems provide an option to randomize questions and response options and can be set as a timed test. This helps ensure that students are answering the questions and not just sharing answers with their peers. Again, this strategy is vulnerable to internet searches for solutions. Therefore, teachers may consider including skills related to consulting resources directly in the assessment. This strategy requires ensuring that the questions are robust enough so that students searching the internet can still demonstrate their learning.

The format of the test itself may require fundamental changes. For example, teachers can provide students with a mathematics test completely finished with all work shown and then ask students to analyze the responses for patterns of errors. Searching the internet will provide only minimal help with this task. Students will need to apply their conceptual understanding as they identify errors and consider the faulty reasoning behind the errors.

Other educators use triangulation of tests to increase their validity. Teachers might interview students about randomly selected items following the test. Alternatively,

students might write a justification for selected items. For example, if students choose item b for question 10, they would write a brief justification for their response. Each student could be assigned different questions and responses to justify.

Finally, there is evidence that having an honor code, a public commitment ceremony, and frequent reminders of this before each assessment can reduce dishonest behavior fairly significantly (McCabe et al., 2010). For example, the first question a teacher might ask on an assessment might be, “What does it mean to you not to ‘cheat’ on this assessment?” The last question presented might be, “Did you live up to the expectations you set for yourself in question 1? Is there anything you need to tell me?” Reminding students about who they want to be can help them focus on what they have learned and show you that authentically. This is especially true when they know that it is never too late to learn and that there are multiple opportunities to demonstrate success.

Conclusion

There are a number of tools educators can use to guide their instructional decisions as well as the information they report back to their community of learners. For distance learning to be effective, educators must maintain the link between assessment and instruction. As educators have noted, there are a number of ways to use assessment information, and some tools can be used for multiple purposes. Knowing what students need to learn, aligning instruction with those learning goals, and collecting evidence of learning are the hallmarks of effective educators, regardless of the location in which learning occurs.

Chapter 3: Fostering Healthy, Equitable, and Inclusive Digital Communities

Students need to develop both academic and social emotional skills to be successful in the 21st century world, where technology, access to information, and work/school routines are rapidly changing. Skills such as critical thinking, problem solving, application of knowledge to novel situations, and the ability to self-direct will become increasingly important as today's students move into their future. At the same time, students need to develop empathy and compassion to connect with others and build cultural competence to navigate a complex and diverse world.

Traditionally, educators have supported the development of these important skills within in-person classroom settings. They now have the opportunity to reinforce these life skills through virtual environments. Creating a healthy, equitable, and inclusive digital space, where deeper learning and meaningful relationships can take place, does not happen spontaneously. Educators need to *intentionally* create the social and emotional conditions that support the development of these skills, attitudes, and relationships in *all* students as they mature.

Social emotional learning (SEL) is the process through which all people acquire and apply the knowledge, skills, and attitudes to develop healthy identities, manage emotions, achieve personal and collective goals, feel and show empathy for others, establish and maintain supportive relationships, and make responsible and caring decisions.[133] Through effective and ongoing SEL instruction and support, educators can provide the safe and supportive digital communities for students to thrive.

California is committed to ensuring that SEL instruction is a part of every student's school experience, as exemplified by the state's participation in the Collaborating States Initiative hosted by the Collaborative for Academic Learning and Emotional Learning (CASEL) and the creation of California's SEL Guiding Principles[134] and SEL Resource Guide.[135] In 2020, the Advance SEL in California Campaign was launched to gather large-scale input from educators, school leaders, and families and share best SEL practices to support students dealing with the impact of the COVID-19 pandemic and beyond. The work culminated with a final report that includes recommendations for advancing transformative SEL in California.[136] Considering how to strategically integrate

[133] https://www.casel.org/wp-content/uploads/2016/08/PDF-4-the-positive-impact-of-social-and-emotional-learning-for-kindergarten-to-eighth-grade-students-executive-summary.pdf

[134] https://www.cde.ca.gov/eo/in/documents/selguidingprincipleswb.pdf

[135] https://www.cde.ca.gov/eo/in/documents/selresourcesguide.pdf

[136] https://education-first.com/wp-content/uploads/2020/09/Advance-SEL-in-CA-Final-Report-Final-9.10.20.pdf

SEL practices and programs in online and blended spaces is a critical priority for educators as they reimagine the future of students and education.

The 2020 global pandemic brought to light the persistent inequities affecting the income, education, and health infrastructures in the United States, which disproportionately impact Black, Indigenous, and People of Color (BIPOC), individuals with visible and non-visible disabilities, and those living in poverty or experiencing homelessness. As schools work to strengthen their distance learning and blended programs, SEL becomes an essential tool not only for supporting student mental health, engagement, and resilience through the development of essential SEL skills, but also to "foster community-level responsibility and empowerment"[137] through centering systemic efforts in collective well-being and the pursuit of a more equitable and socially-just society.

In developing the *California Digital Learning Integration and Standards Guidance*, a focus group of students were convened in partnership with Californians for Justice to discuss their reflections after a year of technology-infused learning in 2020 and 2021. The students shared that a priority of teachers should be to build a supportive and genuine relationship with their students. Several students shared how challenges in their personal lives impeded their learning process. The challenges they faced included having to care for siblings and helping them with their schoolwork, being the primary caretaker of ill family members, and experiencing the loss of loved ones. They found that managing these unforeseen circumstances made them feel "out of control," which sometimes led to difficulties in focusing, procrastination, and declines in academic performance.

Other students expressed that in a face-to-face classroom environment, they may have found it difficult to speak directly with teachers about these circumstances. However, in a digital learning environment, students were able to use private-messaging functions built into various video conferencing tools or even text their teachers directly. Some teachers responded by providing flexibility with assignments, while others were open to hosting one-on-one conversations remotely to check in with the student and hear their concerns. "Treating your students like people, I think is...a start to building a relationship," one student emphasized.

Students suggested strategies to help foster supportive and genuine student-teacher relationships, including mental health checks, such as those sent privately to the teacher through Google Forms, and setting aside a day to place less emphasis on academics, thereby providing a safe, open space for students to discuss the world around them. For example, teachers can provide opportunities for students to discuss issues and current events that may cause trauma and stress.

Creating equitable and inclusive digital communities requires schools and districts to purposefully center their SEL efforts in nurturing these authentic relationships in service of equity and social justice also known as transformative SEL. According to CASEL, this form of SEL is aimed promoting social justice through increased engagement in school and civic life. It emphasizes the development of identity, agency, belonging, curiosity,

[137] https://casel.org/wp-content/uploads/2021/03/SEL-Rising-Up-Together.pdf

and collaborative problem solving.[138] After 20+ years of growth in the SEL field, a need has arisen to shift the focus from individual-level skills, which prioritize individual responsibility, to developing these skills in service of collective healing and shared responsibility. Within a digital space, adopting a transformative SEL approach prompts educators to consider not only students' equitable access to technology, but also centers students' lived experiences and views their identities as an asset within the learning process. Advancing transformative SEL implementation in service of educational equity means that cultural integration is a core principle in distance learning environments.

SEL is not just about the students; it is also about the adults: “the social and emotional competencies of the adults in the building matter, and they matter a lot” (Martínez Pérez, 2021). In fact, a report collecting lessons learned from six years of systematic SEL implementation in some of the largest urban school districts in the U.S. found that SEL initiatives were more successful when schools consider teachers’ own social and emotional competencies.[139] Educators cannot teach what they do not understand, practice, or intentionally model. In addition, adults need support to explore their unconscious bias and develop assets-based mindsets to their work with underserved students. To create healthy and supportive digital communities, consider the SEL strengths and needs of the adults supporting children, and engage them in a continuous process of reflection about their values, views, assumptions, and biases.

This chapter provides background information related to the impact of emotions on learning and well-being, the importance of relationships in digital spaces, and adult SEL competencies. Then, CASEL’s five social and emotional dimensions are presented through an equity lens, and strategies are offered to teach and infuse SEL in distance learning.

Cultivating Educator and Student Well-Being

Educational practices and programs that promote SEL have a positive impact on students’ academic performance, classroom behavior, ability to manage stress and depression, and attitudes about self, others, and school (Durlak et al., 2011). Although the research connecting distance learning and SEL is still emerging, there is a broad consensus among parents, educators, students, and scientists that SEL matters and has an impact.

When teaching remotely, teachers can create safe and supportive environments that improve students’ ability to engage and learn, where students’ identities are affirmed, and a sense of belonging is nurtured. In digital spaces, educators *can* feel competent, purposeful, show compassion towards themselves and others, and work to create partnerships with families and community organizations.

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[138] https://casel.org/research/transformative-sel/

[139] https://www.casel.org/wp-content/uploads/2017/06/CDI-Insights-Report-May.pdf

When educators teach and promote SEL in a virtual environment, they are building individuals' capacity to integrate their thoughts, emotions, and behaviors to accomplish important tasks in daily life, acquire the tools for digital citizenship, and increase their well-being.

Emotions Impact Learning

Class Spotlight

Maria, a Kindergarten student enrolled in distance learning, rushes to open her tablet when she realizes that her device has no power. She calls for help, but her parents are both in virtual meetings and cannot help her. She becomes increasingly frustrated as she tries to find the charger, which she finally finds under her notebooks and folders. When she accesses the link for her morning class, it takes her teacher what feels like an eternity to let her in the virtual room. By the time she can see her teacher and classmates, she feels agitated and keeps tapping the raise-hand-icon so she can share with her teacher why she is late to the morning meeting. When it is Maria's turn to greet the teacher, she has her head down on the table.

Maria's teacher realizes right away that something had made her very upset and asks her about it. During the virtual morning meeting, Maria has an opportunity to share why she was late and is encouraged to name her feelings. She feels better after that and is able to engage with the day's lesson.

Emotions are an important part of human life, and they greatly influence students' readiness for learning, including in digital spaces. Emotions drive a person's attention; they influence one's ability to process information, learn new concepts, and make decisions. If this teacher had not recognized Maria's emotional state and helped her to process these feelings through the digital morning meeting, it would have been difficult for Maria to pay attention that morning. Students need a space where they can process their feelings, refocus if needed, and prepare for learning.

In recent years, new knowledge about human development from neuroscience and the science of learning and development has demonstrated that emotions and social relationships strongly influence learning (Darling-Hammond & Cook-Harvey, 2018). Dr. Immordino-Yang, affective neuroscientist and human-development psychologist, states that "emotions form a critical piece of how, what, when, and why people think, remember and learn" (2015). These findings have important implications for teaching and learning in virtual spaces because young people need to understand and process their emotions in order to engage in complex thought or make meaningful connections about new concepts. Learning is impaired when students are fearful, traumatized, or overcome by challenging emotions. Therefore, educators play an important role in creating an emotional environment that is conducive to learning in virtual spaces.

Educators might reflect on their own experiences with online meetings. They may have felt excited to see their colleagues, curious to get new information, or accepted by a supportive community. If teachers experienced any of these feelings, they were probably attentive, focused, and receptive to new information during the meeting.

However, if they felt unseen or dismissed in an online space, they were more likely focused on these feelings than on the content of the meeting.

The same is true for students—pleasant emotions, such as curiosity, acceptance, and excitement—support meaningful learning. While other emotions, such as rejection, dismissal, or fear, hinder students' ability to pay attention, follow directions, or authentically engage with the material presented to them. In summary, the emotions children and youth experience originating *in* the distance learning environment influence students' engagement and performance.

It is critical to consider the impact of Adverse Childhood Experiences (ACEs), which are stressful or traumatic events children experience before age 18 that negatively impact the nervous system and the ability to regulate emotion. Virtual spaces do not immunize BIPOC, neurodiverse students, or children from low-income backgrounds from experiencing stress and microaggressions. It is critical for educators to understand the emotions students bring from life outside of the classroom, as well as those originating in the virtual space, and how they impact their ability to engage, perform, and thrive in online environments. Once teachers are familiar with the critical role that emotions play in learning, they can design educational experiences that support students as they navigate the demands of their diverse contexts and engage with instructional content.

Strategies to Incorporate Emotions in the Virtual Classroom[140]

- **Give students choice.** Choice, when provided in a structured manner, can motivate students and instill a sense of ownership over the learning process. Educators can make it possible for students to choose their research topic, ways to complete a task, or how to show mastery of a standard.
- **Help students relate the materials discussed in class to their life and personal interests.** The brain does not pay attention to things that are irrelevant and not of interest. Students will be able to pay more attention and focus for longer periods of time when the material presented in their virtual classroom is meaningful to them. Educators can get to know their students by using surveys or personal inventories, in which students share their likes, dislikes, their hobbies, special interests, and/or people in their lives.
- **Create opportunities to solve open-ended problems.** Highly prescriptive activities most likely provide little opportunity for emotional engagement. Engaging students in activities, such as classroom discussions, work groups, or project-based learning, in which students can wrestle with problems that do not necessarily have a right/wrong answer, provide opportunities for meaningful engagement. This engagement in virtual or blended settings allows or

[140] Adapted from Martínez Pérez, L. (2021). *Teaching with the HEART in Mind: A Complete Educator's Guide to Social Emotional Learning*. San Carlos, CA: Brisca Publishing.

encourages students to establish the emotional connections that are important for cognitive learning.

- **Offer a variety of tasks and activities.** Educators can use different platforms and strategies to engage students in diverse ways. During synchronous and asynchronous time, educators can use tools such as digital manipulatives, instructional videos, interactive tools, or have students record mock-ups or engage in discussion boards. Providing this variety helps students build confidence with certain tools and grow their ability to use others.

- **Include regular check-ins with students (beginning, during and/or at the end of the day/class).** Regular check-ins might include engaging with mood meters during virtual classroom meetings, starting class with a song, or asking students to share how they are feeling using chat or a digital whiteboard. The goal is to create a welcoming environment for students to check-in with each other and build a sense of community. It also provides the opportunity for teachers to note students who are unusually quiet or visibly upset. As an active participant in the check-in, the teacher models how to name and express feelings appropriately.

- **Create space and/or provide time in the virtual classroom to refocus.** Teachers can schedule quiet time or a peaceful breakout room for students to take a breath or do free drawing. The idea is to help students refocus and de-stress, so they can get ready for learning. A short time devoted to these strategies may support sustained focus in the long term.

- **Incorporate "brain breaks," "energy boosters," and physical movement.** Brains are wired for novelty. Educators can enhance virtual learning by providing short activities to refresh students' thinking, breaking up predictable and repetitive processes, and moving students away from their devices. Regular physical activity improves memory, concentration, and positive outlook. Physical movement can be easily incorporated in online learning through free platforms, such as Go Noodle, where students dance and move their bodies following instructions from a recorded video. It can also be done during asynchronous time, where students log physical activity, create and share games that involve physical movement, or record themselves playing or dancing.

Nurturing Positive Relationships in Digital Spaces

Children's relationships with adults are an essential ingredient for learning and healthy development. When positive relationships exist between students and teachers in the classroom, students are more likely to use their teachers as resources to solve problems, actively engage in learning activities, and better navigate the demands of school.

According to research in developmental science, positive relationships create not only the developmental pathways for lifelong learning, adaptation, and integration of social, emotional, and cognitive skills, but also make qualitative changes to a child's genetic

expression (Osher et al., 2018). Brains change in response to the experiences, relationships, and environments encountered from birth into adulthood.

Positive relationships also foster resilience, and reduce the impact that negative factors, such as ACEs, may have on children's healthy development. In other words, positive relationships are a protective factor for all students, but especially young people dealing with chronic stress, trauma, and impact of ACEs.

It is important for educators to examine their biases when considering how to build trust and foster positive relationships with students and families who are ethnically, culturally, and linguistically diverse. By developing cultural competence, educators can gain awareness of their own cultural identity and how they perceive differences with their students and families. Differences in social and cultural background and circumstances make it more difficult for some people to trust others. This trust gap may hinder students' ability to meaningfully engage with peers, teachers, and classroom content. To further foster productive, positive relationships, educators can learn about and build on the rich cultural and community assets of students and their families.

In digital spaces, it is critically important that educators intentionally design and implement practices that create a sense of emotional and identity safety, belonging, and connection. Teachers can create virtual spaces that intentionally cultivate trusting relationships, affirm and celebrate students' backgrounds and assets, and foster a sense of belonging and community. Teachers who build classroom cultures that prioritize mechanisms of support and focus on cultivating relationships are likely to be less reliant on traditional punishment when challenges inevitably arise.

Strategies to Nurture Positive Relationships in Digital Spaces

- **Engage in personal reflection.** Educators can examine their teaching philosophy, beliefs and values, and the way culture has influenced their lives. They can reflect on their identity and learned biases[141] and how these may impact their expectations and relationships with students and families.
- **Learn about each student.** Educators can invest time learning about their students and their cultural identities and history. Students can create identity artifacts museums[142] with items from home that are important to them or complete an inventory of their likes and dislikes. Educators can incorporate what they learn about students in their lessons and during interaction with students.
- **Create intentional routines that nurture emotional connection.** Distance learning does not need to mean disconnected. Educators can create circles of gratitude for students to share something they appreciate about themselves or

[141] https://crtandthebrain.com/wp-content/uploads/Protocol-for-Checking-Unconscious-Bias.pdf

[142] https://www.learningforjustice.org/classroom-resources/student-tasks/do-something/identity-artifacts-museum

their online learning community. Invite students to share about non-academic topics (i.e., their favorite sports or TV shows). Educators may encourage positive emotional connections with students by sharing appropriate personal information (i.e., show a picture of their pet, share a favorite song, mention a new skill that they are trying to learn, etc.). It is important for students to connect with the adult behind the screen.

- **Routinely engage students in team-building activities**. Team-building activities may be used either as a whole group or in breakout rooms. Educators might let students choose their groups based on personal interests and hobbies, or partnering students so they can get to know each other and discuss topics related to distance learning or their lives outside of school.
- **Co-create norms and expectations with students.** Allowing students to create ground rules of how the group will function enhances students' ownership and accountability over the learning process. Students can remind each other when they stray from the group's plan and discuss how to get back on track. This also shows that educators trust students to self-organize and co-regulate.
- **Communicate to students a belief in their ability to learn.** Effective teachers hold high expectations for students, while providing the appropriate amount of support. As students navigate learning in a virtual space, it is important that educators build their confidence while continuing to challenge them to do their best work.
- **Offer unconditional positive regard for each student.** Unconditional**,** positive regard is not contingent on compliance, finishing work, or good grades. When students feel that they are worthy of care, they are more likely to seek help, be motivated to finish schoolwork, or pay attention during virtual meetings.
- **Build partnerships with families.** Educators can learn about students' families, their beliefs, hopes and dreams, and traditions. Consider inviting family members to the classroom in-person or remotely to share information about special celebrations, careers, or appropriate community activities. Regularly communicate with families through multiple methods, such as phone calls, virtual meetings, mail, and emails.

Educator Well-Being

As schools and districts strengthen distance learning programs, their SEL initiatives should include supporting the social and emotional capacity of educators and staff working with children and youth. Adult SEL skills not only support educators as they build their resilience and face the emotional challenges that come with teaching, but also positively impact the learning environment:[143]

[143] http://www.nationalresilienceresource.com/Education/Educators_social_and_emotional_skills.pdf.

- **Teachers' social and emotional competencies influence the quality of teacher-student relationships.** Teachers who are calm, positive, and content are likely to be better equipped for teaching students warmly and sensitively, even when students behave in challenging ways.

- **Teachers model SEL skills, intentionally or not.** Students pay attention to how teachers navigate stressful situations. They learn from how their teachers deal with conflicts or respond to challenging behavior, and whether or not they foster a prosocial classroom environment.

- **Teachers' social and emotional skills influence classroom organization and management.** Maintaining a sense of calm, being organized, and cultivating social trust can promote a supportive distance classroom.

Teaching is a highly demanding profession, physically, emotionally, and cognitively. Prior to the pandemic, almost 60% of teachers reported being under great stress. Before COVID-19, 200,000 teachers left the profession, with nearly two out of three for reasons other than retirement.[144] This teacher turnover is estimated to cost $7 billion per year in the U.S.[145] However, there can be a perception that educator burnout is the individual responsibility of each teacher, rather than looking at the systemic organizational issues that are often responsible for teacher burnout and attrition. Although any teacher can take steps to develop their social and emotional capacity, having support from school and district administration is essential in increasing educators' effectiveness, building adult connections, and maintaining their well-being in the long term.

Organizational Strategies to Nurture Educator Well-Being

- Collect and analyze data from teachers and school personnel using online surveys to identify their strengths and current social and emotional needs with tools, such as the Educator Resilience and Trauma-Informed Self-Care tool from the Center on Great Teachers & Leaders.[146]

- Establish space and time for staff to come together with the goal of strengthening their relationships, and problem solve together ways to build a healthy school community. Schools can hold virtual circles, where staff can share their feelings, challenges, and how they would like to be supported.[147] This can also be an informal check-in at the end of the meeting, where teachers share in the chat how they feel.

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[144] https://learningpolicyinstitute.org/product/solving-teacher-shortage

[145] https://createforeducation.org/educator-well-being-we-need-systems-change-part-3/

[146] https://gtlcenter.org/sites/default/files/Educator-Resilience-Trauma-Informed-Self-Care-Self-Assessment.pdf

[147] https://healingcirclesglobal.org/how-to-host-a-virtual-circle/

- Examine how the distance work conditions and school structures and resources support online educator well-being. Consider providing support for educators to develop a self-care plan and have a well-being buddy, and alternate video conference meetings with other types, such as walk-and-talk meetings. Support educators as they reflect on their values, views, assumptions, and biases when working with BIPOC, neurodiverse individuals, or those coming from low-income backgrounds.
- Ensure access to trauma and mental health support for staff.
- Include well-being goals or activities in professional development plans to facilitate the development of adult SEL skills, and consider tools to effectively deal with stress. Incorporate virtual mindfulness, yoga, or journaling in staff meetings. Consider providing teachers with different choices for their professional development plans.
- Check-in with teachers and school personnel on a regular basis, communicate and celebrate individual and group accomplishments, acknowledge challenges, and be open to feedback. For instance, administrators can host virtual office hours or remote coffee with the principal.

Infusing Social and Emotional Learning (SEL) in Online Teaching and Learning

Effective, deep learning is dependent upon trusting, meaningful, and supportive relationships between educators and students. Motivation, engagement, and a sense of belonging are established and maintained over time through these relationships. The screen necessary for virtual learning may become a barrier to connecting with students and an obstacle for learning unless educators *intentionally* plan to teach and infuse SEL in their online instruction.

Educators can infuse SEL in virtual environments by using the five broad, interrelated areas of competence established by CASEL known as the CASEL 5. The definitions presented below are grounded in transformative SEL and have an equity lens:[148]

Self-awareness: The understanding of one's emotions, personal and social identities, goals, and values, including the ability to accurately assess strengths and limitations, having positive mindsets, and possessing a well-grounded sense of self-efficacy. High levels of self-awareness require the ability to recognize one's own biases; understand the links between one's personal and collective history and identities; critically self-analyze; and recognize how thoughts, feelings, and actions are interconnected in and across diverse contexts.

Self-Management: The abilities to manage one's emotions, thoughts, and behaviors effectively in different situations and to achieve goals and aspirations. This includes the capacities to delay gratification, manage stress, and feel motivation and agency to

[148] https://www.panoramaed.com/blog/transformative-sel

accomplish personal/collective goals. Perseverance and the ability to proactively address personal and group-level challenges to achieve collectively defined goals are indicators of high levels of self-management.

Social Awareness: The abilities to understand the perspectives of and empathize with others, including those from diverse backgrounds, cultures, and contexts. This involves having the critical historical context to practice perspective-taking with individuals of various backgrounds and cultures. It also involves understanding social norms for prosocial behavior in diverse interpersonal and institutional settings and recognizing family, school, and community resources and supports for personal and collective well-being.

Relationship Skills: The abilities to establish and maintain healthy and supportive relationships and to effectively navigate settings with diverse individuals and groups. This includes the interpersonal sensibilities needed to establish and maintain healthy relationships and to effectively navigate settings with differing social and cultural norms. Active listening, clear communication, constructively negotiating conflict, offering leadership, seeking help, working collaborative, and resisting social pressures are all indicators of competence in the relationship skills domain.

Responsible Decision-Making: The abilities to make caring and constructive choices about personal behavior and social interactions across diverse situations. This incorporates the cultivation of knowledge, skills, and attitudes to make caring, constructive choices about personal and group behavior in social interactions within and across diverse settings that prioritize collective health and well-being. It requires the ability to critically examine ethical standards and behavioral norms while making realistic evaluations of benefits and consequences for one's actions.

How Can SEL Be Infused in Virtual Classrooms?

These important social and emotional skills can be enhanced by using three key implementation strategies in the virtual classroom:

Explicit instruction. This strategy refers to teaching the specific SEL skills and attitudes in developmentally, contextually, and culturally-responsive ways. When starting to teach SEL in the online classroom, explicit instruction is very important because it provides students and teachers a common language to communicate and discuss daily issues and routines.

Teaching practices that enhance students' SEL skills. Teachers intentionally plan and organize activities in the virtual environment to provide students with the opportunity to practice, apply, and extend SEL skills. Teaching practices, including activities such as cooperative learning, project-based learning, asking students to understand another person's perspective, guiding students to accept and act upon feedback, or allowing students to make choices about their own learning, all require students to use their SEL skills.

Integrate SEL with academic content. By integrating SEL with content, teachers can connect the content and vocabulary of their SEL instruction with their English language arts, English language development, mathematics, science, social studies, and health instruction.

In addition, SEL instruction is most effective in nurturing environments among students and teachers who have positive and caring relationships. Establishing emotional connections, creating trust, and developing educator social and emotional capacity are essential conditions to creating these healthy and inclusive digital spaces. A supportive environment is created when:

- expectations, norms, and routines are co-created and represent the diverse perspectives of students and educators with the goal of creating psychological safety and belonging;
- identities and cultures are uplifted and promoted by the school community, and inequitable practices are challenged and dismantled;
- relational trust drives the learning environment, and students and teachers are supported to learn from mistakes with a restorative approach to discipline;[149]

The five broad, interrelated areas of competence established by CASEL serve as a framework for infusing SEL in a virtual environment. Strategies include the following:

Self-Awareness

Incorporate emotional check-ins daily. Educators can support students' self-awareness skills by starting lessons with an emotional check-in. This is a time when teachers and students come together to connect and reflect on how things are going. It sets the tone for the day or that particular class. To help students communicate their feelings, educators can use a scale, such as, "On a scale of 1-10, how bored are you feeling?" or "Are you feeling a little lonely, somewhat lonely, or very lonely?" In addition, teachers can use apps like Mood Meter, Padlet, or Mentimeter to help students name their emotions and thoughts, and create a visual representation of the data. This is an opportunity for educators to model, so they should also share their feelings, while gathering important information about their students. If most students are overwhelmed, sad, or frustrated, educators may need to support students to process these feelings before starting to address any academic content.

Encourage students to express their feelings in non-verbal ways. Educators can model and normalize expressing emotions by giving students opportunities to express themselves in nonverbal ways. This may include drawing a picture on a digital whiteboard about how their lesson or day is going or showing the most important thing that happened to them that day. Teachers can complete this exercise first and share

[149] https://turnaroundusa.org/toolbox/wcdesign/

with students to model how to share with others in a way that feels safe and helps them feel connected.

Support students in exploring their multiple identities. An important part of helping students develop self-awareness is supporting them to explore their cultural values, consider their sense of belonging to different groups, and develop their self-efficacy. Lessons plans on identity from Learning for Justice can support educators in elementary, middle, and high school and can be easily adapted for the virtual classroom.[150]

Help students identify their strengths and assets. Students who can identify their strengths will be more likely to build on them to face academic challenges and improve their areas of growth. Educators can support students in exploring their strengths by having students complete a personal inventory,[151] or by providing feedback about what they observe in the virtual classroom. Students' assets can be related to academics, but they can also incorporate students' character strengths or skills that students have in other areas, such as music, art, or cooking.

Acknowledge and help students identify their emotional reactions to different online learning activities and topics presented in the virtual space. Students may display different emotions depending on their prior experience in distance learning. For example, students who may have been bullied or felt unsafe in online spaces may be hesitant to turn on their cameras, participate in breakout rooms, and engage in whole-class discussions. Furthermore, different subjects can also generate a variety of feelings: certain students will feel excited about science projects, while others may be uninterested. Explicitly bringing these emotions into the virtual conversation can help teachers know their students better and normalize the fact that individuals have different feelings.

Self-Management

Teach and incorporate mindfulness and self-soothing exercises to help students navigate their feelings. When educators notice their students come to the virtual space agitated, they can encourage self-regulation by teaching simple breathing techniques, such as four-corner breathing. This exercise involves inhaling deeply and exhaling deeply four times. Students can complete this breathing exercise by standing up and taking one inhale and exhale breath while facing each of the four corners in a home room. There are several free apps that educators can use in their classrooms, such as Insight Timer, Calm, or Smiling Mind with guided meditations for children and youth.

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[150] https://www.learningforjustice.org/professional-development/social-justice-standards-unpacking-identity

[151] https://www.understood.org/en/friends-feelings/empowering-your-child/building-on-strengths/types-of-strengths-in-kids

Teach students to recognize the physical signs that indicate the body is going into stress mode. This is very important in online environments since teachers are not in the same physical space with students and may miss information. When students are able to identify these signs, they can more effectively choose a strategy to avoid a meltdown. Educators can use the "Hand Model" of the brain to help students understand how brains react to stress.[152]

Identify the stress and discrimination that students experience inside and outside the virtual classroom. When teaching students to navigate their emotions and respond constructively to their virtual environment, educators should acknowledge how the sociopolitical context impacts students' emotional experiences and their ability to cope with stress.[153] Violent and discriminatory events may influence students' emotional health and increase their stress levels. Educators can support students by creating a safe space where students can express and regulate their emotions, acknowledging these societal challenges, and working with students to pursue collective solutions.[154]

Support students' executive functioning skills. During distance learning, it is important to support students to develop effective ways to manage their time and get organized. They can benefit from using tools that help them stay on track, such as using timers as well as digital calendars embedded in LMS. Choosing an accountability buddy or closing all tabs when they are in a virtual classroom will support students' executive functioning skills. The goal is helping students stay engaged and aware of the distractions they may face.

Discover negative self-talk. Many times, when individuals make an error, they tell themselves negative things when they discover their mistakes. This is true for both educators and students. These negative thoughts can limit individuals' ability to be present and do their best work. Teachers can describe a time when they made a mistake, the negative things that they told themselves, and encourage students to come up with alternative thoughts that would have been more helpful and supportive for that situation. Students can create a virtual collage using Padlet or Jamboard of positive statements that everybody can use when they feel stuck or overwhelmed by a situation, or when they make a mistake. This collage can help support students in developing an optimistic mindset.[155]

Student Voice: Support students with developing skills for digital learning
Students discovered that they needed new skills to manage and organize their learning in a virtual environment. Students had to learn how to stay organized and keep track of their progress in a digital space. Students needed support in developing executive

[152] https://www.attachment-and-trauma-treatment-centre-for-healing.com/uploads/4/0/5/4/4054075/flipping_lid_infographic.pdf

[153] https://www.edutopia.org/article/look-implicit-bias-and-microaggressions

[154] https://casel.org/wp-content/uploads/2020/04/equity-and-SEL-.pdf

[155] https://www.edutopia.org/article/optimism-learnable-skill

functioning skills. Students shared that various functionalities built into learning management systems, such as a digital calendar, helped them to keep up with and understand their progress. Students also appreciated when teachers focused on a common or limited set of digital tools and provided an introductory lesson for each tool, as this scaffolded their learning.

Social-Awareness

Teach and learn about other people's perspectives. Transformative SEL can help educators increase their awareness about how other people—especially those from culturally, ethnically, and linguistically diverse backgrounds—experience life in virtual and in-person environments. Educators can help students develop empathy by discussing current events, using tools such as Newsela, and how these events impact their own or other communities.

Monitor caring moments. Students pay attention to those things that educators emphasize on a daily basis. When educators notice and acknowledge student support for each other, students learn that those moments are important. Teachers can keep track of this by tallying when they observe students helping each other with an assignment, providing comfort when something difficult happens, or encouraging others to do their best. Teachers and students can collect and share this data with the classroom and monitor how it increases or decreases over time.

Role play. Role playing is a learning structure in which students take the role of a real or imaginary character and act it out. It creates an opportunity for students to take on a different persona (one that may have different values and experiences) and connect with the kinds of emotions and thoughts this person would have. This activity can be done in the virtual classroom by organizing students to prepare their characters in breakout rooms and then bring them together to role play as a whole class. The role-playing situation can be adapted to students' grade and the current or historical events they are studying.

Create social justice art. Artists have historically used their creations to communicate injustice and highlight social challenges. Art can be a powerful vehicle for educators and students to examine students' multiple identities, the assets that ethnically, culturally, and linguistically diverse students bring to the classroom, and the challenges they face. Creating self-portraits or a virtual classroom mural, using music and dance to express injustice, or making a documentary film can be ways to bring the arts into the virtual classroom, while addressing important social justice topics.[156]

Relationships Skills

Focus on building connections with students. Although virtual educators have less informal opportunities to connect with students, there are still ways to establish meaningful relationships in a virtual space. Teachers can regularly communicate with

[156] https://www.learningforjustice.org/classroom-resources/lessons/art-and-activism

students one-on-one or as a class via email, audio message, virtual office hours visits, and check-ins. The goal is for students to know that educators genuinely care for them as people. Questions that educators can use to build relationships with students.

- What helps you feel welcomed?
- How would you like to be greeted?
- What goals do you have for yourself?
- What can you tell me that helps me better understand you as a person?
- How can I support you and be the best teacher for you?
- How can our school and virtual classroom be a place where you feel affirmed, connected, and excited to learn?

Practice gratitude. Gratitude is an important aspect of building resilience. When students and educators focus their attention on the positive aspects in their lives, they can gain energy to face challenges. Educators can set up virtual or long-distance appreciation or gratitude circles and encourage students to write one thing they appreciate about themselves or their classmates. Teachers can also share written or oral appreciation for each of their students.

Use collaborative structures. Educators might create opportunities in the virtual classroom where students can work together to meet a common goal. Group projects help students to know each other better and appreciate the different talents in the group, while enhancing students' SEL and academic skills. While individual activities may be easier from a management perspective, learning is a social process. Strategies, such as group problem-solving, think-pair-share, or jigsaws, are also possible in the digital space with some preparation.[157]

Develop cultural humility. Differences in the understanding of norms, social roles, and other rules can cause students and adults to misinterpret each other's attempts to share and collaborate in the virtual classroom.[158] This can cause disagreements to become conflicts that may end up being addressed through discipline, instead of a restorative approach. Cultural humility can help educators effectively negotiate the cultural differences that may exist between them and their students and then support students to do the same.[159]

Use students' interests, diverse identities, and cultures to enrich academic content. When students have an opportunity to know each other and learn from their

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[157] https://www.edutopia.org/article/better-breakout-room-experience-students

[158] https://casel.org/wp-content/uploads/2020/04/equity-and-SEL-.pdf

[159] https://www.kqed.org/mindshift/49609/4-tools-to-help-kids-develop-empathy-and-cultural-humility

varied perspectives, they are able to establish stronger bonds and be more engaged in learning. Readings in the virtual classroom should be connected and reflect students' life experiences; authors should represent students' cultures and ethnicities, and the diversity of the human experience—from joyful and proud moments to challenging and painful times. Platforms, such as Epic or Storyline Online, have diverse libraries that can be accessed online. In addition, educators can invite students to share their favorite musicians, artists, and authors, and use this information as a vehicle to build meaningful content for students and with students.[160]

Responsible Decision-Making

Teach and learn about civic action. There are many examples of youth and adults involved in making their communities a better place by identifying inequities, and affecting positive change. Students should investigate and evaluate a variety of approaches to civic action. Through this approach, teachers can help students examine how SEL skills are put into practice, including ethical considerations in the decision-making process. Learning about civic action can also expand students' awareness about the challenges facing communities and responses to address those challenges.

Promote student voice and autonomy. When students feel empowered to contribute to their classroom community, they are more likely to stay engaged even when things are difficult. Fostering students' autonomy and engaging their voices is a great way to teach and practice responsible decision making. Students could make decisions about how to complete an assignment or select a topic of interest for a project. Students of all ages can lead parent conferences and share their work.[161] Conferences give students an opportunity to use their voice, ask questions, and feel heard. Educators should promote varied opportunities for youth voice across all grade-levels. Teachers can use this information provided by the students as feedback to enhance their teaching and strengthen the learning community.[162]

Create leadership opportunities. Students generally have great ideas about how to improve their schools or what teachers could do better. Educators can design leadership opportunities for students to improve things that are important to them and/or support the classroom community.[163] These can range from simple to more complex opportunities, such as leading an online game, contributing to a student club and organizing a student council event. The use of videoconference tools can help students to bolster, along with teacher support, important skills, such as public speaking, mediation, or decision making. By recognizing students' voices and supporting their

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[160] https://www.slj.com/?detailStory=virtual-libraries-bitmoji-classrooms-bring-new-kind-book-browsing-covid-19-coronavirus

[161] https://www.naesp.org/sites/default/files/Fox_ND16.pdf

[162] https://www.edutopia.org/article/simple-ways-promote-student-voice-classroom

[163] https://www.facinghistory.org/resource-library/10-questions-young-changemakers

leadership development, teachers can encourage students' civic engagement and recognize their value in becoming change makers in their communities.

SEL as a Lever for Equity: Principles and Reflection Questions[164]

As educators integrate transformative SEL, they can consider the following principles and reflection questions to guide their instructional decisions and the strategies they use to build nurturing relationships and a supportive virtual space for growth and learning.

Principle 1: Centering Students' Lived Experiences and Identities in SEL Instruction

- Reflection question: During SEL instruction, how am I affirming my students' identities, drawing on their lived experiences, and addressing their urgent needs?

Principle 2: Using SEL Discussions to Validate Student Experiences of Oppression

- Reflection question: During SEL instruction, how am I acknowledging and supporting students' emerging understanding of oppression as well as its emotional toll?

Principle 3: SEL Instruction as a Space to Encourage Youth to Use their Voice for Social Justice

- Reflection question: During SEL instruction, how do I encourage and provide opportunities for students to engage in developmentally-appropriate and community-connected civic and political activities or projects?

Vignette: Infusing SEL in Blended and Online Learning

"Social emotional skills can be fostered in any environment – virtual or in person," Valerie Sun, a teacher specialist at Glendale Unified School District, says. "It is any moment the educator intentionally creates to help students feel welcome, connected, and heard in their environment. In making these connections and developing relationships, students have the opportunity to build their skills in all five categories of SEL in CASEL's framework." Doing this work remotely presents unique challenges, but for this Los Angeles-based educator, at the heart of any endeavor to bring SEL into distance learning is the underlying need for students to feel safe in order to learn.

"I can't stress the importance of genuine check-ins," says Valerie. "We need to give our students the feelings that they belong and are connected to their peers and to us."

When teaching online, Valerie recognizes participants with virtual kudos in the form of Google SlidesMania and SlidesGo certificates in her slide deck [online presentation tools]. She takes note of character-building moments from previous classes and highlights one or two students who displayed admirable qualities, such as being a Fearless Questioner (for not being afraid to ask questions) or Persistent Learner (for those who say they've been trying hard and the results don't show it).

[164] https://casel.org/wp-content/uploads/2021/03/SEL-Rising-Up-Together.pdf

"It's small, but the recipients are always surprised and feel really proud," she says. "My favorite part is always when students email me to see if they can nominate another person for the award. I have teachers who told me they started doing this in their own classes and saw great success in building their classroom environment and community."

Another way to connect with students – and help them connect with themselves – is through breathing and meditation. Valerie talks her students through a quick three-minute guided meditation that she adapts to their needs of the day, especially when she feels their anxious energy. For teachers who are not comfortable reading from a script, there are many age-appropriate apps and videos to guide students through this process, such as MyLife.

The challenges of connecting through a screen can be overcome with creativity. Valerie suggests that teachers make connections through a phone call or a letter. The key is to remain student-centered. "Ask them open-ended questions regarding their activities, games, movies, etc." she says. "If it is a student who has not been attending class, the last thing they want to respond to is why they haven't been attending class. If we ask about their hobbies and demonstrate genuine interest, with some persistent calls, they may feel inclined to join our class." Valerie believes the power of students receiving a letter from their teacher is immeasurable. Even if the message is similar for each child, it helps them see the effort the teacher has made to connect. "My preference is a short, handwritten letter," she says. "However, because time is precious and if the message is long, then type it, and add a handwritten part like, 'We miss you!' or 'You are appreciated!'"

Making genuine connections and developing relationships is a critical foundation for teaching and learning. The SEL framework gives educators the structure to put that into action to advance students' development. With a little creativity and extra care, teachers can provide meaningful moments throughout each student's day to make their in-person or virtual classroom a space in which they can feel safe to learn and grow.

Infusing SEL as a Schoolwide Approach

Online and hybrid learning experiences create a great opportunity for schools to respond to students' individual needs through existing systems of student support. SEL goals and practices can be integrated with universal, targeted, and intensive academic and behavioral supports offered virtually to best accommodate students' assets and areas of growth.

In addition, partnerships with families can be strengthened in online spaces by inviting parents to share their expertise, cultural norms, values, and traditions in classrooms or school-wide virtual events. It is also important for schools to maintain open and regular communication with families focused on mutual goals and building connections. These efforts can support families in developing trust and a sense of belonging, and experiencing the value of developing socially and emotionally competent children and youth.

SEL implementation requires a systemic approach to include collaboration across all stakeholders in a variety of settings, including classrooms, schools, families, and communities, to ensure supportive and equitable learning environments for students as they continue to grow. These coordinated efforts have the potential to foster youth voice, agency, and engagement; establish supportive classroom and school climates and approaches to discipline; enhance adult SEL skills; and establish authentic family and community partnerships.

Note: Digital tools and resources to support the implementation of the strategies and considerations identified in this section are included in the Appendices. Please also note that digital tools referenced in Appendix B include free and premium options, and their inclusion in the guidance are largely derived from interviews with California educators. LEAs exercise local control when selecting digital tools and resources. Resources and digital tools included in the guide should not be considered endorsements by the CDE.

Section B: Standards Guidance for Mathematics

Chapter 4: Digital Learning in Mathematics

Chapter 1 provided a wide range of general recommendations associated with effective teaching in a digital learning environment. This chapter includes additional strategies for a focused subset of topics most relevant to mathematics instruction and aligned to the ISTE Standards for Educators and National Standards for Quality Online Teaching (which were introduced in Chapter 1).

Additionally, the draft 2021 *Mathematics Framework for California Public Schools, Kindergarten Through Grade Twelve* (*Mathematics Framework*), with an adoption target date of November 2021, devotes a chapter to the intersection of mathematics, technology, and distance learning. The revised *Mathematics Framework* emphasizes how technology "supports both the learning of meaningful mathematical content and the fostering of the productive habits of mind and habits of interaction embodied by the Standards for Mathematical Practice (SMPs)." The chapter expands upon three principles for incorporating technology in mathematics instruction, each of which are introduced and explained briefly below:

- Principle 1: Strategic Use of Technology in a Learning Environment Can Facilitate Powerful Learning of Mathematics: The first principle focuses on the intentionality behind the use of technology for mathematics to contribute to students' "learn[ing], experienc[ing], communicat[ing], and do[ing] mathematics. It includes access (technology availability for students and educators), usage (technology's use in the learning process), and skills (the students' and educators' ability to use the technology in meaningful ways).

- Principle 2: Support for Teachers of Mathematics Accompanies Use of Learning Technologies: The second principle concentrates on the need for robust and continual professional learning and support during a technology adoption process. Additionally, the school and/or district needs to provide time for teachers to learn how to use the technology, including ongoing and content-specific training, such as for mathematics.

- Principle 3: Learning Technologies Are Accessible for All Students: The third and final principle emphasizes the need for access and equity to learning technologies, including devices and digital tools specific for mathematics, for all students, including foster youth, youth experiencing homelessness, ELs, and students with IEPs and 504 plans. This access can include devices and the internet.

The topics included within each of these principles are covered briefly in this chapter within the context of mathematics and more generally in Chapter 1.

When implementing the strategies in this chapter, educators are further encouraged to create ongoing partnerships with family members and caregivers who help their students with their learning. This cultivates a robust support system for students as they

work through assignments and problems that may be challenging. Educators might invite family and caregivers to online office hours and/or one-on-one meetings with students to identify interventions and resources and further strengthen the support system.

Preparing and Supporting Teachers for Digital Teaching

Professional Responsibilities

As referenced in Chapter 1, both the ISTE Standards for Educators and National Standards for Quality Online Teaching emphasize the vital importance of teachers collaborating with colleagues to support one another as they create authentic learning experiences that leverage technology. As is true for any subject area, this pedagogical training should also be content specific, as mentioned above, so that teachers can leverage those technologies to support their teaching of mathematics and their students' learning (National Council of Teachers of Mathematics, 2015).

One way to encourage collaboration in mathematics might be to develop a supportive cadre/group of teachers, forming a formal professional learning community (PLC), at the regional, district, school, or grade level. By leveraging various digital tools, such as collaborative documents, social media, and video conferencing software, the PLC might be responsible for dividing content based on areas of expertise, creating activities, and sharing ideas for integrating technology.[165,166]

Teacher Presence

In Chapter 1, both the ISTE Standards for Educators and National Standards for Quality Online Teaching emphasize the use of digital tools to foster teacher-student relationships that build students' sense of belonging to the school community. This focus on relationships is especially important in distance learning, where teacher presence is critical to helping students feel best supported for their success. This does not suggest that teachers have to be connecting to students synchronously all of the time. Instead, it can be achieved through a personalized note, quick feedback on an assignment, a private message of encouragement during group time, or email messages.

In the mathematics learning environment specifically, digital tools that allow teachers and peers to communicate feedback through video and/or audio help make the learning experience much more personable than purely text-based feedback. Additionally, videos allow students to stop and replay the content if they missed information the first time they heard it.

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[165] https://tech.ed.gov/files/2017/01/NETP17.pdf

[166] https://bit.ly/ISTEDistrictGuidance

Digital Citizenship

Digital citizenship is one of the core components of both the ISTE Standards for Educators and National Standards for Quality Online Teaching, and it reminds teachers to model, guide, and encourage legal, ethical, and safe behavior related to students' technology use. Chapter 1 presented the DigCitCommit competencies as a framework that allows teachers to consider strategies for teaching and reinforcing a comprehensive set of digital citizenship skills.[167]

Addressing digital citizenship through the lens of mathematics specifically can provide students an opportunity to reinforce the "Inclusive" competency of the DigCitCommit framework ("I am open to hearing and respectfully recognizing multiple viewpoints, and I engage with others online with respect and empathy."). For example, collaborative tasks related to mathematical ideas that necessitate investigation provide an opportunity for students to learn how to interact in respectful ways with each other and provide productive feedback to peers.

Furthermore, mathematics can be an ideal content area for practicing the "Engaged" competency of the DigCitCommit framework ("I use technology and digital channels for civic engagement, to solve problems, and be a force for good in both physical and virtual communities."). For example, teachers can guide students in discussing and reflecting on how investigating mathematical ideas, asking questions, and making conjectures in mathematics may help in solving local and global issues around them.[168] This activity may be further facilitated by using video conferencing tools to connect with experts in the field who are using mathematics to solve these local and global issues.

Teachers will find additional ideas for teaching digital citizenship through the lens of mathematics from resources like Tech InCtrl that provide lesson materials and ideas.[169] Refer to *Digital Citizenship* in Chapter 1 to learn about more strategies.

Data-Informed Instruction

Both the ISTE Standards for Educators and National Standards for Quality Online Teaching emphasize the importance of teachers' ongoing use of data to inform their instruction. In the context of mathematics, there are many ways digital tools can be used for formative assessment in online and blended learning environments to determine pedagogical effectiveness, understand support needs for students, inform and individualize instruction, and accelerate learning. Chapter 2 shares many of these approaches under *Assessment for Learning*, which explores frequent, formative assessments that may be used to inform instruction. Some examples for mathematics include, but are not limited to, the following:

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[167] https://digcitcommit.org/

[168] https://www.youtube.com/watch?v=QTuLn5kiyyg

[169] https://teachinctrl.org/math/

- Students can meet in online work sessions where the teacher might give students just-in-time support, such as small lessons using Edpuzzle [a video-based lesson software], that provides data for the teacher as students collaboratively work through problems. As the students are working through problems, teachers can check in on students' learning goals to identify students in need of additional support.

- Students might also meet with their teachers one-on-one to discuss their progress related to a specific concept, engage in a discussion-based assessment via video conferencing, and/or discuss their next steps.

- Students might write out their mathematical explanation as they solve selected problems in an online shared document. This enables teachers to closely monitor student progress and provide ongoing, supportive feedback and notes to bolster students' motivation as they continue their problem-solving process. It also provides a space for students to share if they are asked to present.

- Teachers can create a quick check-in survey using an online survey tool, such as Google Forms or Zoom polls, to ask students where they are with their understanding of concepts. Based on that assessment, the teacher can adjust their instructional approaches (e.g., pace of instruction).

Sample rubrics to assess and give feedback to students around their strengths and areas for growth in mathematics are included in Appendix D: Mathematics Rubric Examples. The rubrics connect the Drivers of Investigation to both the big ideas and the standards for mathematical practice (SMP).

Refer to *Data-Informed Instruction* in Chapter 1, as well as Chapter 2, to learn about more strategies.

Designing Meaningful Digital Learning Experiences

Aggregating Quality Synchronous vs. Asynchronous Instructional Time

Both the ISTE Standards for Educators and National Standards for Quality Online Teaching call on educators to design learning experiences that are best-suited for the specific learning environment. Teachers determine which information is better conveyed through real time, synchronous instruction with direct teacher-student interaction, and which information is appropriate for asynchronous instruction without direct teacher guidance or interaction.

As described in Chapter 1, when teaching synchronously, teachers are advised to present critical content information as concisely as possible after students engage actively in a task, reserving the remaining time for active learning activities that reinforce the content presented. In the context of mathematics, these might include the following:

- Students can practice solving an authentic problem independently during asynchronous time and then join a live Number Talk and discuss ways to solve

the problem (synchronously), allowing them to share a variety of perspectives on approaches. To motivate and increase engagement, consider using breakout rooms in Zoom [video conferencing tool] for students to collaborate in small groups and then transition back to the whole class to share and compare strategies.

- Teachers can facilitate a live discussion with an expert, such as a mathematician who works at NASA, around a math topic to elicit curiosity and provide student-centered, mathematical experiences. Students can ask the expert questions and engage in a discussion about something tied to math that they are passionate about.[170]

- Teachers can build math activities using digital tools, such as Desmos [a mathematics lesson building software], NearPod [interactive learning platform], and Pear Deck [formative assessment platform], in which students develop conceptual understandings and reflect with their peers on what they are learning together.

It is important to note that educators can be mindful of how groups are formed. Catalyzing Change in Early Childhood and Elementary Mathematics states, "Challenge ability grouping and ensure all children have access to mathematics learning environments where each child interacts with, learns from, and contributes to shared and deep mathematical understanding within a classroom community" (p. 125). While asynchronous learning activities can include tasks and exercises students review in order to prepare for synchronous time, it can also leverage active learning opportunities, including, but not limited to, the following:

- Students can record themselves using Screencast-O-Matic [screencasting tool] as they work with hands-on or virtual math manipulatives or simulation. While using the screencasting tool, they can speak about their understanding of what actions they are taking, what they are learning, and why it is important.

- Students can create a digital infographic based on data they have analyzed for a project. The process of creating the infographic can help students decipher what information is the most critical to share in a presentation they give to the class. Tools, such as Google Slides [online presentation tool], help students create infographics. Activities such as this provide students with an outlet to creatively visualize data and apply data literacy and data science skills.

- Students can create a graph using Google Sheets [online spreadsheet] to interpret and visualize data they have analyzed for a group project. Students can then share that sheet with peers who are working collaboratively on the project. Students can also write about what the visualization suggests within the context of the problem being solved.

[170] https://tech.ed.gov/files/2017/01/NETP17.pdf

- To assist teachers in monitoring student learning, students can take a daily self-assessment using Google Forms that will help the teacher know what concepts need to be covered for future learning activities.

- Students can use Geogebra [a modeling software for algebra and geometry] to visually model a problem to help provide an alternative representation of what they are learning.

- Teachers can use Desmos [a mathematics lesson building software] to provide interactive math activities for students. See sample activities focused on how to land a plane, where students can "plot the linear equation of a plane so that it lands on a runway" in Chapter 10 of the draft 2021 *Mathematics Framework*.

Universal Design for Learning

The ISTE Standards for Educators and National Standards for Quality Online Teaching emphasize that educators must design digital learning experiences that take individual learner differences into careful consideration. This includes leveraging the Universal Design for Learning (UDL) framework, introduced in Chapter 1, to help support all learners with accessible learning experience design.

LD OnLine, a national education service organization working in partnership with the National Joint Committee on Learning Disabilities (NJCLD), shares a number of key technology-empowered approaches grounded in the UDL framework that teachers can use. For instance, digital tools allow mathematics teachers to provide multiple means of representing concepts, which are especially helpful for students with difficulty processing language, navigating spatial concepts, or retaining mathematics-related facts. Such tools may include, but are not limited to, digital manipulatives, videos, pictures, simulations, and other graphic representations.

Other suggested strategies for integrating the UDL framework in mathematics contexts include:[171]

- building computational fluency, such as counting with objects rather than using drill and skill approaches (e.g., using physical objects at home that students can then take video of as they count);

- converting symbols, notations, and text using text-to-speech software, which is typically built into platforms;[172]

- building conceptual understanding by collaborating with others through video conferencing tools and digital whiteboards;

[171] http://www.ldonline.org/article/6291/

[172] https://www.understood.org/en/school-learning/assistive-technology/assistive-technologies-basics/word-prediction-technology-what-it-is-and-how-it-works

- making calculations[173] and creating visual mathematical representations through graphing technologies; and
- using graphic organizers to help students depict and connect different mathematics concepts.

Infusing Opportunities for Creativity

The ISTE Standards for Educators call on educators to nurture creativity and creative expression to communicate ideas, knowledge, or connections. The draft 2021 *Mathematics Framework* encourages teachers to help students "view mathematics as a vibrant, inter-connected, beautiful, relevant, and creative set of ideas" (Chapter 2). An authentic activity or problem elicits students to wonder, ask questions, investigate, and be creative. Strategies for infusing mathematics instruction with imaginative and creative activities may include, but are not limited to, the following:

- Focus on investigations around the big ideas of mathematics. Have students apply the Drivers of Investigations and explore patterns to solve authentic problems that include an open-ended, complex issue with multiple solutions. With video conferencing tools, students can work together to engage in discussions around creative ways to solve problems, play various leadership roles, ask reflective questions, consider multiple perspectives, and arrive collaboratively at possible solutions. Students can then use apps, such as Notability [application for documenting data and sharing learning with others], to take notes on what they have found in their deliberations.
- Invite mathematicians and other professionals in the field to talk about the importance of mathematics in various career pathways and connections to real-world problems. Invite professionals who reflect the ethnic and gender diversity of the school community. Such opportunities to connect with experts can allow students to see direct connections between concepts and possibilities for what they may encounter in future career opportunities. To foster further engagement, invite students to collaboratively compose a set of questions relevant to their curiosities and interests for the guest speaker. To support these efforts via digital tools, many organizations, such as National Geographic, NASA, and local zoos, have created content to support educational programming, which includes interviews and presentations by professionals.[174] Other examples of guest speakers might include pilots, who can share with students the connection of aerospace dynamics and applied mathematics with physics, or a construction worker or manufacturing engineer, who can talk about how fractions are part of their day-to-day work.
- Invite students to create informative and explanatory tutorials focused on teaching a math concept to other students. One of the best ways to learn

[173] https://www.wolframalpha.com/

[174] https://tech.ed.gov/files/2017/01/NETP17.pdf

something is to teach someone else (Koh, Lee, & Lim, 2018). To promote motivation and engagement, consider offering students a choice in how to develop their tutorial. Options may include video, oral presentation, digital brochure, or poster. Teachers can curate a collection of student-produced tutorials (with permission from students and parents), cultivating an ever-expanding library of tools that other students can use into the future. This activity also provides students a chance to boost their confidence and take control of and have an empowered voice in their learning.

- Ask students to generate their own problems or tasks for the class to solve that require their peers to recall previous concepts learned. Student-generated problems can help students "connect math concepts to their background knowledge and lived experiences...promot[ing] creative reflection, sense-making, and application of students' procedural and conceptual knowledge."[175]

- Use inquiry-based learning to provide students opportunities to devise their own questions to launch an investigation around a given topic and share them with their peers in a collaborative online space, such as a discussion forum. This allows students to have control and choice, as well as get ideas and questions from peers to expand their learning. When students are younger, there might be a need for more teacher guidance in this process, and the collaborative activity might be better done in a synchronous session in small groups with peers who are working on similar inquiries.[176]

- Using virtual gallery walks with tools, such as Google Slides or VoiceThread, students can visit stations illustrating a variety of representations of manipulatives (hands-on and virtual) focused on a particular math concept. As a follow-up, students can use spatial skills to externally visualize a concept to process how they think about it (e.g., graphs, simulations, coding, infographics). Students can video conference in breakout rooms while they are working on their visualizations to share ideas to deepen their understanding.[177]

- For younger students, it is essential to create daily themes to further engage students and provide them a variety of ways to represent their learning (Hege, n.d.). Mathematics learning can include items from their personal lives so that students can make a direct connection. Students can use digital choice boards to

[175] https://lvp.digitalpromiseglobal.org/content-area/math-3-6/strategies/student-generated-problems-math-3-6/summary

[176] https://lvp.digitalpromiseglobal.org/content-area/math-3-6/strategies/guided-inquiry-math-3-6/summary

[177] https://lvp.digitalpromiseglobal.org/content-area/math-7-9/factors/spatial-skills-math-7-9/summary

decide, based on the theme, how they are going to represent what they have learned.[178]

Refer to *Infusing Opportunities for Creativity* in Chapter 1 to learn about more strategies.

Encouraging Authentic Collaboration

The ISTE Standards for Educators call on educators to collaborate and co-learn with students to discover, use, and create new digital resources. This type of collaboration in online learning environments is critical to establishing meaningful relationships, cultivating a supportive community, deepening student learning, providing a foundation to grow students' sense of belonging, and giving every student a chance to develop their own mathematical understandings. Teaching mathematics in a relevant and coherent way can be supported by multiple instructional approaches, including inquiry-based learning, problem-based learning, and project-based learning. Investigations, open-ended tasks, and meaningful problems in mathematics can provide a variety of opportunities for authentic collaboration among students.

Key considerations when building project-based learning opportunities into virtual mathematics instruction may include the following:[179]

- When possible, allow students to choose the topic of their project so that they have more control and buy-in for what they are working on. Invite students to identify an interdisciplinary issue in their community and think through how mathematics can be part of the solution to the problem.
- Invite students to create digital portfolios in Seesaw [portfolio-based learning application] to empower them to share their thought processes when approaching the problem, which can also help students see the relevance of mathematics for everyday life. Encouraging students to share their thought processes also provides peers with varying perspectives on how to approach the problem and solution.
- Invite students to create a response to a mathematics problem using a variety of technologies of their choice. For instance, students can create tools, such as infographics (with Canva [a graphic design tool]), digital comic strips (with Google Slides), games (with Scratch [an online programming tool][180]) and videos (with Flipgrid [a video-based discussion software]). This provides an opportunity for students to choose how to best express themselves and represent their learning. It also provides a unique opportunity for students to understand how their peers

[178] https://www.teachthought.com/pedagogy/strategies-for-using-digital-choice-boards-in-the-classroom/

[179] https://www.pblworks.org/pbl-remote-learning

[180] https://scratch.mit.edu/

work through complex problems based on varying cultural and contextual perspectives and experiences.

- Allow students to connect with and share their project with a mathematics professional and/or mathematics-focused organization so that they can expand their connections and receive feedback from a global network of experts (Drexler, 2018). Allowing students to network can provide greater balance between teacher control and student autonomy.

Additional examples of strategies to encourage authentic collaboration in mathematics learning in online and blended settings include the following:

- After providing students with protocols and guidance related to productive and positive online communication, such as those shared in Chapter 1, invite them to engage in peer editing each other's mathematics project work. This can be done using collaborative tools, such as Google Workspace [suite of online, shared tools]. This also provides students with feedback and evaluation experiences to further reinforce digital collaboration skills.[181]

- Use and reference visuals that allow students to make direct links to materials and spaces students have immediate access to. For instance, students could find varying angles using the walls in their homes or learning spaces or use different objects that create angles.[182]

- Invite students to relate their mathematics concepts to their home environments or their communities. For example, educators can ask students to identify a problem that directly relates to concepts learned. Students can document the problem as well as show how they may solve that problem. A variety of digital tools can help with this documenting process, including shared documents and digital spreadsheets to record data and develop visualizations. Students can use cameras, cell phones, as well as tablets to additionally document the process visually.

- Structure a virtual Number Talk, which are explained in Chapter 5, through a video conferencing tool or breakout groups. Give students a problem to mentally solve and ask students to defend their answers using mathematical reasoning. Through discussion, students have the opportunity to explore, compare, and develop strategies. Number Talks provide students an opportunity to have their voice heard as well as to build new understandings as they talk through their process.

Refer to *Encouraging Authentic Collaboration* in Chapter 1 to learn about more strategies.

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[181] https://www.youtube.com/watch?v=0GCJC_pcBts

[182] https://mathvisuals.wordpress.com/

Chapter 5: Introduction to Standards Guidance to Teaching Mathematics through Big Ideas and Connections

Chapter 4 provided information about digital learning in mathematics. The purpose of Chapters 5-9 is to present standards and instructional guidance to support the continuum of learning from TK/K through grade 10. These chapters prioritize critical areas of instructional focus by grade levels. Attention to these critical areas will ensure that students transition to the next grade level well prepared to learn new skills and concepts. This guidance serves as a companion resource to the *California Common Core State Standards: Mathematics* and the draft 2021 *Mathematics Framework*. The organization of the content and practice standards as "big ideas" raises the individual standards to a higher level of "big ideas" and highlights the importance of the content and the ways it is connected to other content and practices. The standards guidance is intended to support teachers as they implement math instruction in online, blended, or in-person learning environments.

California's goal for all students is that they learn mathematics as a meaningful subject of connected ideas. Teaching with meaning and connections requires a different organization of content and practice standards. The draft 2021 *Mathematics Framework* advocates for teaching to "big ideas" rather than organizing teaching around the small descriptions of mathematics set out in the standards. Mathematics professor Randy Charles defines a big idea as a "statement of an idea that is central to the learning of mathematics, one that links numerous mathematical understandings into a coherent whole" (Charles & Carmel, 2005, p.10). A "big idea" approach has been shown by research to engage students and increase achievement (Boaler et al., 2021; Cabana et al., 2014, Makar, 2018). The approach raises the individual standards to a higher level of "big ideas" that show teachers and students the importance of the content and the ways it is connected to other content and practices. As teachers orient their approach to big ideas and connections, they will find that there seems to be less content to teach and more time for students to explore ideas and learn deeply. The same content is actually taught and learned, but the organization of connections and big ideas allows for a more coherent approach in which students learn different, connected ideas together. The draft 2021 *Mathematics Framework* has organized Content Connections (CCs) of "Communicating stories with data," "Exploring changing quantities," "Taking wholes apart and putting parts together," and "Discovering shape and space," and this document organizes the big ideas under these broad content headings, which are explained in more detail below. Each grade band section (TK-2, 3-5, 6-8, 9-10) shows the progression of big ideas across the grades.

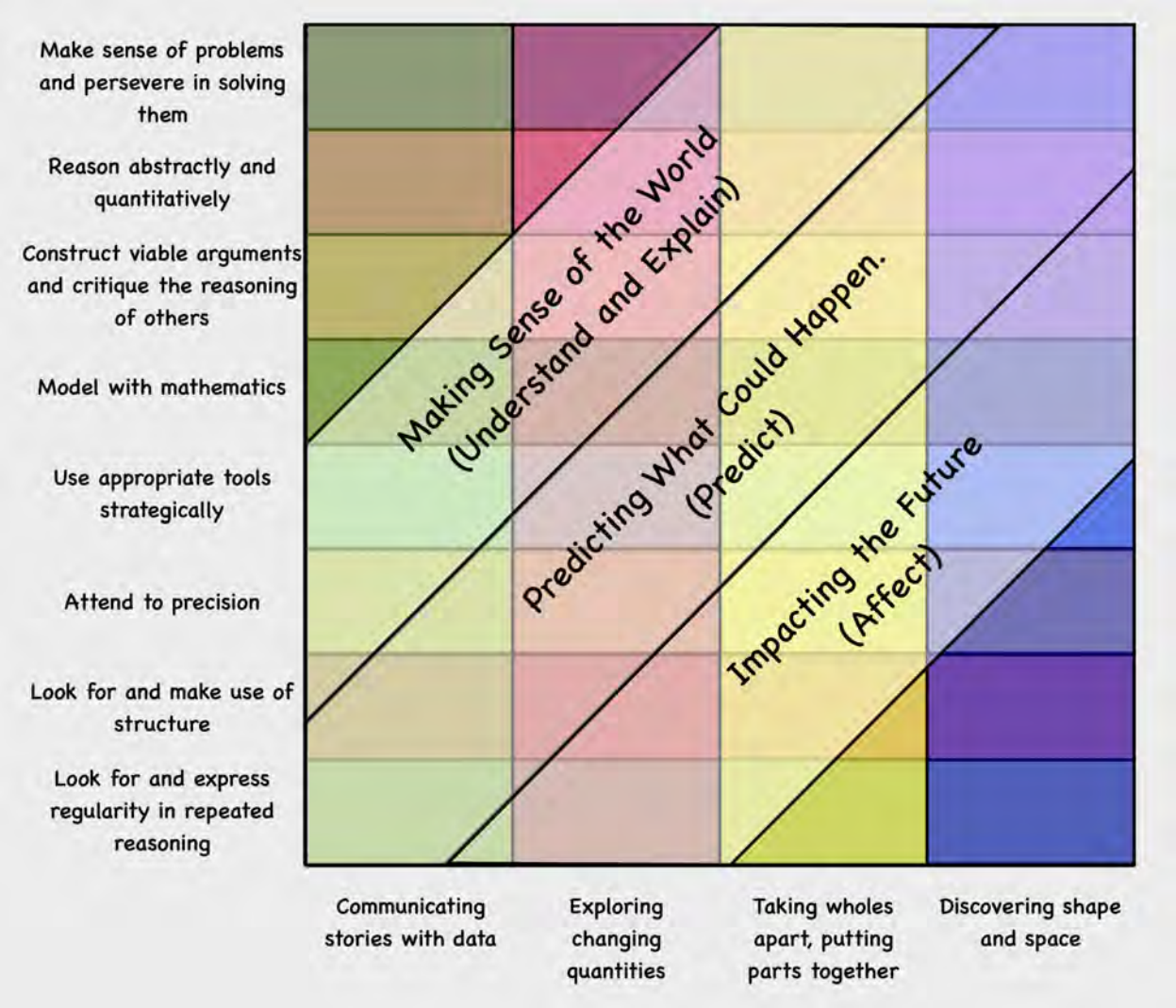
The draft 2021 *Mathematics Framework* includes a principle that mathematics learning in classrooms should always have a purpose and that rather than students working through questions without mathematical direction, they should work on an approach of "investigating and connecting." To do this, the Framework recommends "crosscutting drivers of investigation" that can guide investigations. The drivers are:

- **Making sense of the world** (understand and explain),

- **Predicting what could happen** (predict), and
- **Impacting the future** (affect).

Figure 5.1 shows these drivers and the ways they can be applied to any combination of content and mathematical practices.

Figure 5.1. The Drivers of Investigation, Content Connections, & Mathematical Practices from the draft 2021 *Mathematics Framework*.



Long description: Three Drivers of Investigation (DIs) provide the “why” of learning mathematics: Making Sense of the World (Understand and Explain); Predicting What Could Happen (Predict); Impacting the Future (Affect). The DIs overlay and pair with four categories of Content Connections (CCs), which provide the “how and what” mathematics (CA-CCSSM) is to be learned in an activity: Communicating stories with data; Exploring changing quantities; Taking wholes apart, putting parts together; Discovering shape and space. The DIs work with the Standards for Mathematical Practice to propel the learning of the ideas and actions framed in the CCs in ways that

are coherent, focused, and rigorous. The Standards for Mathematical Practice are: Make sense of problems and persevere in solving them; Reason abstractly and quantitatively; Construct viable arguments and critique the reasoning of others; Model with mathematics; Use appropriate tools strategically; Attend to precision; Look for and make use of structure; Look for and express regularity in repeated reasoning.

Big Ideas and Network Maps

The *California Common Core State Standards: Mathematics* offer domains, cluster headings, and standards – with most textbook publishers translating the detailed standards into short, procedural questions. A problem with working through standards and associated questions is that teachers do not have time to go in depth on any of the standards, or even to teach them all. A different approach is to consider the big ideas, as set out in the introduction to this section, that bring in many different standards, that often go across the clusters and domains. As students work on rich tasks, they will encounter many of the standards but in a more connected and meaningful way. This document sets out this "big idea" approach to mathematics, with the goal of helping teachers and their students, both during a period of decreased learning time and moving forward.

To highlight mathematical connections, each grade has a network map which shows the big ideas as nodes. These represent important and foundational content, and an ideal approach to teaching mathematics, in person or online, starts with choosing rich tasks that focus on the big ideas.[183] As students explore and investigate with the big ideas, they will likely encounter many of the different content standards and see the connections between them.

The size of the node relates to the number of connections it has with other big ideas. The connections between big ideas are made when the two connected big ideas contain one or more of the same standards. The big idea colors in the nodes correspond to the table where the big ideas are correlated with full descriptions. The descriptions of each big idea are not taken from the standards or the clusters or domains; rather, they are new descriptions, as many of the ideas go across clusters and domains. For example, in grade 3 the big idea: Fractions of Shape & Time, brings together standards from the domains of Measurement and Data, Number and Operations in Base Ten, Fractions and Geometry. The new descriptions integrate well with the mathematical practices, as they describe mathematics as a subject of reasoning and communicating. The approach is illustrated through three vignettes, at grades 4, 8, and Integrated 2.

Grade Four Vignette: Teaching to Big Ideas

Perplexing Measures (Boaler, Munson, & Williams, 2017)

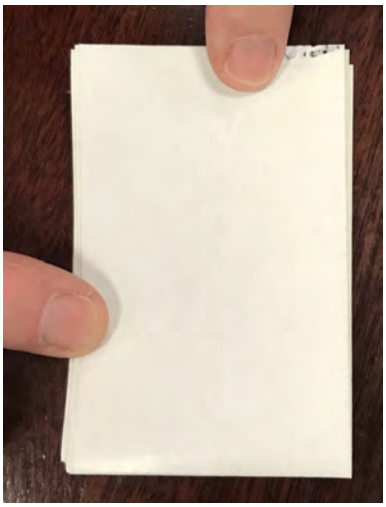
In this lesson, students encounter the big idea of "Measuring and Plotting," which includes standards from the domains of Number and Operations - Fractions and

[183] https://www.youcubed.org/resource/k-8-curriculum/

Measurement and Data. The activity supports learning inside the Standards of Mathematical Practices; 1. Make sense of problems and persevere in solving them, 2. Reason abstractly and quantitatively, 3. Construct viable arguments and critique the reasoning of others, 4. Model with mathematics, 5. Use appropriate tools strategically, and 6. Attend to precision.

Ms. Kamala wanted her fourth grade students to experience measurement in a creative way and understand the idea of measuring with different units. She chose to use an activity called Perplexing Measures from Mindset Mathematics, Grade four. Ms. Kamala began the lesson by asking students to make and name their own unit of measure. Each group was given a different length of adding machine tape and told that it had a length of 2 whole units. Students learning in a virtual setting can find or piece together a long piece of paper that is around 3 inches wide and greater than two feet long. Students estimate the length and width instead of measuring exactly with a ruler or yardstick. The students in Ms. Kamala's class folded their strip of paper tape into 16 equal increments by halving after each fold. After they completed folding, they stretched out their measure strip and labeled the increments, counting by eighths. They continued counting by different unit measures, whole numbers, quarters, and halves so the different representations of equivalent fractions were shown on their strip.

Figure 5.2. Adding Machine Tape Folded in Half 8 Times to Produce 16 Equal Units



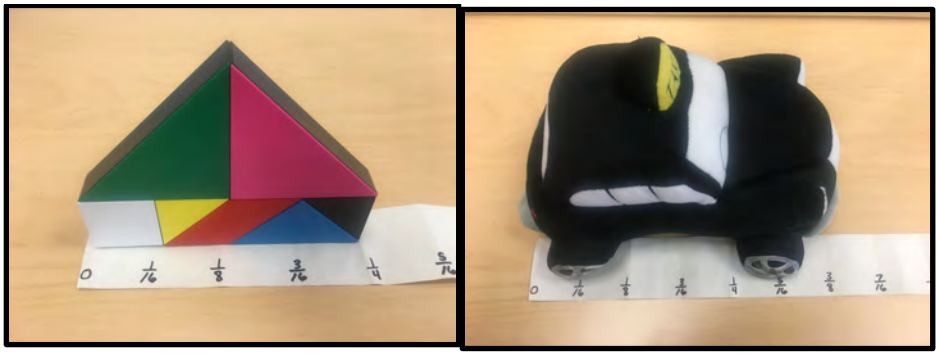
In one of the groups the students labeled their measuring strip a "Zoomboogle."

Figure 5.3. Measure of One Zoomboogle Is Approximately 71 Centimeters Long



Students were asked to measure different items and record the measure to the nearest eighth of a unit.

Figure 5.4. Student Measure of a Tangram Structure and a Stuffed Black Cab Toy



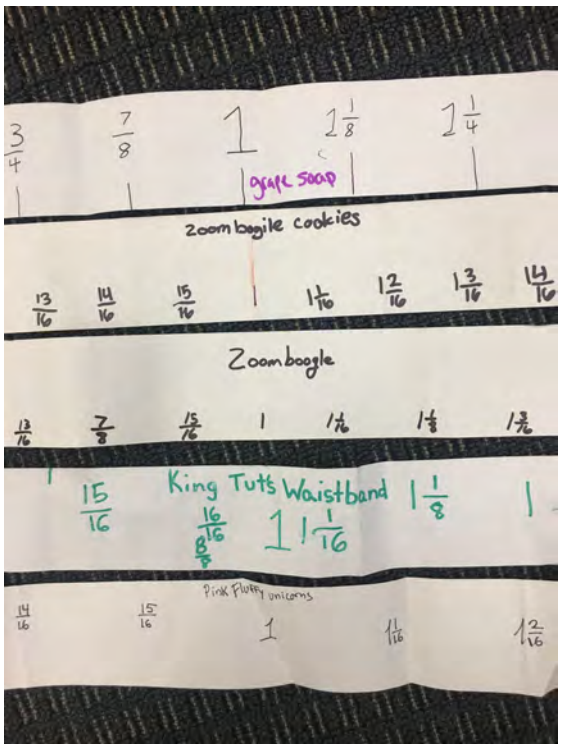
The tangram structure measures close to one quarter of a Zoomboogle, and the black cab measures about three-eighths of a Zoomboogle. Students measured and recorded different objects approximating their measures to the nearest eighth.

After students completed measuring and recording lengths of objects, Ms. Kamala asked them to make a measurement display of the objects they measured with a table showing the objects and the measured length. Students in a virtual setting could collaborate inside of a Google Sheet where they enter each item measured in one column and in another column enter the measure they determined using their personal measuring tape. Another option for students in a virtual setting would be to add images of what they are measuring in Google Slides presentation that can be shared with the class. In Ms. Kamala's class, groups of students moved around the room to the different displays and verified the measures of the objects using the measuring strip the group had created. Students left notes with questions and feedback for the other groups. Many students commented on the creative names the students used for their measuring strip, while others questioned the estimated value of the measure that was recorded. Still others asked why an object was measured by the dimension that was chosen: "Why did you measure the height of the desk and not the length or width?" After groups had a chance to review the comments and questions left for them, Ms. Kamala began a class discussion by asking, "What challenged you in this activity? How did you respond to that challenge?" She pays particular attention to the English learners, highlighting the mathematics vocabulary of words like height, length, and width. Students reflected on

their challenges, which centered around measuring to the nearest eighth of a unit and having to estimate the length. Students discussed how they estimated the length and their method for choosing whether to over or underestimate the value.

Finally, Ms. Kamala displayed their different measuring strips and asked them to discuss what they noticed. In a virtual setting, students can make a Google Slides presentation with images showing the items they measured next to their personal measuring strip. Ms. Kamala placed a couple of examples of items measured next to the displayed strips and asked them to discuss the different measures for the same item. Ms. Kamala asked, "We all measured and used the same process to develop our measuring strip. If we measure the same object with two different measuring strips, will the measurements be the same?

Figure 5.5. Sample Student Work



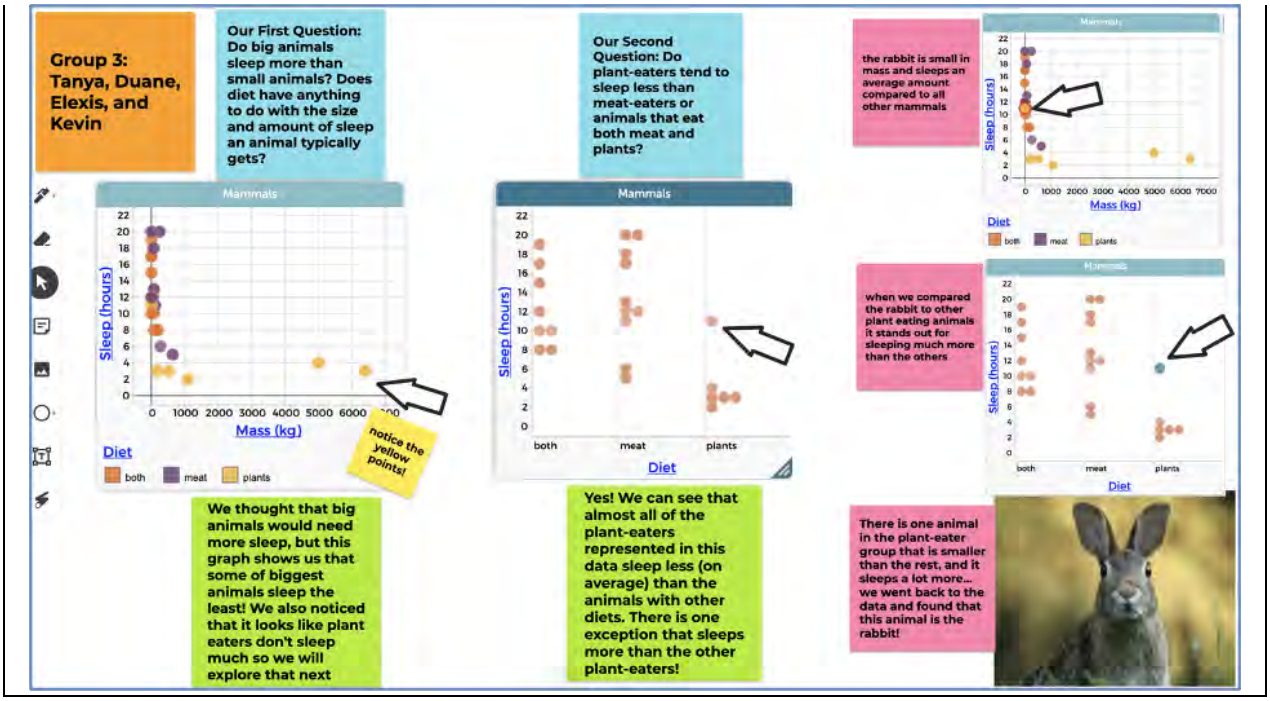
Ms. Kamala encouraged her students to give convincing arguments and to listen carefully to each other, which also provided rich language learning opportunities. Model sentence frames were provided (offering additional support for English learners and other students needing that support), and the teacher dedicated individual and small-group time to ensure student comprehension and to provide oral coaching of the sentence frames. To conclude the activity, Ms. Kamala asked students to write in their journals. The prompt she gave them was: "How are fractions useful when measuring an object?"

Grade Eight Vignette: Teaching to Big Ideas

This activity from the draft 2021 *Mathematics Framework* includes the grade 8 big idea: "Interpret scatter plots," which includes standards from the different domains, of "Statistics and probability," "Expressions and equations," and "Functions." It also connects to other big ideas, such as "Data graphs and tables," "Data explorations," and "Linear equations." The low-floor/high-ceiling nature of the task means it could also be used in high school courses of algebra 1 and integrated 1. The activity supports learning inside the Standards of Mathematical Practices: 1. Make sense of problems and persevere in solving them, 2. Reason abstractly and quantitatively, 3. Construct viable arguments and critique the reasoning of others, 4. Model with mathematics, 5. Use appropriate tools strategically, 6. Attend to precision, and 7. Look for and make use of structure. This activity can easily be conducted online, with students drawing from different technology tools as they work.

Investigating Mammals. Grade 8.

Students are introduced to the Common Online Data Analysis Platform (CODAP), a website providing free educational software for data analysis. After a brief introduction to the technical capabilities of CODAP and a review of terms and concepts to help English learners, students are invited to explore a CODAP database of 27 mammals. The database provides variables, such as the height, mass, speed, life-span, and sleep hours of the mammals. The students quickly become curious and ask questions such as, "Do bigger animals sleep longer?" They plot the two variables with the graph tool and start to notice a relationship; contradictory to what they thought, it seems the bigger animals sleep less. The students start an animated conversation discussing the reasons this might be: "Is it because they are more likely to be predators?" They then move on to investigate another relationship—who sleeps more, plant or animal eaters? The students again notice a relationship as well as an outlier (the rabbit), so they wonder about the rabbit and look at more rabbit data. The students' investigation of bivariate data and their relationships is filled with moments of curiosity and excitement, as well as important learning. Before concluding the lesson, the teacher dedicates individual and small-group time with the English learners to ensure comprehension and to answer any questions. This activity is well positioned for virtual exploration by students working in small groups. Groups can meet in a Google Hangout room together to discuss and share their findings while they are each working inside the online CODAP data set.



Grade Ten Vignette: Teaching to Big Ideas

Vignette from Integrated Course 2: Cable Ready - from high school teachers Lisa Doak, Sally Collins, and Kenny Reisman, from the Interactive Mathematics Program (IMP).

This is an activity that satisfies IM2 big idea: “Equations to predict and model,” which includes standards from the different domains: “Creating equations,” “Reasoning with equations and inequalities,” “Interpreting functions,” “Building functions,” and “Arithmetic with polynomials and rational expressions.” Depending on the directions students decide to take the investigation, the task may also address the big idea of “Circle relationships” and the domain of “Circles,” or the big idea of “Trig Functions” and the domain of “Trigonometric Functions.” The activity supports learning inside the Standards of Mathematical Practices: 1. Make sense of problems and persevere in solving them, 2. Reason abstractly and quantitatively, 3. Construct viable arguments and critique the reasoning of others, 4. Model with mathematics, 5. Use appropriate tools strategically, 6. Attend to precision, 7. Look for and make use of structure, and 8. Look for and express regularity in repeated reasoning.

Activity: Cable Ready

When Madie and Clyde bought their orchard, a straight electrical cable ran along the ground from the center of the orchard, at (0, 0) in their coordinate system, to the point (30, 20).

1. They wanted to start their planting while they waited for the electrical company to move the cable safely underground, but they had to be sure not to plant trees right on the cable. Keep in mind that Madie and Clyde plant trees at every lattice point in the orchard.

Could they plant a complete mini-orchard of radius 1 at the center of their lot without planting right on the cable?

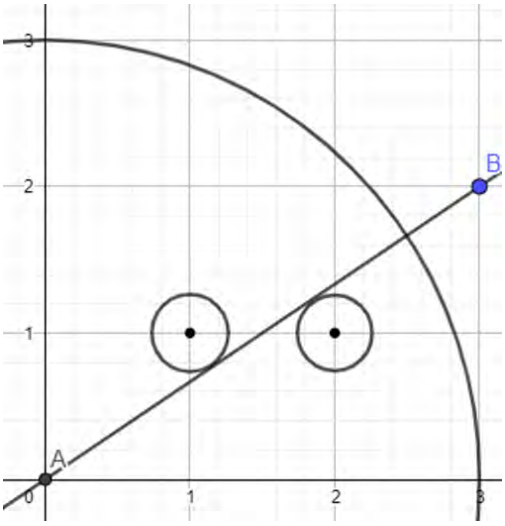
b. Answer the same question for a mini-orchard of radius 2.

c. What is the radius of the biggest complete mini-orchard Madie and Clyde could plant without planting on the cable? Assume the tree trunks are very thin.

2. Suppose Madie and Clyde plant the biggest possible mini-orchard from Question 1c. How big will the tree trunks have to become before one of them bumps into the cable? With your group, prepare a presentation that summarizes your work on Question 2 for presentation to the class. (Interactive Mathematics Program, Activate Learning)

Mathematically, students are trying to find the distance from a point to a line. In this example, they are trying to find the radius of the circle which is tangent to the line AB. In a virtual setting, students can work together in small groups organized in a breakout room. They can work together discussing their strategies and working towards creative solutions using DESMOS or other geometric software.

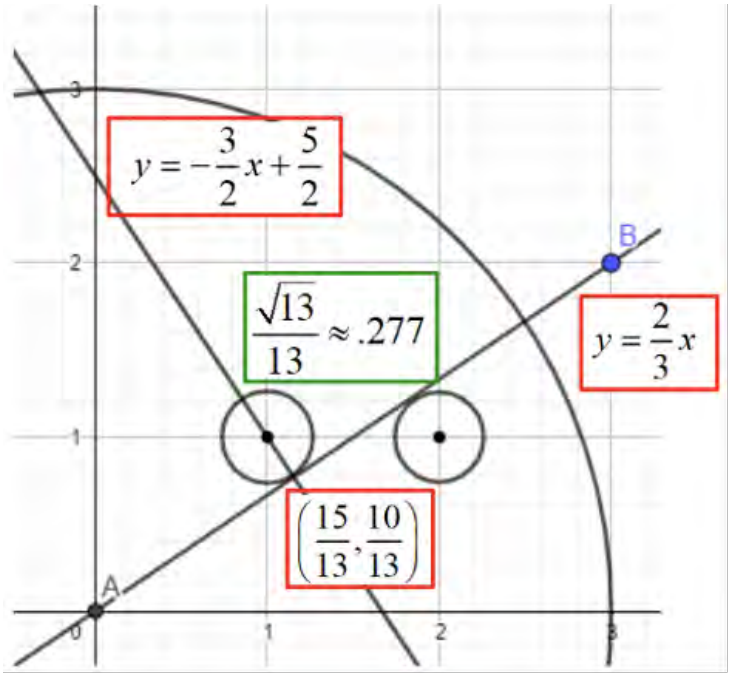
Figure 5.7. A Visual Representation of the Problem



Students have presented several different methods for solving the problem. A sample of those methods are provided below:

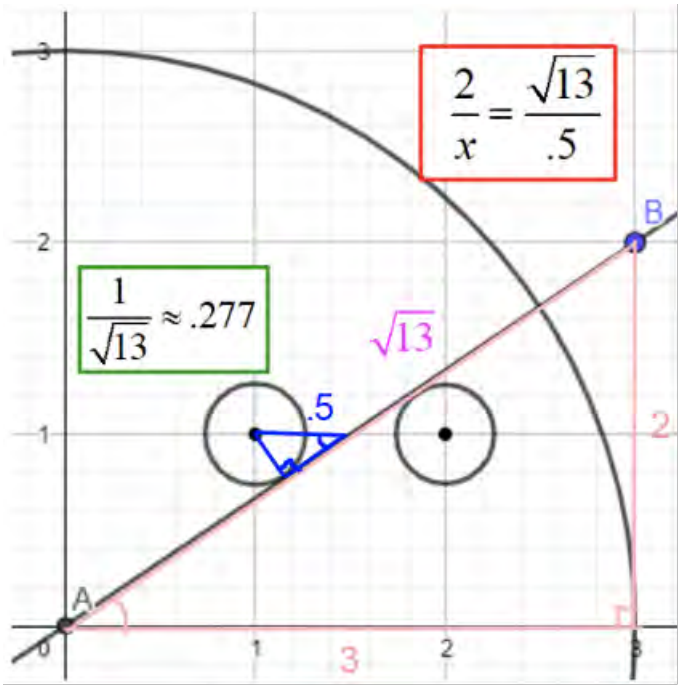
(1) **Algebraic**: As shown in Figure 5.8, students find the equation of the line represented by the cable and then find the equation of the line perpendicular to it through the point (1, 1). They then find the intersection point of those two lines by solving a system of equations. Finally, they find the distance between that intersection point and the center of the tree at (1, 1).

Figure 5.8. An Algebraic Solution



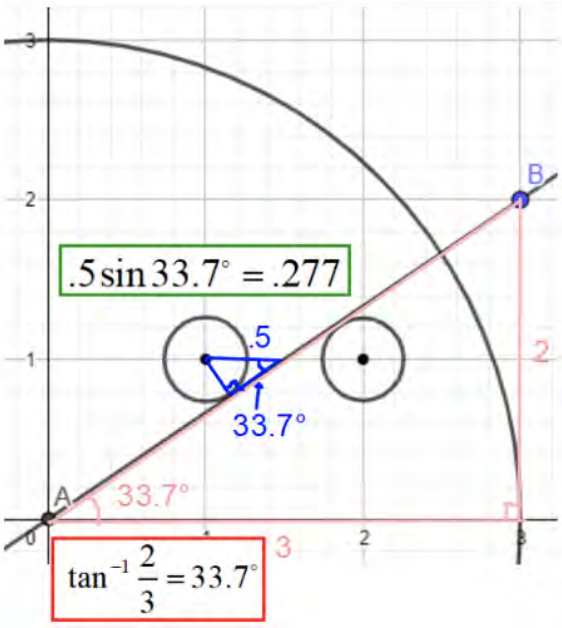
(2) **Geometric**: As shown in Figure 5.9**,** students use similar triangles found with alternate interior angles of parallel lines, as well as the Pythagorean Theorem, to find the hypotenuse of the larger triangle. The .5 length is established by showing that any line through the midpoint of a segment connecting 2 points is equidistant from the 2 points.

Figure 5.9. A Geometric Solution



(3) **Trigonometric**: As shown in Figure 5.10, students use alternate interior angles of parallel lines for congruent angles.

Figure 5.10. A Trigonometric Solution



Mathematics through the Key Themes of Language Learning

The relationship between this document and the key themes of the ELA/ELD Framework, can be found in these areas:

Meaning Making: Mathematics, as a lens and a language, has meaning and sense-making as its central purpose. As a lens, mathematics brings patterns, connections, and relationships into focus, allowing students to describe, inspect, and, in many cases, apply these relationships in novel contexts, expanding mathematical knowledge in infinite directions. Mathematics is integral to understanding important human endeavors, such as public health, economic growth, and sustaining the environment, among many others. The recommendation of the draft 2021 *Mathematics Framework* is that teachers give mathematics problems to students that encourage them to investigate and connect ideas, through the three drivers of investigation shown in Figure 5.1. These drivers give mathematics purpose, as they invite students to use mathematics to *understand and explain* the world, to describe patterns that can help *predict* what comes next, or to consider a range of actions to *impact* the future. Meaning and sense-making is an active process for learners that is intellectually satisfying, propelled by challenging mathematics tasks, supportive instruction, and opportunities to use a full range of classroom and language resources, including collaborators and tools.

Foundational Skills: A foundational skill in mathematics is flexibility. In the area of numbers, the foundational skill is not rote memorization of number facts, but rather numerical flexibility, which leads to number sense (Boaler, 2016). As students learn to

investigate with numbers by composing and decomposing numbers, and using different strategies, they learn to make sense of the base-10 number system. The same flexibility is developed with symbol sense in algebra, thinking visually in geometry, and data sense in data science, and onwards. Flexibility allows students to orient themselves and navigate within mathematical terrains.

Language Development: Like all disciplines, mathematics has its own specialized system of encoding and communicating its concepts, knowledge, and understandings over time. This system includes words, numbers, symbols, graphs, diagrams, and, increasingly, many other forms of visual displays. Knowing a term or expression is to have a clear understanding of how to use it in a particular context and be aware of its relationship to other words. For students, and in particular for English learners, it is useful to identify and develop the high-utility academic vocabulary within units of study. Students can also be provided opportunities to utilize their native tongue when they are initially learning concepts (see also Gutierrez, 2018). Teachers can build understanding of how these words are enacted, defined, and used in mathematical ways, text, and tasks over time. Academic vocabulary includes general abstract words used across disciplines (e.g., compare, measure, evaluate, analyze, induce, deduce), abstract discipline-specific words (e.g., proportionality, equivalency, function), and technical discipline-specific words (e.g., variable, diameter, volume, cube, monomial, segment, numerator, hypotenuse). To engage in effective disciplinary discourse and produce using the mathematical register, students need multiple experiences with the forms and structures of the discipline's genres: problem solving, argument, explanation, and procedure. Teachers can support English learners by examining the language demands and language opportunities of texts and tasks and by guiding the deconstruction and/or co-construction of text and tasks for a particular purpose. Over time, students learn to read and write using the particulars of grammar and syntax of mathematics conventions, while also inventing their own representations, visuals, and inscriptions to express their emerging ideas. In this way, students develop their own mathematical voice and mathematical perspective, which they use to express themselves.

Effective Expression: While outdated stereotypes cast mathematics as a solitary enterprise, mathematics is continually built from and with a community of learners. By participating in classroom communities, for example, students learn to express themselves mathematically in a variety of forms. Reasoning is at the heart of the discipline of mathematics, and students learn to reason when they share their emerging ideas with each other, justify their thinking, act as skeptics for each other, and defend their methods and approaches. Classrooms are effective when teachers encourage students to share their conjectures, or mathematical ideas that students are not yet sure about, which other students can then discuss. Teachers can increase the level of expression for students who are linguistically and culturally diverse learners of English by strategically grouping them with peers who support and/or enhance their sharing of emerging ideas using their language assets, providing purposefully planned and "just-in-time" scaffolds for sustained communications, making explicit the academic language goals, and supporting the development and use of academic vocabulary (general, abstract, and technical discipline-specific). Mathematical communication is an important part of all mathematical work, in employment and in the discipline of mathematics. As

students learn to formulate conjectures and then set out to explore and explain their ideas with increasing detail and examples, such as cases, they will learn mathematical communication. As ideas take shape, students may also develop models and arguments to engage stakeholders, audiences, and skeptics. When ideas have sufficiently matured, students may formalize their ideas in the form of proof, constructing a logical chain of reasoning that is validated by the members of the mathematics community. Proofs and other forms of derived results become the basis of new conjectures.

Content Connections in the draft 2021 *Mathematics Framework*

The big ideas set out in this document have been organized according to the Content Connections (CC) of the draft 2021 *Mathematics Framework*. Each of these CCs is outlined below:

CC1. Communicating Stories with Data

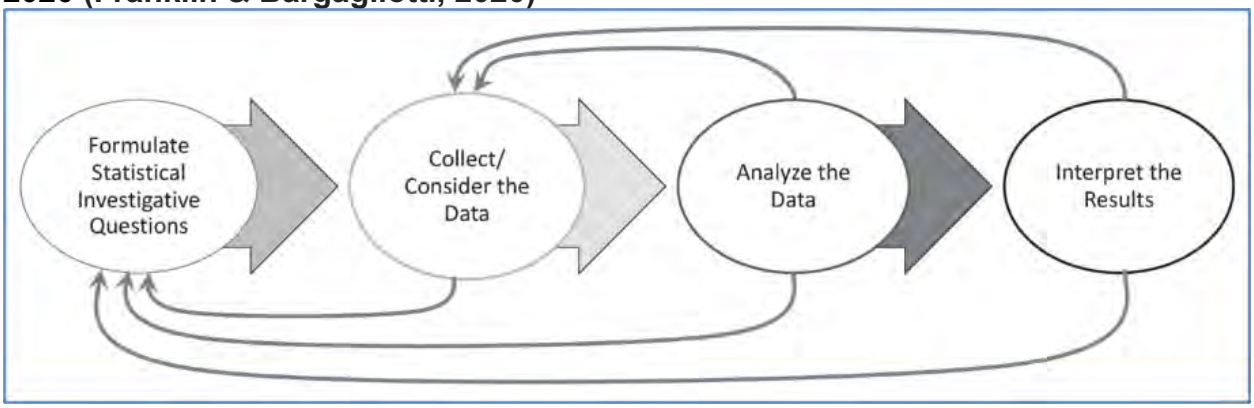
Data is all around, and an important goal for teachers is helping their students develop data literacy so that they can read and understand data in the world. In the older grades, this develops into an understanding of the important new discipline: data science. In the younger grades, students learn to identify data, measure and classify objects, and make and read data visualizations. In the middle grades, students learn to reason with data using statistical methods, collecting and using data from their lives, and continuing to interpret and make data visualizations. In the high school years, students continue to reason about and with data, and many of the algebraic concepts students learn, particularly functions, can be learned through data investigations. This area of mathematics lends itself to integration of mathematics with other disciplines, such as science and social sciences, as well as with data students meet and care about in their lives. It also provides extensive opportunities to show how mathematics and data science can be utilized to address social injustices and inequities, as students investigate topics such as redlining voter suppression, wealth gaps, food insecurity, agriculture, the environment, and healthcare (Berry III et al., 2020; Gutstein, 2007).

The draft 2021 *Mathematics Framework* defines data science:

> Data Science is the process of uncovering the stories hidden within data. It involves collecting, cleaning, wrangling, analyzing, and visualizing data (that is often massive in size) to uncover patterns and trends and communicate them to others. Professional data scientists draw upon mathematics, statistics, and computer science, and think critically about the qualitative features of a data set to find meaning and communicate the results of their inquiries. Data scientists work together to address uncertainty in data while avoiding bias. The terms *statistics* and *data science* both refer to the processes and tools of finding meaning in data, and some people use them interchangeably. Statistics traditionally uses theoretical tools to build and evaluate proposed mathematical models, using data from a population of interest. *Data science* highlights the expansion in computing and visualization tools that have made many more techniques available for finding meaning in data—many relying on innovative

visualizations of data that enable major features to be spotted and explored further. Because *statistics* has become synonymous in much of TK-12 education with a very limited set of procedures (mean, median, standard deviation, interquartile range, correlation, and linear regression, along with a few data visualizations, such as line plots and scatter plots), this Framework uses *data science* to emphasize the full statistical and data science investigation process (see Figure 5.12). Students experience statistical tools in the process of investigating authentic questions.

Figure 5.12. The statistical and data science investigation process, from GAISE 2020 (Franklin & Bargagliotti, 2020)



CC2. Exploring Changing Quantities

One of the most powerful uses of mathematics in school and in the world is making sense of change. In the early grades, students are fascinated to learn that adding to a group of objects gives a different number and that the number can be arrived at in many different ways. As students learn number flexibility and number sense, they will learn to change numbers through the use of different operations, such as addition, subtraction, multiplication, and division. They will also learn about the ways mathematics can be applied to changed quantities in the world (e.g., weight, length, value, and in later grades, speed, and acceleration). Mathematicians must find ways to represent the relationships between quantities in order to make sense of and model complex situations. To explore and make sense of changing quantities is an important area of mathematics that applies across mathematical grades and situations.

CC3. Taking Wholes Apart, Putting Parts Together

An important practice that is a tool for the solving of most mathematical problems is the act of breaking a large problem into smaller parts, which are investigated, solved, then put back together into a whole. All mathematical content can be considered in this way; in this document, and within the draft 2021 *Mathematics Framework*, the content chosen provides particular insights when it is decomposed into manageable pieces and then re-assembled. When an investigation is included in this area, it is crucial that decomposing and re-assembly is a *student* task, not one that is taken on by a teacher or a textbook. As students learn to “take wholes apart and put parts together,” they will learn an important mathematical approach to the solving of complex problems.

CC4. Discovering Shape and Space

Visual thinking is an essential part of mathematics, as it helps all students learn and develop important brain connections (Boaler, 2019) and can be encouraged in all mathematical investigations. In all grades, it is important to realize that "visual thinking" or "geometric reasoning" is as legitimate as algebraic or computational thinking. In the early grades, students describe their worlds using geometric ideas, taking time to explore the nature of shapes and spaces in the world. As students move through the grades, they should continue this focus, also breaking shapes apart, and combining them, and relating them to measurement. Three-dimensional visualization and modeling are important 21st century understandings intrinsic to many jobs. Geometry software helps this area of mathematics come to life and is especially important in the high school years. The draft 2021 *Mathematics Framework* supports visual thinking by defining congruence and similarity in terms of dilations and rigid motions of the plane, and emphasizing physical models, transparencies, and geometry software.

Number Talks through the Grades TK–12

Number sense—the ability to use, adapt and think flexibly with numbers—is an important mathematical foundation and a precursor to higher level mathematics achievement. Number sense is a "big idea" that extends across all of the grades. A pedagogical practice that is highly effective for encouraging number sense is a "number talk," sometimes referred to as a "math talk" and related to the practice of a "number string." These can be used with students of all grade levels, including college students. The structure of a number talk is the following: The teacher gives a number problem to the class of students and asks students to think, mentally, about a way to solve it, without pen and paper. The teacher then asks for the different answers that may be produced and asks students to defend their answers using mathematical reasoning. Teachers can engage English learners in number talks by providing purposeful sentence frames and open-ended questions to build extended conversations, build fluency, and encourage struggle, which is important for brain development. Number talks provide powerful language models for English learners. This structure may be adapted in different ways. For example, students can turn and talk to partners before sharing their solutions. English learners are encouraged to use their language assets in English and native languages and might be partnered with peers accordingly. As students are using language to convey mathematical ideas, it helps with the development of language and reasoning as set out in the California English Language Development (CA ELD) Standards. In the course of a number talk, students often adopt methods that another student has presented that make sense to them. Number talks, designed to highlight a particular type of problem or useful strategy, serve to advance the development of efficient, generalizable strategies for the class. These class discussions provide an interesting challenge, and teachers can create a safe place in which students can explore, compare, and develop strategies.

Effective number talks can advance students' capacity for collaborative, interpretive, and productive communication, helping them develop a positive mathematical identity. They show something important - that mathematics problems can be approached in

different ways; they highlight mathematical creativity, and they support the development of number sense. Number talks also integrate mathematics content and mathematical practices, especially Standards collaborative for Mathematical Practice (SMP) 2, 3, 4, 6, 7, and 8.

Number talks can be enacted using technology during distance learning. A teacher can put the number problem on a Jamboard or other interactive white board space, and ask the class to share their thinking, recording the student work onto the Jamboard. The following examples include excerpts from the draft 2021 *Mathematics Framework*.

Number Talks TK–2

Several types of number talks are appropriate for grades TK–2. Some possibilities include the following:

- **Dot talks**: A collection of dots is projected briefly (just for a few seconds), and students explain how many they saw and the method they used for counting the dots. A teaching example can be seen at this link.[184]

- **Ten frame pictures**: An image of a partially filled 10-frame is projected briefly, and students explain various methods they used to figure out the quantity shown in the 10 frames.

- **Number problems**: Written in horizontal format, either an addition or subtraction problem is presented, involving numbers that are appropriate for the students' current understanding. Presenting problems in horizontal format increases the likelihood that students will think strategically rather than limit their thinking to an algorithmic approach. For example, first graders might solve 7 + ? = 11 by thinking "7 + 3 = 10, and 1 more makes 11." Second graders subtract two-digit numbers. To solve 54 - 25 mentally, they can think about 54 - 20 = 34, and then subtract the 5 ones, finding 34 - 5 = 29.

Number Talks 3-5

Number talks in grades 3–5 can strengthen, support, and extend place value understanding, calculation strategies, and fraction concepts.

Some examples of problem types might include the following:

- Students can perform **multiplication calculations** using known facts and place value understanding and apply properties to solve a two-digit by one-digit problem. For example, if students know that 6 x 10 = 60 and 6 x 4 = 24, they can calculate 6 x 14 = 84 mentally. Presenting such calculation problems in horizontal format increases the likelihood that students will think strategically rather than limit their thinking to an algorithmic approach.

[184] www.youcubed.org/resources/jo-teaching-visual-dot-card-number-talk/

- Students can use **relational thinking** to consider whether 42 + 19 is greater than, less than, or equal to 44 + 17, and explain their strategies.

- Asking students to **order several fractions** mentally encourages the use of strategies, such as common numerators and benchmark fractions. For example, students can arrange in order, least to greatest, and explain how they know: 4/5, 1/3, 4/8.

Number Talks 6-8

In grades 6–8, number talks can include a focus on order of operations, and involve irrational numbers, as well as percents and decimals.

Some examples of problem types for Math Talks at the 6–8 grade level might include the following:

- **Order of operation calculations** allow students to apply properties to help simplify complicated numerical expressions. For example, 3(7 – 2)^2 + 8 ÷ 4 – 6 x 5.

- Students can use operations involving **irrational numbers** to ask the following questions: “2/3 of pi is approximately how much?” and “Four times sqrt(8) is closest to which integer?”

- Students can solve **percent and decimal problems**, reflecting on the following questions: “What is 45% of 80?,” “Calculate the percent increase from 80 to 100,” or “0.2% of 1000 is how much?”

Number Talks 9–12

Number talks in grades 9–12 can strengthen, support, and extend algebraic simplification strategies involving expressions, connect algebra concepts to geometry, and provide opportunities to practice estimation of answers. Also, many number talks from grades 6–8 (see previous section) are still readily applicable in grades 9–12, as they can lay valuable groundwork for algebraic understanding. For example, strategies that make use of place value and expanded form of multiplication problems, such as 134 times 36, can be employed to understand multiplication of binomials.

Some examples of number talks appropriate for grades 9 and upwards include the following:

- **Which graph doesn’t belong?** Various collections of graphs could be used, where all but one graph agree on various characteristics. The ensuing conversations help students attend to precision in the graphs and with their language (SMP.6) as they talk out the underlying causes of the differences between the graphs. For example, four graphs of polynomial functions could be displayed, with three odd-degree polynomial and one even-degree polynomial, which can highlight the notion of how the terms even and odd are used with

regard to polynomials. Another example could be where one function displayed has multiple real roots, while the others have single or no real roots.

- Students can **rewrite expressions** using radical notation. There are often multiple approaches to simplifying expressions, so these can serve as excellent discussion points for students to see a variety of ways to approach simplification.

- Similarly, there is merit in sharing and discussing the myriad of ways to approach **multiplying monomials, binomials, and trinomials** (e.g. (x+y)(3x-2y)), including algebraic properties, such as the distributive property and generic rectangles.

Number Talk Resources

Some additional number talk resources include, but are not limited to, the following:

- San Francisco Unified School District has compiled a comprehensive page of resources for using Number Talks.[185]

- Inside Mathematics includes video examples of number talks from classrooms, grade one through grade seven. [186]

- Activities, videos, and research findings for number talks can be found on YouCubed,[187] a website that includes a page with resources dedicated to number sense and number talks.[188]

Data Talks TK-12

Like "number talks," data talks offer a short pedagogical routine to help students develop data literacy. Instead of sharing a number problem, teachers can show a data visualization and ask students open questions such as "What do you notice?" or "What do you wonder?" or "What is going on in this data visualization?" Students can be engaged with real data from the world, and it is an ideal opportunity to help develop awareness of social justice issues. Teachers can encourage student noticing and questions, without needing to have knowledge of the topic of the data visualization. The idea of a data talk was inspired by a *New York Times* weekly section called, "What's Going on in this Graph?" in collaboration with the American Statistical Association. If teachers cannot answer student questions, they can model the important practice of being comfortable with uncertainty and being curious to find out more. The *New York Times* data visualizations are mainly suitable for students in middle school and older

[185] https://www.sfusdmath.org/math-talks-resources.html

[186] https://www.insidemathematics.org/classroom-videos/number-talks

[187] https://www.youcubed.org/

[188] https://www.youcubed.org/resource/number-sense/

grades. For students from the TK-12 grades, YouCubed shares several “data talks.” Many of the data visualizations illustrate how multiple variables can be incorporated into one graphic, which allows students to think in multivariable ways.

Data Talk Resources

- YouCubed provides activities, videos, and research findings for data talks.[189]
- The *New York Times* provides various visualizations of real data that educators and students can discuss to foster a mathematics discourse.[190]
- Educators can use various visualizations featured on the Slow Reveal Graphs website to facilitate discourse about data and their implications. [191]

[189] https://www.youcubed.org/resource/data-talks/

[190] https://www.nytimes.com/column/whats-going-on-in-this-graph

[191] https://slowrevealgraphs.com/

Chapter 6: Mathematics in Transitional Kindergarten through Grade Two

Figure 6.1. A Progression Chart of Big Ideas through Grades TK–2

Content Connections	Big Ideas: Grade TK	Big Ideas: Grade K	Big Ideas: Grade 1	Big Ideas: Grade 2
Communicating Stories with Data	Measure & Order	Sort & Describe Data	Make sense of Data	Represent Data
Communicating Stories with Data	Look for Patterns	n/a	Measuring with Objects	Measure & Compare Objects
Exploring Changing Quantities	Measure and Order	How Many?	Measuring with Objects	Dollars and cents
Exploring Changing Quantities	Count to 10	Bigger or Equal	Clocks and Time	Problem solving with measures
Exploring Changing Quantities	n/a	n/a	Equal Expressions	n/a
Exploring Changing Quantities	n/a	n/a	Reasoning about Equality	n/a
Taking Wholes Apart, Putting Parts Together	Create Patterns	Being flexible within 10	Tens and Ones	Skip Counting to 100
Taking Wholes Apart, Putting Parts Together	Look for Patterns	Place and position of numbers	n/a	Number Strategies
Taking Wholes Apart, Putting Parts Together	See and use Shapes	Model with numbers	n/a	n/a
Discovering shape and space	See and use shapes	Shapes in the world	Equal parts inside shapes	Seeing fractions in shapes
Discovering shape and space	Make and measure shapes	Making shapes from parts	n/a	Squares in an array
Discovering shape and space	Shapes in space	n/a	n/a	n/a

In the primary grades, students begin the important work of making sense of the number system, implementing SMP.2 to "Reason abstractly and quantitatively." Students engage deeply with Content Connection 3 (CC3, Taking Wholes Apart and Putting Parts Together), as they learn to count and compare, decompose, and recompose numbers. Building on a TK understanding that putting two groups of objects together will make a bigger group (addition), kindergarteners learn to take groups of objects apart, forming smaller groups (subtraction). Students develop meanings for addition and subtraction, as they encounter problem situations in transitional kindergarten through grade two. They expand their ability to represent problems, and they use increasingly sophisticated methods to find answers.

Big ideas of number in TK–2 include the following (Boaler, Munson, & Williams, 2020):

- Organize and count with numbers.
- Compare and order numbers on a line.
- Operate with numbers flexibly.

The big ideas of data in these early grades include the following:

- Data for understanding: What questions can be asked? What data are needed to answer it?
- Defining data: What is data? How was the data collected?
- Representing and interpreting data: What does data look like, and what does it mean?

In grades TK–2, students learn to distinguish between *categorical* (non-numerical) data and *measurement* or *quantitative* data. For instance, consider a set of colored blocks in the classroom. "Color" is a categorical variable that students could observe about each block. "This block is 15 centimeters long" is a measurement data point. The standards develop categorical data in grades K–3 and measurement data beginning in grade two.

Figure 6.2. Examples of Categorical and Quantitative Data

Types of Data	**Examples**
Quantitative (or Measurement) data	• Color (red, green, blue, yellow) of blocks in the class set • Species of trees on the school grounds • Ice cream flavors, such as strawberry, chocolate, and vanilla
Quantitative (or Measurement) data	• The temperature of different drinks • Number of pages (or weight, or height) of books in the classroom • Number of students in different classrooms

Shape and space are important parts of TK–2 since students are learning to make sense of the world around them, while noticing patterns, common shapes, along with their attributes. As students develop their understanding of plane figures, while noting sides, angles, and similarities and differences across plane figures, students move on to see that plane shapes make up the faces of solids. The importance of shape and space is heightened by the mathematical thinking that goes into defining and describing the world, as well as students building their academic vocabulary and ability to communicate their reasoning. Patterning is another critical area. Recognizing a pattern well enough to continue it or fill in missing pieces and then generalizing the pattern is crucial to mathematical development. It is important that students focus on the unit that repeats and makes the pattern since the idea of a "unit" is used throughout TK–12 mathematics.

Students can be surrounded with a wealth of two dimensional (2-D) and three dimensional (3-D) manipulatives where they can build and create, noting the composition and decomposition of the shapes that make up the world. In an online environment, teachers can ask students to look through their area for 2-D and 3-D objects. Pebbles, stones, boxes, or other items can be stacked. Describing and noticing the shapes that make up other complex shapes is an important creative way to make sense of the space around them. Students can upload pictures of what they create and describe and classify their creations. In a purely online environment, students can use the geometry in Desmos to create 2-D and 3-D shapes. Creating 2-D images of 3-D shapes is a wonderful learning experience. TapTap Blocks is a free and fun space for building in 3-D on an Apple device. Tinkercad is another option for 3-D building.

The following interview highlights an educator who is using digital tools to help students build foundational concepts introduced in this grade span.

Voices from the Field: Lisa Nowakowski | King City Union School District | King City, CA

"Helping teachers find engaging and effective ways to teach mathematics via distance learning comes down to finding the right tools for the job," says technology coach Lisa Nowakowski. Just as she teaches students to build on existing knowledge and skills when solving math problems, Nowakowski tailors her educational technology recommendations to teachers based on what they and their learners already know. She looks for tools that are easy to adapt to existing practices and readily enhance learning experiences without putting additional strain on teachers and students.

In her 26 years as an educator, Nowakowski has taught everything from kindergarten through fifth grade and is currently a technology coach for the King City Union School District in California's central coast. She shares how she collaborates with teachers to integrate technology efficiently and dynamically to teach math to elementary students.

How have you been helping teachers and students thrive through distance learning?

Several years ago, I developed MathReps for my fifth graders. The idea was to help them practice and retain math skills because, by the end of the year, they would get rusty and forget concepts they learned at the beginning of the year. As I developed the lessons, which were making a huge difference with my own students, I posted them online, free for other teachers to use. When we went to distance learning, teachers have shared with me that they've been adapting these resources using digital tools. For example, Flipgrid [video-based discussion software] and Jamboards [collaborative digital whiteboards] were used to allow students to not only show their work, but also explain and talk to each other about how they got their answers.

In what ways do you employ digital tools to enhance what may be done in a traditional classroom setting?

I just ran this activity in a class of first graders with a puzzle that had pictures of four dogs. They learned to articulate the similarities and differences they saw—this one had spots, or this one was tiny or extra-long, or all of these other dogs are the same height. The activity is adaptable, too, because I then leveled it up for a class of second graders, where they had to verbalize their rationale and also type it out on Nearpod's [a formative assessment platform] collaborative board. We talked it out so that, just like in a traditional classroom, if you weren't sure what to do, you could hear other examples and see how other students were thinking about it virtually.

What we're trying to do is still have those group conversations, which are so powerful and needed—and not just for developing math sense. My district has a high number of students who are English learners; it's really important for them to be talking about these things just to hear the different vocabulary and to practice speaking and listening. Having activities and dedicated space to be able to talk things out is simple, but so powerful.

What's the best way to balance synchronous and asynchronous learning experiences for students?

What we do is try and make asynchronous assignments engaging and fun—something that isn't boring and that they may already have familiarity and success with. For the synchronous work, we schedule in the higher level, harder concepts that they need more guidance through. Once they get more proficient at those skills, then those get moved to asynchronous assignments, and so on. The teachers in our district are really just trying to balance the learning experience to make it as engaging and interesting as possible.

How are you using technology to help students learn foundational math concepts?

If you're having students solve 36+45, for example, and asking them to think about different ways to break these numbers apart, you can use Jamboard [collaborative digital whiteboards], and they can write out their reasoning, like 30+40 and then 6+5 on virtual sticky notes, or if they already know Google Slides, you can have them each

make their own presentation or make videos on Flipgrid [video-based discussion software] to explain their logic. Just like when solving math problems, there are multiple paths to the right answer—it's really whatever tool works best for you and your students.

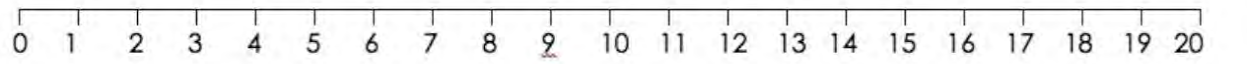
As the technology coach, people often ask me what the best tool is, and I always tell them it's really about what they are trying to do and how. We'll talk about the tools they're already using and then build from there. I don't rely on one-size-fits-all recommendations for everyone because, just like we have to be flexible with numbers, we have to be flexible with the tools we use. It's about finding the right tool for the job.

Transitional Kindergarten

The work of learning to count typically begins in the preschool years. The *California Preschool Learning Foundations, Volume 1* includes foundations in mathematics that cover five strands: Number Sense, Algebra and Functions (Classification and Patterning), Measurement, Geometry, and Mathematical Reasoning. These foundations in mathematics support the developmental progression of students from preschool through TK.[192]

In TK, students are working out what numbers mean and how numbers connect to fingers, objects, movement, and each other. Students learn to count objects meaningfully by touching objects one-by-one as they name the quantities, recognizing that the total quantity is identified by the name of the last object counted (cardinality). As students compare numbers, they will later be able to locate them on a line. Number lines are really helpful for students' learning and have even been found to eliminate differences in numerical reasoning between middle income and lower income students in preschool (Ramani & Siegler, 2008).

Figure 6.3. A Number Line



In TK, kindergarten, and first grade, a more accessible model is a number path. Whereas a number line shows numbers in terms of measurement, a number path is a counting model, which shows numbers as rectangles.

Figure 6.4. A Number Path



[192] https://www.cde.ca.gov/sp/cd/re/documents/preschoollf.pdf

When young students count on a number line, they can miss the numbers and land on the spaces, whereas a number path allows students to count the rectangles.[193]

In TK, students start to compare data and numbers using objects and learn relational vocabulary, such as *more, fewer, less, same as, greater than, less than,* and *more than.* Dot card number talks (see Figure 6.4) are an ideal activity for students to learn to subitize, identifying a small group, in this case dots, without counting. Activities can be designed in ways that provide students with a variety of structures to practice, engage with, and eventually master the vocabulary. In TK, students learn to distinguish between *categorical* (non-numerical) data, such as color, and *measurement* or *quantitative* data, such as the height of a plant.

Young children love to build and create. Students can be encouraged to develop creative scenes using 2-D shapes, as well as create linear patterns and arrays of shapes, including composing simple shapes to form complex ones. An important concept for students to learn is that shapes can transform in space and maintain their congruence. For example, a triangle can spin and flip, but it is still the same triangle just oriented in space differently. Allow students time and space to play with shapes. They can be encouraged to describe a shape's position in space compared to other shapes and start to use language that describes similarities and differences in shapes, as well as magnitude, direction, and distance.

Patterns are a natural beginning to mathematical thinking for young children. This is a time where seeing patterns supports a young learner in making sense of their world. Students can be encouraged to notice patterns in everything they experience, in school and at home, and can be encouraged to describe and communicate the attributes they see and the ways they see the patterns. Students can be asked to describe what would come next, solidifying that they have recognized a pattern. The physical act of building or continuing the pattern is the next important piece in their growth, culminating in their ability to communicate a generalized statement about the pattern. English learners are encouraged to use their developing English and native language assets and draw on their prior knowledge. Teachers can provide purposefully planned and "just-in-time" scaffolds and supports to engage English learners in sustained mathematical oral discourse in multiple contexts to build academic vocabulary and knowledge.

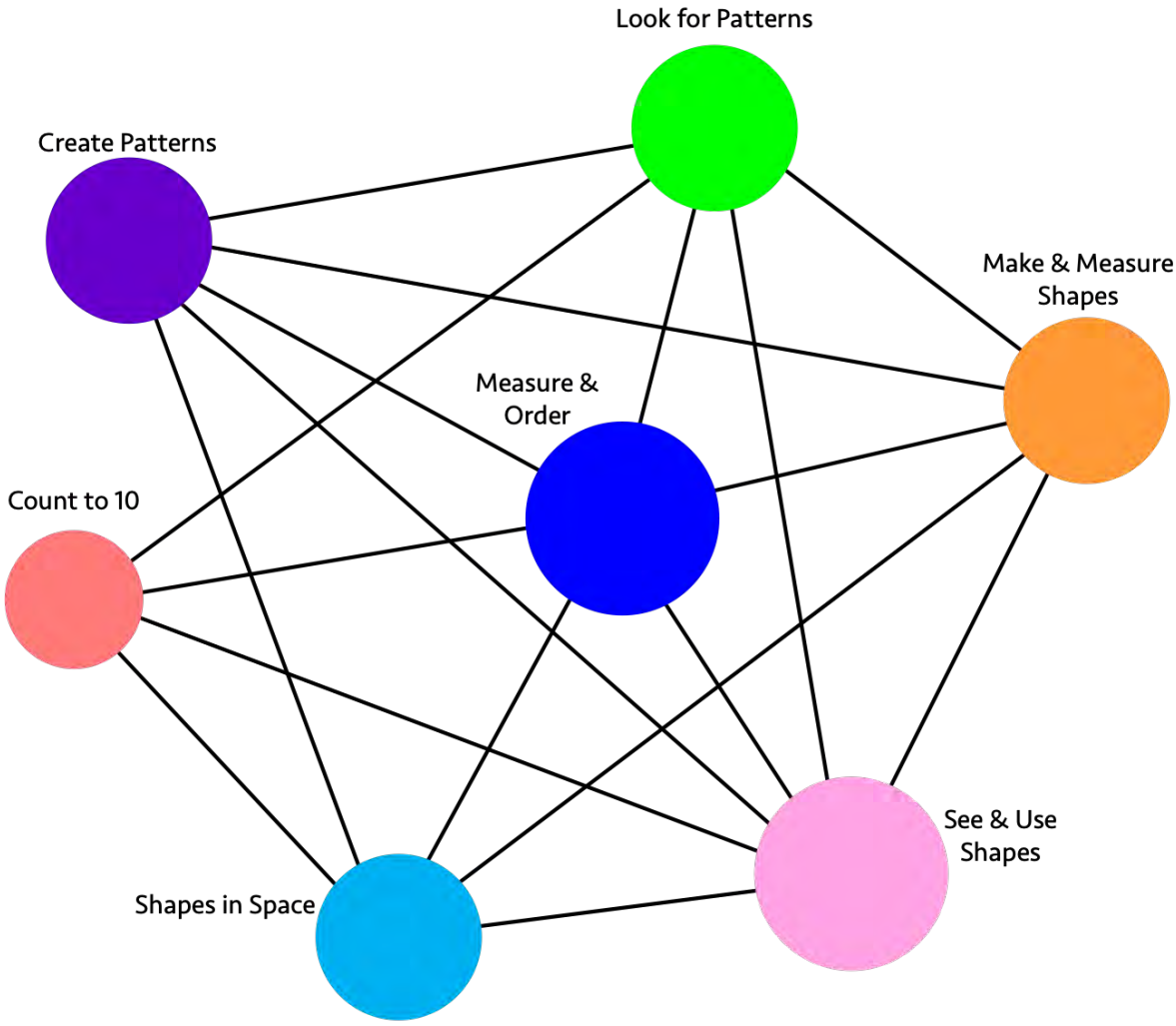
TK instruction can create rich, effective discussion where students use developing skills to clarify, inform, question, and eventually employ these conversational behaviors without direct prompting. Such instruction supports all students, including English learners, and ensures all learners develop both mathematics content and language. TK students can compare collections of small objects as they play fair share games, deciding who has more; by lining up the two collections side by side, children can make

[193] https://www.tapfun.com/blog/number-paths-a-fabulous-tool-for-kindergarten-and-first-grade-math#:~:text=A%20number%20path%20is%20a,confidence%20and%20accurately%20solve%20problems

sense of the question and practice the relevant vocabulary. As the students develop understanding in recognizing numerals, they can play games with cards. The use of fingers is particularly important for students of this age, as they can represent early ideas of a number line. For a range of finger numerical activities, see YouCubed.[194]

Critical Areas of Instructional Focus

Figure 6.5. Grade TK Big Ideas



[194] https://www.youcubed.org/resource/visual-mathematics/

Long description: The graphic illustrates the connections and relationships of some transitional-kindergarten mathematics concepts. Direct connections include:

- Look for Patterns directly connects to: Create Patterns, Count to 10, Measure & Order, See & Use Shapes, Make & Measure Shapes
- Make & Measure Shapes directly connects to: Look for Patterns, Create Patterns, Measure & Order, Shapes in Space, See & Use Shapes
- See & Use Shapes directly connects to: Make & Measure Shapes, Look for Patterns, Measure & Order, Create Patterns, Count to 10, Shapes in Space
- Shapes in Space directly connects to: See & Use Shapes, Make & Measure Shapes, Measure & Order, Create Patterns, Count to 10
- Count to 10 directly connects to: Shapes in Space, See & Use Shapes, Measure & Order, Look for Patterns
- Create Patterns directly connects to: Look for Patterns, Make & Measure Shapes, See & Use Shapes, Measure & Order, Shapes in Space
- Measure & Order directly connects to: Look for Patterns, Make & Measure Shapes, See & Use Shapes, Shapes in Space, Count to 10, Create Patterns

Figure 6.5a. Grade TK Content Connections, Big Ideas, and Standards

Content Connection	Big Idea	TK Standards
Communicating Stories with Data & Exploring Changing Quantities	Measure and Order	**AF1.1, M1.1, M1.2, M1.3, NS2.1, NS2.3, NS1.3, G 1.1, G2.1 NS1.4, NS1.5, MR1.1, NS1.1, NS1.2:** Compare, order, count, and measure objects in the world. Learn to work out the number of objects by grouping and recognize up to 4 objects without counting.
Communicating Stories with Data & Taking Wholes Apart, Putting Parts Together	Look for patterns	**AF2.1, AF2.2: NS1.3, NS1.4, NS1.5, NS2.1, NS2.3, G1.1, M1.2:** Recognize and duplicate patterns - understand the core unit in a repeating pattern. Notice size differences in similar shapes.
Exploring Changing Quantities	Count to 10	**NS1.4, MR1.1, AF1.1, NS2.2:** Count up to 10 using one to one correspondence. Know that adding or taking away 1 makes the group larger or smaller by 1.

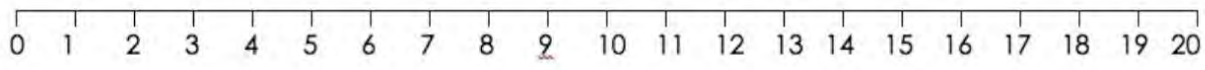
Content Connection	Big Idea	TK Standards
Taking Wholes Apart, Putting Parts Together	Create patterns	**AF2.2, AF2.1, M1.2, G1.1, G1.2, G2.1:** Create patterns - using claps, signs, blocks, shapes. Use similar shapes to make a pattern and identify size differences in the patterns.
Taking Wholes Apart, Putting Parts Together & Discovering Shape and Space	See and use shapes	**G1.1, G1.2, NS2.3, NS1.4, MR1.1:** Combine different shapes to create a picture or design & recognize individual shapes, identifying how many shapes there are.
Discovering Shape and Space	Make and measure shapes	**G1.1, M1.1, M1.2, NS1.4:** Create and measure different shapes. Identify size differences in similar shapes.
Discovering Shape and Space	Shapes in space	**G2.1, M1.1, MR1.1:** Visualize shapes and solids (2-D and 3-D) in different positions, including nesting shapes, and learn to describe direction, distance, and location in space.

Figure 6.5a includes Preschool Foundations in mathematics for students at around 60 months of age. The related kindergarten standards for TK are identified in the next section.

Kindergarten

In kindergarten, instructional time focuses on two critical areas: (1) representing and comparing whole numbers, initially with sets of objects, and (2) describing shapes and space. In kindergarten, as in TK, students are working out what numbers mean – how numbers connect to fingers, objects, movement, and each other. As students compare numbers, they will later be able to locate them on a line. Number lines are really helpful for students' learning and have even been found to eliminate differences in numerical reasoning between middle income and lower income students in preschool (Ramani & Siegler, 2008).

Figure 6.6. A Number Line



In kindergarten and first grade, a more accessible model is a number path. Whereas a

number line shows numbers in terms of measurement, a number path is a counting model, which shows numbers as rectangles. [195]

Figure 6.7. A Number Path



When young students count on a number line, they can miss the numbers and land on the spaces, whereas a number path allows students to count the rectangles.

Number talks are a particularly effective way for students to learn to compose and decompose numbers. In kindergarten, children become familiar with numbers from 1–20, and they count quantities up through 10 accurately when presented in various configurations. The use of fingers is particularly important for students of this age, as they can represent early ideas of a number line. Dot card number talks (see Figure 6.7) are an ideal activity for students to learn to subitize, identifying a group of dots without counting. As students begin seeing groups of dots as a quantity without the need for counting, they are able to partition larger groups of dots in known subitized groups, forming an important part of their number flexibility journey. Of particular importance is how numbers (and the objects they represent) and shapes can be put together and taken apart to create something new, but related. These are important ideas for the area: Taking wholes apart, putting parts together. These are powerful early steps in encouraging students to look for and name mathematical connections. As students engage in number sense explorations, activities, and games, they develop the capacity to reason abstractly and quantitatively (SMP.2) and model mathematical situations symbolically and with words (SMP.4).

As kindergarten students consider “Which has more?” questions, they can work with data, asking questions, such as “I wonder which shape has more sides?” and “Which kind of block is heaviest?” In addition to questions that can be answered with a single value, students can start to pose statistical investigative questions that involve multiple variables, such as “I wonder if plants grow more with additional sunlight?” or “I wonder if age affects which color people like?” Across the learning of different mathematical areas, students can be encouraged to use words and drawings to make convincing arguments to justify work. English learners are encouraged to use their developing English and native language assets and draw on their prior knowledge. Teachers can provide purposefully planned and “just-in-time” scaffolds and supports to engage English learners in sustained mathematical oral discourse in multiple contexts to build academic vocabulary and knowledge.

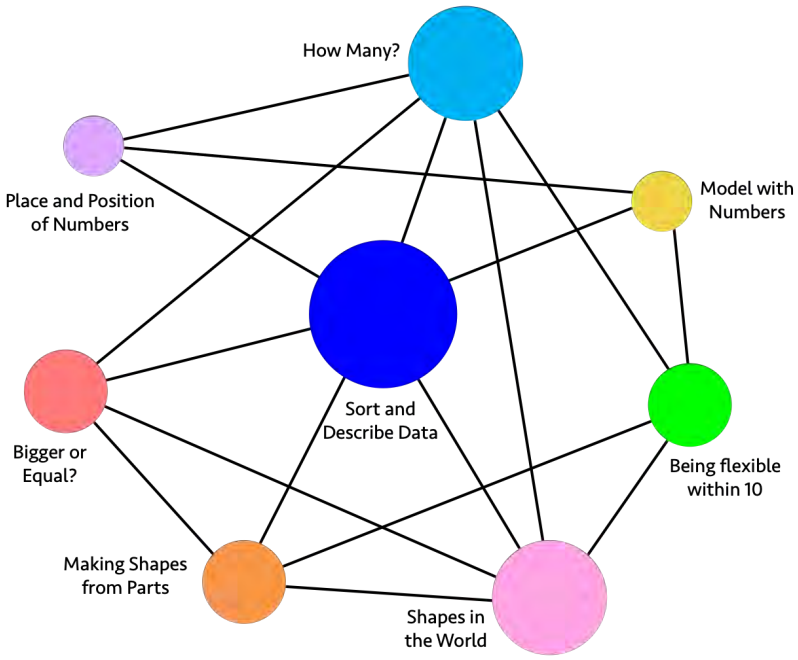
[195] https://www.tapfun.com/blog/number-paths-a-fabulous-tool-for-kindergarten-and-first-grade-math#:~:text=A%20number%20path%20is%20a,confidence%20and%20accurately%20solve%20problems

Students in kindergarten continue their exploration of geometric shapes by noticing similarities and differences in the shapes. Students can use the geometry in Desmos to create 2-D and 3-D shapes. Creating 2-D images of 3-D shapes is a wonderful learning experience. TapTap Blocks is a free space for building in 3-D on an Apple device. Tinkercad is another good option for 3-D building. When students are initially allowed to use their own words and engage with others, their use of academic vocabulary increases as they learn to describe these similarities and differences. Shapes can be beautifully connected with categorical data as students organize shapes that are squares, triangles, and circles, as well as numerical data as they note which shapes have 3 sides or 4 angles, for example. Sorting activities support students' growth in mathematics, especially when students are given sets of objects where they, themselves, determine the categorical or numerical variables and communicate their reasoning to others. As students sort and label the attributes, they are also pattern seeking. Three dimensional shapes, solids, can be introduced, and students again can be asked to sort sets of 2-D and 3-D objects. Through this activity, they will notice that the 3-D shape faces are similar to the 2-D shapes, as composing and decomposing shapes allows students opportunities to see shapes within shapes. As students progress to seeing the relevance of 2-D shapes within 3-D shapes, they can be encouraged to combine different 3-D shapes, composing more complex shapes. It is important to include composing and decomposing shapes so students can see shapes within shapes.

Patterns are an important part of all grade levels, especially in the primary grades, as pattern seeking is the essence of mathematics (Devlin, 1996). Minds seek patterns to make sense of the world. As students work with AB and ABA patterns and more, they are forming an important knowledge set. Attention can be paid to the repetitive unit. While it is important to fill in the gaps in a pattern or predict what comes next, careful attention can be paid to the set of items that form the base unit of the pattern. For example, a pattern where students are asked to fill in the blank (e.g., square, triangle, square, ?, square, triangle) should include a conversation about the unit that repeats. Students note that "square, triangle" is the unit that repeats itself. Pattern exploration can extend to students' homes and lives as they learn to see and explore patterns all around them.

Critical Areas of Instructional Focus

Figure 6.8. Grade K Big Ideas



Long description: The graphic illustrates the connections and relationships of some kindergarten mathematics concepts. Direct connections include:

- How Many directly connects to: Being flexible within 10, Shapes in the World, Sort and Describe Data, Bigger or Equal, Place and Position of Numbers
- Model with Numbers directly connects to: Being flexible within 10, Sort and Describe Data, Place and Position of Numbers
- Being Flexible within 10 directly connects to: Model with Numbers, How Many, Making Shapes from Parts, Shapes in the World
- Shapes in the World directly connects to: Being flexible within 10, How Many, Sort and Describe Data, Bigger or Equal, Making Shapes from Parts
- Making Shapes from Parts directly connects to: Shapes in the World, Being flexible within 10, Sort and Describe Data, Bigger or Equal
- Bigger or Equal directly connects to: Making Shapes from Parts, Shapes in the World, Sort and Describe Data, How Many
- Place and Position of Numbers directly connects to: How Many, Model with Numbers, Sort and Describe Data

- Sort and Describe Data directly connects to: How Many, Model with Numbers, Shapes in the World, Making Shapes from Parts, Bigger or Equal, Place and Position of Numbers

Figure 6.8a. Grade K Content Connections, Big Ideas, and Standards

Content Connection	Big Idea	K Standards
Communicating Stories with Data	Sort & Describe Data	**MD.1, MD.2, MD.3, CC.4, CC.5, G.4:** Sort, count, classify, compare, and describe objects using numbers for length, weight, or other attributes.
Exploring Changing Quantities	How Many?	**CC.1, CC.2, CC.3, CC.4, CC.5, CC.6, CC.7, MD.3:** Know number names and the count sequence to determine how many are in a group of objects arranged in a line, array, or circle. Fingers are important representations of numbers. Use words and drawings to make convincing arguments to justify work.
Exploring Changing Quantities	Bigger or Equal?	**CC.4, CC.5, CC.6, MD.2, G.4:** Identify a number of objects as greater than, less than, or equal to the number of objects in another group. Justify or prove your findings with number sentences and other representations.
Taking Wholes Apart, Putting Parts Together	Being Flexible within 10	**OA.1, OA.2, OA.3, OA.4, OA.5, CC.6, G.6:** Make 10, add and subtract within 10, compose and decompose within 10 (find 2 numbers to make 10). Fingers are important.
Taking Wholes Apart, Putting Parts Together	Place and position of numbers	**CC.3, CC.5, NBT.1:** Get to know numbers between 11 and 19 by name and expanded notation to become familiar with place value, for example: 14 = 10 + 4.
Taking Wholes Apart, Putting Parts Together	Model with numbers	**OA.1, OA.2, OA.5, NBT.1, MD.2:** Add, subtract, and model abstract problems with fingers, other manipulatives, sounds, movement, words, and models.
Discovering Shape and Space	Shapes in the World	**G.1, G.2, G.3, G.4, G.5, G.6, MD.1, MD.2, MD.3:** Describe the physical world using shapes. Create 2-D and 3-D shapes, and analyze and compare them.
Discovering Shape and Space	Making shapes from parts	**MD.1, MD.2, G.4, G.5, G.6:** Compose larger shapes by combining known shapes. Explore similarities and differences of shapes using numbers and measurements.

Grade One

Organizing and seeing equivalence are ideas that pervade first grade. Students develop ways to organize to help them with counting and comparing and ultimately understanding the place value system. Grade 1 students will compare two, two-digit numbers based on the meanings of the tens and the ones digits, which is an important concept (SMP.1, 2; 1.NBT.3). To gain this understanding, students have worked extensively creating tens from collections of ones and have internalized the idea of a "ten." Younger learners typically count by ones, and may show little or no grouping or organization of objects as they count. As they acquire greater confidence and understanding, children can progress to counting some of the objects in groups of five or ten. Teachers may support student learning by providing interesting, varied, and frequent counting opportunities using games, group activities, and a variety of tools, along with focused mathematical discourse. English learners are encouraged to use their developing English and native language assets and draw on their prior knowledge. Teachers can provide purposefully planned and "just-in-time" scaffolds and supports to engage English learners in sustained mathematical oral discourse in multiple contexts to build academic vocabulary and knowledge.

Equivalence means learning to assess what makes things different and the same. For instance, 4 + 1 and 5 are equivalent, even though they look different, and students may develop a dozen strategies for adding 4 and 1 to arrive at 5. Those strategies are different but related and equivalent in the result they produce. Grappling with equivalence and organization is important work in first grade.

Posing questions as students are engaged in the activities can help a child see relationships and further develop place value concepts. Some questions might include the following:

- What do you notice?
- What do you wonder?
- What will happen if we count these by ones?
- What if we counted them in groups of ten?
- How can we be sure there really are 43 here?
- I see you counted by groups of 10 and ones. What if you counted them all by ones? How many would we get?

Teachers can have students assemble bundles of ten objects (popsicle sticks or straws, for example), or snap together linking cubes to make tens as a means of developing the concept and noting how the quantities are related. Note that while students in first grade do begin to add two-digit numbers, they do so using *strategies* as distinguished from formal ***algorithms***. The California Common Core State Standards for Mathematics (CA CCSSM) intentionally place the introduction of a standard algorithm for addition and

subtraction in fourth grade (4.NBT.4). Examples of useful manipulatives at this age include 10-frames, Rekenreks, comparison bars, Cuisenaire rods, and useful visuals include hundreds charts, 0–99 charts, and number paths. Fingers continue to be important. NRICH provides online Cuisenaire Rods, and other moveable shapes.[196]

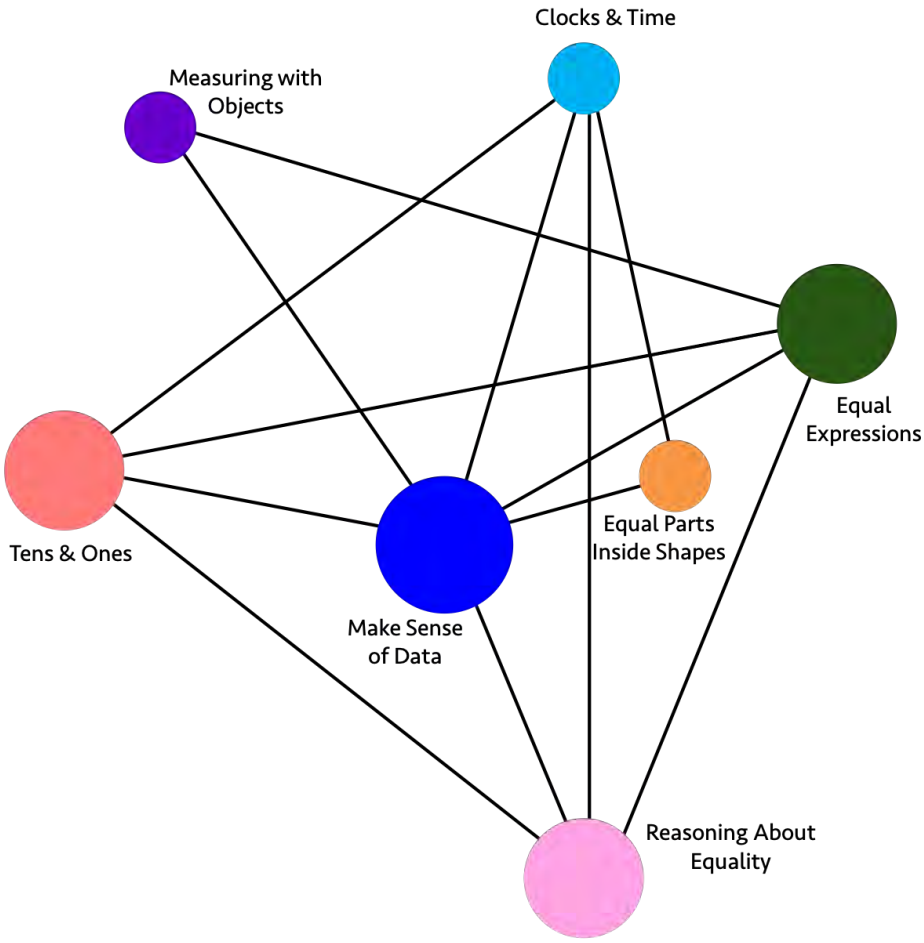
In first grade, students can conduct data investigations, generating questions to study, using measurements of length and time, along with continued work categorizing and counting objects, and categorizing geometric objects by attributes. When conducting data investigations, it is important to avoid questions about students' physical attributes or possessions, even those that seem innocuous, such as height or arm length. Instead, some good questions to wonder about might be "I wonder what time it will be when the next person walks into the classroom?" or "I wonder which book in the classroom is the most read?," comparing events or objects rather than personal characteristics. Guidance cards can provide additional support to help English learners engage in structured explorations of the big ideas (What you can do) and communicate (What you can say) with peers.

Students extend their work from kindergarten, focusing on two dimensional shapes in a flat surface, to considering ways these shapes are the faces of 3-D shapes that make up the world. Students can work qualitatively and quantitatively with shapes, using their language to describe the similarities and differences, and counting and joining numbers to describe the shapes. For example, a student might notice a cube has 4 corners when looking directly at the square that forms one of its 6 faces. Students can count the corners, or vertices, and notice that a cube has 8 vertices and 6 square faces. A student may then notice that a prism has the same number of faces and vertices, but four of the faces are rectangles and the other two faces are squares. Including the circle as an additional shape brings in discussion about cylinders and cones. The circle is an important shape to discuss, as all circles are similar. Students also see the circle as an item that can be constructed from sectors or pieces. Constructing circles, and playing with pieces that combine to make a circle, begins an important journey towards fractions and telling the time on an analog clock.

Critical Areas of Instructional Focus

Figure 6.9. Grade 1 Big Ideas

[196] https://nrich.maths.org/



Long description: The graphic illustrates the connections and relationships of some first-grade mathematics concepts. Direct connections include:

- Clocks & Time directly connects to: Equal Parts Inside Shapes, Reasoning About Equality, Make Sense of Data, Tens & Ones
- Equal Expressions directly connects to: Reasoning About Equality, Make Sense of Data, Tens & Ones, Measuring with Objects
- Reasoning About Equality directly connects to: Equal Expressions, Clocks & Time, Make Sense of Data, Tens & Ones
- Tens & Ones directly connects to: Reasoning About Equality, Make Sense of Data, Equal Expressions, Clocks & Time
- Measuring with Objects directly connects to: Equal Expressions, Make Sense of Data

- Equal Parts Inside Shapes directly connects to: Clocks & Time, Make Sense of Data
- Make Sense of Data directly connects to: Reasoning About Equality, Tens & Ones, Measuring with Objects, Clocks & Time, Equal Expressions, Equal Parts Inside Shapes

Figure 6.9a. Grade 1 Content Connections, Big Ideas, and Standards

Content Connection	Big Idea	Grade 1 Standards
Communicating Stories with Data	Make Sense of Data	**MD.2, MD.4, MD.3, MD.1, NBT.1, OA.1, OA.2, OA.3:** Organize, order, represent, and interpret data with two or more categories; ask and answer questions about the total number of data points, how many are in each category, and how many more or less are in one category than in another.
Communicating Stories with Data & Exploring Changing Quantities	Measuring with Objects	**MD.1 MD.2, OA.5:** Express the length of an object by units of measurement e.g., the stapler is 5 red Cuisenaire rods long, the red rod representing the unit of measure. Understand that the measurement length of an object is the number of units used to measure.
Exploring Changing Quantities	Clocks & Time	**MD.3, NBT.2, G.3:** Read and express time on digital and analog clocks using units of an hour or half hour.
Exploring Changing Quantities	Equal Expressions	**OA.6, OA.7, OA.2, OA.1, OA.8, OA.5, OA.4, OA.3, NBT.4:** Understand addition and subtraction, using various models, such as connected cubes. Compose and decompose numbers to make equal expressions, knowing that equals means that both sides of an expression are the same (and it is not simply the result of an operation).
Exploring Changing Quantities	Reasoning about Equality	**OA.3, OA.6, OA.7, NBT.2, NBT.3, NBT.4:** Justify reasoning about equal amounts, using flexible number strategies (e.g., students use compensation strategies to justify number sentences, such as 23 - 7 = 24 - 8).

Content Connection	Big Idea	Grade 1 Standards
Taking Wholes Apart, Putting Parts Together	Tens & Ones	**NBT.4, NBT.3, NBT.1, NBT.2, NBT.6, NBT.5:** Think of whole numbers between 10 and 100 in terms of tens and ones. Through activities that build number sense, students understand the order of the counting numbers and their relative magnitudes.
Discovering Shape and Space	Equal Parts inside Shapes	**G.3, G.2, G.1, MD.3:** Compose 2D shapes on a plane as well as in 3D space to create cubes, prisms, cylinders, and cones. Shapes can also be decomposed into equal shares, as in a circle broken into halves and quarters defines a clock face.

Grade Two

In second grade students start to think deeply about familiar benchmark or "friendly" numbers, so they can use them to compose, decompose, and compare numbers. In second grade, students extend their understanding of place value and number comparison to include three-digit numbers. To compare two three-digit numbers, second graders can take the number apart by place value and compare the number of hundreds, tens, and ones, or they may use counting strategies. Thinking with numbers, such as ones, tens, and hundreds, and negotiating how to use them as groups and as positions on the number line to solve problems, is central to this grade. Students continually anchor their thinking about number to all the real-world places where numbers are used to describe and wonder, including estimating lengths and quantities and thinking with data. Note that while students in second grade do begin to subtract numbers, they do so using *strategies* as distinguished from formal ***algorithms***.

In second grade, students can conduct data investigations and interpret data visuals through data talks. Students continue to use measurement of length and time as contexts in generating questions, along with continued work categorizing and counting objects and categorizing geometric objects by attributes. In second grade, students also start to use the context of money. When conducting data investigations, it is important to avoid questions about students' physical attributes or possessions, even those that seem innocuous, such as hair color or shoe type. Instead, some good questions to wonder about might be "I wonder what time it will be when the next person walks into the classroom?" or "I wonder which book in the classroom is the most read?," comparing events or objects rather than personal characteristics. English learners are encouraged to use their developing English and native language assets and draw on their prior knowledge. Teachers can examine text and tasks for key language forms and structures, and general as well as discipline-specific, high-utility academic vocabulary words linked to the big ideas and connections. Teachers can provide purposefully planned and "just-in-time" scaffolds and supports to engage English learners in

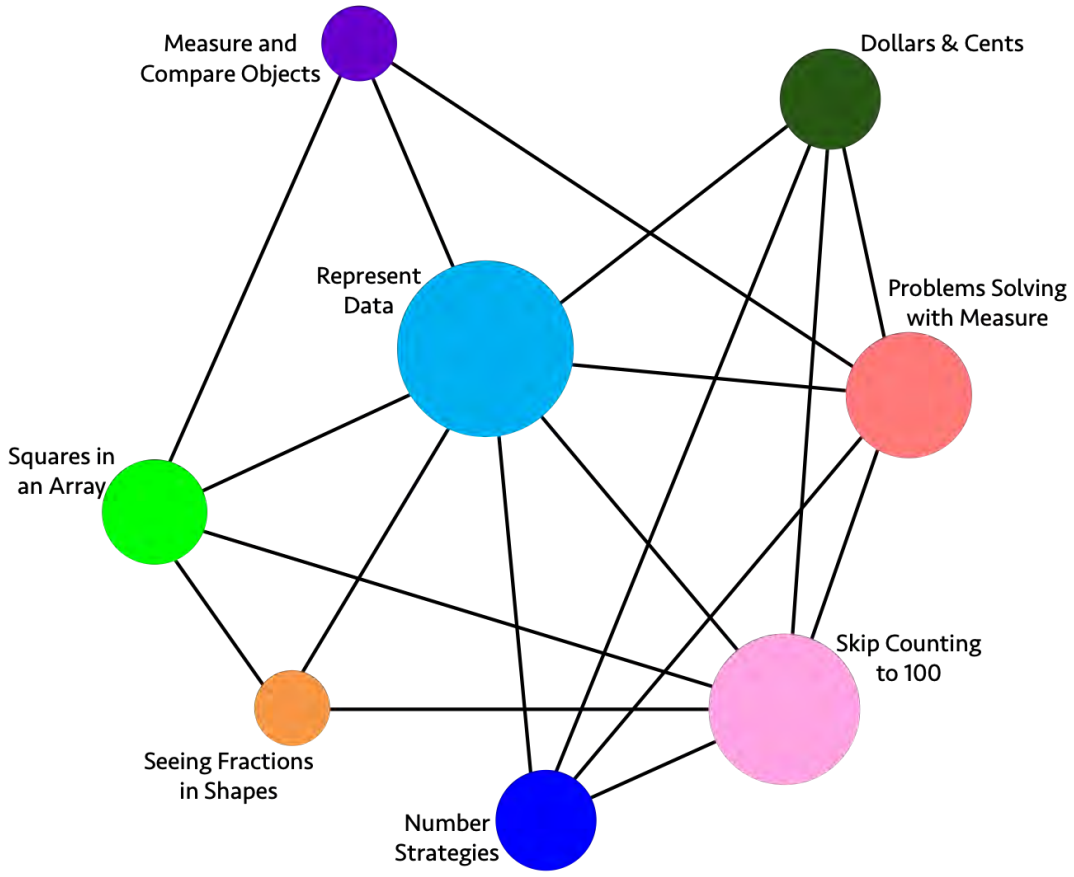
sustained mathematical discourse in multiple contexts to build academic language and knowledge.

Grade 2 begins more formal vocabulary use and the connections between numbers and shapes. Students continue to work with 2-D and 3-D shapes, composing and decomposing within a plane or space, as they refine their understanding of figures that have area and those that have volume. Students begin to partition shapes into equal units, known as unit fractions. This is especially important in circles and will be the base understanding of navigating time using an analog clock.

Students learn in second grade that they can partition rectangles into arrays of equal squares and quantify the lengths of sides by using a unit to measure. For example, a student may use a light green Cuisenaire rod to approximate the length of a stapler or a stack of 5 Unifix cubes to measure the same length. This can lead to discussion of the importance of a base unit as the length that is used to quantify. Equal partitions are also of utmost importance, as students begin to understand the idea of a fraction.

Critical Areas of Instructional Focus

Figure 6.10. Grade 2 Big Ideas



Long description: The graphic illustrates the connections and relationships of some second-grade mathematics concepts. Direct connections include:

- Dollars & Cents directly connects to: Problems Solving with Measure, Skip Counting to 100, Number Strategies, Represent Data
- Problems Solving with Measure directly connects to: Skip Counting to 100, Number Strategies, Represent Data, Measure and Compare Objects, Dollars & Cents
- Skip Counting to 100 directly connects to: Number Strategies, Seeing Fractions in Shapes, Squares in an Array, Represent Data, Dollars & Cents, Problems Solving with Measure
- Number Strategies directly connects to: Skip Counting to 100, Problems Solving with Measure, Dollars & Cents, Represent Data

- Seeing Fractions in Shapes directly connects to: Skip Counting to 100, Represent Data, Squares in an Array
- Squares in an Array directly connects to: Seeing Fractions in Shapes, Skip Counting to 100, Represent Data, Measure and Compare Objects
- Measure and Compare Objects directly connects to: Squares in an Array, Represent Data, Problems Solving with Measure
- Represent Data directly connects to: Measure and Compare Objects, Dollar & Cents, Problems Solving with Measure, Skip Counting to 100, Number Strategies, Seeing Fractions in Shapes, Squares in an Array

Figure 6.10a. Grade 2 Content Connections, Big Ideas, and Standards

Content Connection	Big Idea	Standards
Communicating Stories with Data	Measure & Compare Objects	**MD.1, MD.2, MD.3, MD.4, MD.6, MD.9:** Determine the length of objects using standard units of measures, and use appropriate tools to classify objects, interpreting and comparing linear measures on a number line.
Communicating Stories with Data	Represent Data	**MD.7, MD.9, MD.10, G.2, G.3, NBT.2:** Represent data by using line plots, picture graphs, and bar graphs, and interpret data in different data representations, including clock faces to the nearest 5 minutes.
Exploring Changing Quantities	Dollars & Cents	**MD.8, MD.5, NBT.1, NBT.2, NBT.5, NBT.6, NBT.7:** Understand the unit values of money and compute different values when combining dollars and cents.
Exploring Changing Quantities & Discovering Shape and Space	Problem Solving with Measure	**NBT.7, NBT.1, MD.1, MD.2, MD.3, MD.4, MD.5, MD.6, MD.9, OA.1:** Solve problems involving length measures using addition and subtraction.

Content Connection	Big Idea	Standards
Taking Wholes Apart, Putting Parts Together	Skip Counting to 100	**NBT.1, NBT.3, NBT.7, OA.4, G.2:** Use skip counting, counting bundles of 10, and expanded notation to understand the composition and place value of numbers up to 1,000. This includes ideas of counting in fives, tens, and multiples of hundreds, tens, and ones, as well as number relationships involving these units, including comparing.
Taking Wholes Apart, Putting Parts Together	Number Strategies	**MD.5, NBT.5, NBT.6, NBT.7, OA.1, OA.2:** Add and subtract 2-digit numbers, within 100, without using algorithms - instead encouraging different strategies and justification. Compare and contrast the different strategies using models, symbols, and drawings.
Discovering Shape and Space	Seeing Fractions in Shapes	**G.1, G.2, G.3, MD.7:** Divide circles and rectangles into equal shares and know them to be standard unit fractions. Identify and draw 2D and 3D shapes, recognizing faces and angles.
Discovering Shape and Space	Squares in an Array	**OA.4, G.2, G.3, MD.6:** Partition rectangles into rows and columns of unit squares to find the total number of square units in an array.

Chapter 7: Mathematics in Grades Three through Five

Figure 7.1. A Progression Chart of Big Ideas through Grades 3–5

Content Connections	Big Ideas: Grade 3	Big Ideas: Grade 4	Big Ideas: Grade 5
Communicating Stories with Data	Represent Multivariable data	Measuring and plotting	Plotting patterns
Communicating Stories with Data	Fractions of shape and time	Rectangle Investigations	Telling a data story
Communicating Stories with Data	Measuring	n/a	n/a
Exploring Changing Quantities	Addition and subtraction patterns	Number and shape patterns	Telling a data story
Exploring Changing Quantities	Number flexibility to 100	Factors & area models	Factors and groups
Exploring Changing Quantities	n/a	Multi-digit numbers	Modeling
Exploring Changing Quantities	n/a	n/a	Fraction connections
Exploring Changing Quantities	n/a	n/a	Shapes on a plane
Taking Wholes Apart, Putting Parts Together	Square tiles	Fraction flexibility	Fraction connections
Taking Wholes Apart, Putting Parts Together	Fractions as relationships	Visual fraction models	Seeing Division
Taking Wholes Apart, Putting Parts Together	Unit fraction models	Circles, fractions and decimals	Powers and place value
Discovering shape and space	Unit fraction models	Circles, fractions and decimals	Telling a data story
Discovering shape and space	Analyze quadrilaterals	Shapes and symmetries	Layers of cubes
Discovering shape and space	n/a	Connected problem solving	n/a

The upper-elementary grades present new opportunities for developing and extending number sense. There are four big ideas related to number sense for grades 3–5 including:

- extending flexibility with numbers,
- understanding the operations of multiplication and division,
- making sense of operations with fractions and decimals, and
- using number lines as tools.

As students learn to think about numbers flexibly, by composing and decomposing numbers, they will learn to recognize the inverse relationship between addition and subtraction and between multiplication and division. An important component of "fluency" is being flexible with numbers; rather than a focus on being fast with computation or the use of damaging timed tests (Boaler, 2019). If students are given meaningful explorations with numbers and number patterns, they will develop memories of mathematics facts, and the memories will be meaningful and conceptual. As students learn in these grades to identify and express patterns, both visually and numerically, they will build foundations for proportional reasoning when thinking about the connections between units. In fifth grade, the flexibility students have developed with numbers can be applied to fractions and to the place value system.

Students in the upper-elementary grades learn to conduct data investigations, which include asking and answering questions that are of interest to them. They learn to collect and analyze data, determine, and confirm results, and communicate their findings. While the data visualizations set out in the standards in these grades only include picture graphs, bar graphs, and line plots, students do not need to be restricted to these.

Students investigate patterns and relationships in two- and three-dimensional space, and they begin to use the coordinate plane to represent and question relationships. As students learn about three-dimensional space, they build understanding of the volume as a quantity of unit cubes that fill the space of a solid. Students study time as a measure and connect the central angles of a circle to the clock face and hands. The study of the clock face is another area for connections between numbers and fractions, as students learn about and communicate detailed measures of time.

English learners are encouraged to use their developing English and native language assets and draw on their prior knowledge. Teachers can examine text and tasks for key language forms and structures, and general as well as discipline-specific, high-utility academic vocabulary words linked to the big ideas and connections. Teachers can provide purposefully planned and "just-in-time" scaffolds and supports to engage English learners in sustained mathematical discourse in multiple contexts to build academic language and knowledge.

The following vignette highlights an educator who is using digital tools to allow students to better visualize concepts introduced at this grade span.

Vignette: Pace, Flexibility, and Grace—Teaching Math During Times of Change

At the end of the 2015-16 school year, 32-year veteran math teacher Jean Maddox participated in a three-year professional development program with the County of Tulare Office of Education. The Central Valley Network Improvement Community program or CVNIC was, as the Visalia Unified teacher reflects, "The best professional development I have ever participated in." Jean, who has taught 5th grade for the last 20 years, worked with other teachers in the program and mathematics researchers, Jo Boaler and Graham Fletcher, to learn new math strategies while applying their knowledge using the PDSA cycle (Plan, Do, Study, Act). Little did she know then just how useful those skills would become in 2020.

Forced by the pandemic to teach remotely in 2020, Jean rose to the challenge by adapting, collaborating, and innovating. Even though much had changed with respect to how Jean connected with her students this past year, the more important stuff—the motivation behind her work, the aspirations that motivate her students, even the personal character of her outreach—remained.

Flexibility with numbers is a crucial aspect of Jean's work with her students, making sure they are confident and comfortable with the way they see and manipulate numbers. Often, Jean encourages students to explain the problem they are working on in two ways, with numbers and then visually. "How they *see* it, in my opinion, also shows how flexible they are with numbers," Jean says. "This especially helps when we are solving math stories with fractions. How the story makes sense in their head, to match it up with a visual they have drawn; finally, their thinking allows me to see their true understanding (or misconceptions) of the problem." In the distance learning setting, Jean works with tasks from YouCubed that are a "low-floor/high-ceiling" and fit well for 5th graders beginning to look for patterns to explain their thinking–both visually and numerically.

Using flexibility allows Jean's students to develop the idea of efficiency when doing long division, a key concept developed at this grade span. "For a lot of my students, using the area model, whether it be for multiplication or division, allows them the chance for a visual/conceptual image with numbers, especially division," Jean states. For long division, the area model is a way to organize the method of Partial Quotients, which allows Jean's students to work with numbers they are comfortable with when they are dividing. The model enables them to connect to the understanding of areas that they learned in third grade.

Jean's teaching method engages all learners. For English learners, Jean has found success through math stories (word problems). "Students draw out what they understand first (because visualizing the math before calculation shows true understanding)," says Jean. "I provide a process where students can share their thinking, whether it be by partner discussions, acting out the problem, explaining their drawings, and then finally doing the number work (calculations) is the last step." The process allows Jean to drop in on her students' thinking process, which indicates to her what the next steps are for working with each student.

Math manipulatives to represent concepts introduced at this grade span are central in Jean's students' work. "Anything from fraction strips, tangrams, Unifix cubes, centimeter cubes, rulers, protractors are used daily; the students can use the manipulatives they are the most comfortable with," says Jean. It is a norm in her classroom that students may choose the appropriate tools that they need during math. Jean innovated to ensure the pandemic didn't change the norm. "With technology, during our full-distance learning time, students have access to digital manipulatives because they still need to be able to see and create the math they are being asked to conceptualize." Jean found the solution in the Math Learning Center website[197] and the Toy Theater website[198] to access manipulatives for her students' use. "They have been quite successful in sharing their thinking, so I can see what their misconceptions are and what they understand (formative assessments)."

On the first day of math instruction, Jean makes sure students have a clear understanding of whole numbers on a number line, allowing them to make a smoother transition to placing fractions on a number line. Jean found the Math Learning Center website to be a valuable resource for using digital number lines.

For foundational algebra skills, Jean uses Jamboard [collaborative digital whiteboard] to have students manipulate equations and SolveMe Mobiles [game-based mathematics website] to help students establish algebraic thinking and reinforce Operations and Algebraic standards from previous grades.

Pace is another critical factor in Jean's teaching. In her classes, whether online or in-person, speed is not an indicator of success. "I strongly disagree with timed tests," she says. "It only heightens a student's math anxiety. Watching the anxious look on kids' faces with the knowledge that they may not finish, which then leads them to feel like a failure and that they are not a math person." For Jean, timed-tests give students the impression that math is about speed and getting the correct answer - the very opposite of what math is. "In my class, we take time as we are doing math because I want students to think deeply and realize that their math ability does not connect to how fast they can get something done."

Success for Jean is the lightbulb moment when a student connects with the work. "When a student can take a number and decompose it so they can add or multiply in a way that makes sense to them, one that is not necessarily the standard algorithm. When they get the correct answer, they look at the teacher and say, 'This is how I see it!' That is an amazing experience–especially as their teacher."

Grade Three

In third grade, students extend their work from second grade, thinking with groups, to equal groups and rows and columns in multiplication. As students learn to think about

[197] https://www.mathlearningcenter.org/apps

[198] https://toytheater.com/category/teacher-tools/virtual-manipulatives/

numbers flexibly, by composing and decomposing numbers, they will learn to recognize the inverse relationship between multiplication and division. Being flexible with numbers is an important component of fluency, rather than a focus on being fast with computation. The draft 2021 *Mathematics Framework* defines fluency:

> Students who are comfortable with numbers and who have learned to compose and decompose numbers strategically develop fluency along with conceptual understanding. In the past, fluency has sometimes been equated with speed, which may account for the common, but counterproductive, use of timed tests for practicing facts. But in fact, research has found that, "Timed tests offer little insight about how flexible students are in their use of strategies or even which strategies a student selects. And evidence suggests that efficiency and accuracy may actually be negatively influenced by timed testing."

To learn more about why timed tests can be replaced with number sense activities see Boaler, Williams, and Confey (2015).[199] Being flexible is a big idea and one which draws from connections between numbers and patterns. When students develop number sense, they have a flexible internal framework that they can draw upon when working with any mathematics. Note that while students in third grade do begin to divide numbers, they do so using *strategies* as distinguished from formal ***algorithms***.

Third grade is also the time when fractional thinking begins to become robust and can begin with a deep understanding of one-half that students can build on to understand and visualize other unit fractions.

Students can be given plenty of time to "play" with numbers and fractions, to think about their relative size, and to estimate and reflect on whether their answers make sense (SMP.3, 7, 8). Students in third grade focus on understanding fractions as equal parts of a whole and as numbers located on the number line. They also use reasoning to compare unit fractions (3.NF.1, 2, 3).

In third grade, students can conduct data investigations and interpret data visuals through data talks. Contexts for questions to investigate should expand to include volume and mass measurement (grams, kilograms, and liters, but not compound units, such as cm^3) in addition to the length, time, and money contexts from earlier grades (3.MD.A.2). Time measurements are refined to the nearest minute (3.MD.A.1), and length now includes half- and quarter-inches (3.MD.B.4). Beginning ideas of area give another possible context, limited here to areas that can be covered by a whole number of unit squares (3.MD.C.5, 3.MD.C.6).

Students continue refining their understanding of two-dimensional shapes, focusing on the similarities and differences between quadrilaterals. Students make sense of the attributes that make up these important shapes, that can all be composed by triangles. Students will recognize the importance of the triangle as the base unit, which connects

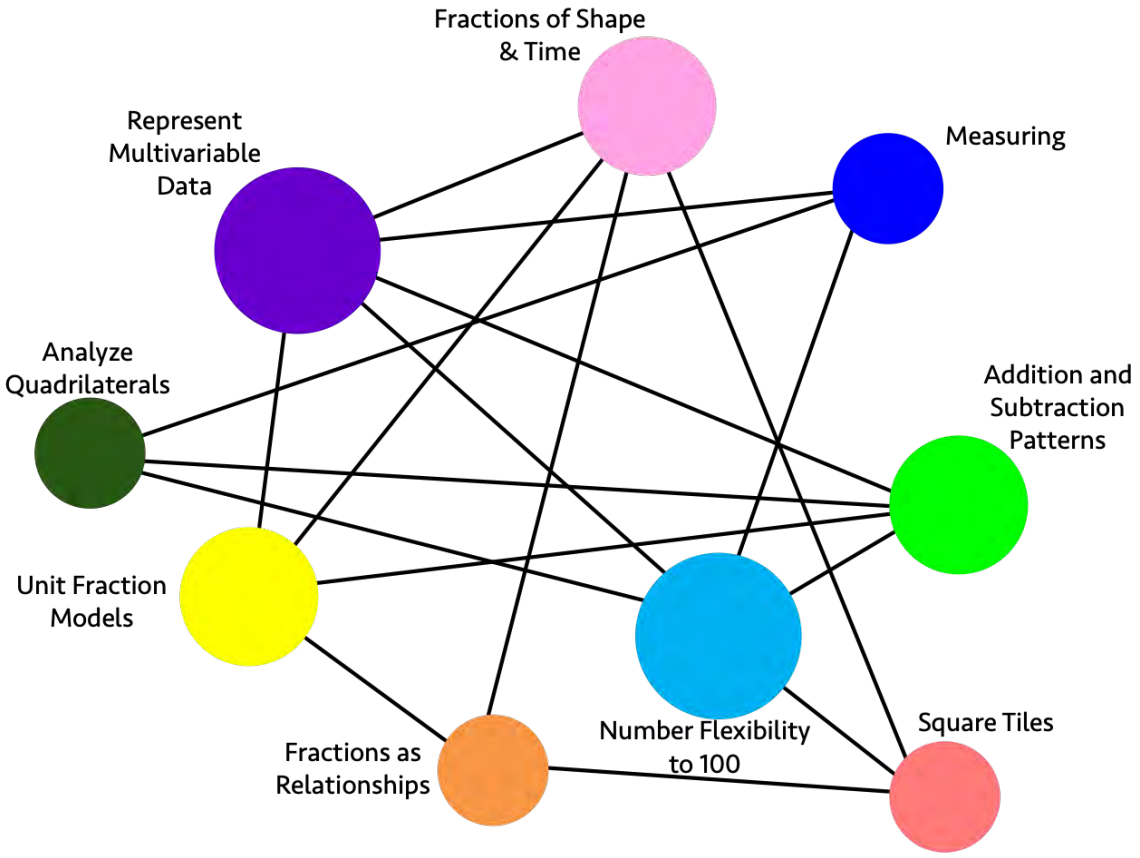
[199] https://www.youcubed.org/evidence/fluency-without-fear/

with later learning of trigonometry and the method of dividing complex shapes into smaller triangles to find their area. Students investigate and quantify quadrilaterals and learn that area and perimeter are important measures, where perimeter is one dimensional and area is two dimensional. Having conversations about the base unit of measure helps students connect to the ideas of multiplication and division. Connecting numbers and shapes helps students to make other connections and build number sense.

English learners are encouraged to use their developing English and native language assets (e.g., cognates) and draw on their prior knowledge. Teachers can examine text and tasks for key language forms and structures, in addition to general and discipline-specific, high-utility academic vocabulary words linked to the big ideas and connections. Teachers can provide purposeful scaffolds and supports to engage English learners in sustained mathematical discourse in multiple contexts to build academic language and knowledge. Planned and “just-in-time” scaffolds and supports provide multiple entry points for meaning-making and sharing of ideas in mathematical ways and include representations, expression starters and builders, and targeted vocabulary and language structures (e.g., explanation, descriptions, comparisons, methods, and connections).

Critical Areas of Instructional Focus

Figure 7.2. Grade 3 Big Ideas



Long description: The graphic illustrates the connections and relationships of some third-grade mathematics concepts. Direct connections include:

- Fractions of Shape & Time directly connects to: Square Tiles, Fractions as Relationships, Unit Fractions Models, Represent Multivariable Data
- Measuring directly connects to: Number Flexibility to 100, Analyze Quadrilaterals, Represent Multivariable Data
- Addition and Subtraction Patterns directly connects to: Number Flexibility to 100, Unit Fraction Models, Analyze Quadrilaterals, Represent Multivariable Data
- Square Tiles directly connects to: Fractions as Relationships, Number Flexibility to 100, Fractions of Shape & Time
- Fractions as Relationships directly connects to: Square Tiles, Fractions of Shape & Time, Unit Fraction Models

- Unit Fraction Models directly connects to: Fractions as Relationships, Addition and Subtraction Patterns, Fractions of Shape & Time, Represent Multivariable Data
- Analyze Quadrilaterals directly connects to: Number Flexibility to 100, Addition and Subtraction Patterns, Measuring
- Represent Multivariable Data directly connects to: Unit Fraction Models, Number Flexibility to 100, Addition and Subtraction Patterns, Measuring, Fractions of Shape & Time
- Number Flexibility to 100 directly connects to: Square Tiles, Analyze Quadrilaterals, Represent Multivariable Data, Measuring, Addition and Subtraction Patterns

Figure 7.2a. Grade 3 Content Connections, Big Ideas, and Standards

Content Connection	Big Idea	Grade 3 Standards
Communicating Stories with Data	Represent Multivariable Data	**MD.3, MD.4, MD.1, MD.2, NBT.1:** Collect data and organize data sets, including measurement data; read and create bar graphs and pictographs to scale. Consider data sets that include three or more categories (multivariable data) for example, when I interact with my puppy, I either call her name, pet her, or give her a treat.
Communicating Stories with Data & Taking Wholes Apart, Putting Parts Together & Discovering Shape and Space	Fractions of Shape & Time	**MD.1, NF.1, NF.2, NF.3, G.2:** Collect data by time of day, show time using a data visualization. Think about fractions of time and of shape and space, expressing the base unit as a unit fraction of the whole.
Communicating Stories with Data	Measuring	**MD.2, MD.4, NBT.1:** Measure volume and mass, incorporating linear measures to draw and represent objects in two-dimensional space. Compare the measured objects, using line plots to display measurement data. Use rounding where appropriate.

Content Connection	Big Idea	Grade 3 Standards
Exploring Changing Quantities	Addition and Subtraction Patterns	**NBT.2, , OA.8, OA.9, MD.1:** Add and subtract within 1000 - Using student generated strategies and models, such as base 10 blocks. e.g., use expanded notation to illustrate place value and justify results. Investigate patterns in addition and multiplication tables, and use operations and color coding to generalize and justify findings.
Exploring Changing Quantities	Number Flexibility to 100	**OA.1, OA,2, OA.3, OA.4, OA.5, OA.6, OA.7, OA.8, NBT.3, MD.7, NBT.1:** Multiply and divide within 100 and justify answers using arrays and student generated visual representations. Encourage number sense and number flexibility - not “blind” memorization of number facts. Use estimation and rounding in number problems.
Taking Wholes Apart, Putting Parts Together	Square Tiles	**MD.5, MD.6, MD.7, OA.7, NF.1:** Use square tiles to measure the area of shapes, finding an area of n squared units, and learn that one square represents 1/nth of the total area.
Taking Wholes Apart, Putting Parts Together	Fractions as Relationships	**NF.1, NF.3:** Know that a fraction is a relationship between numerators and denominators – and it is important to consider the relationship in context. Understand why 1/2=2/4=3/6.
Taking Wholes Apart, Putting Parts Together & Discovering Shape and Space	Unit Fraction Models	**NF.2, NF.3, MD.1:** Compare unit fractions using different visual models including linear models (e.g., number lines, tape measures, time, and clocks) and area models (e.g., shape diagrams encourage student justification with visual models).
Discovering Shape and Space	Analyze Quadrilaterals	**MD.8, G.1, G.2, NBT.1, OA.8:** Describe, analyze, and compare quadrilaterals. Explore the ways that area and perimeter change as side lengths change, by modeling real world problems. Use rounding strategies to approximate lengths where appropriate.

Grade Four

Patterning and examining relationships are at the heart of fourth grade. Students begin to think about how to identify and express patterns, both visually and numerically, and build foundations for proportional reasoning when thinking about the connections between units. Students look within fractions and decimals for the relationships represented there—relationships between numerator and denominator, fraction and

decimal, and decimal and place value. Fourth graders use relationships to connect multiplication and division and think flexibly across all operations.

After their introduction to multiplication in third grade, fourth-grade students employ that understanding to identify prime and composite numbers and to recognize that a whole number is a multiple of each of its factors. An excellent way for students to see the composition of numbers is the visual number activity.[200] Students can also explore the multiplication table and highlight multiples with color or shape, looking for patterns and relationships

At this grade, students develop an understanding of fraction equivalence by illustrating and explaining reasons for their conjectures and ideas. Students can strengthen their knowledge of fraction equivalence by engaging in games that provide practice, such as Matching Fractions or Fractional Wall, created by Nrich Maths.[201] Students represent their thinking with diagrams (number lines, strip diagrams), pictures, and equations. This work lays the foundation for further operations with fractions in fifth grade.

Data investigations in fourth grade should include topics of student interest as students learn the ways to collect, analyze, and represent data. Line plots are introduced in fourth grade, and students can learn to create, read, and interpret different data displays, including line plots. When creating line plots, students can include fractional measurements to help bring fractions to life with real data, such as measurement of objects in the classroom or home.

In grade four, students move from seeing vertices as made up of an angle to more formal understandings of angles made of two rays with a common endpoint. The concept of a ray can lead to fascinating discussions of infinity that can captivate students. As students think about the addition of angles, they will again be connecting geometric ideas to number sense. The idea of a central angle of a circle, formed when two rays are joined at the center of a circle can connect with learning about the hands of a clock face. Students can investigate with angles in a myriad of ways. Students continue refining their work in measuring and quantifying the world around them by investigations, such as connecting the unit of measure from a square to a cube, as they use area, perimeter of shapes, and the volume of solids. These ideas connect to the operations of addition, subtraction, multiplication, and division. Students connect the unit of measure from a square to a cube as they use area and volume to make sense of space. These ideas can also be connected to fractions and decimals, building visual understandings and helping with the meaning of these operations.

English learners are encouraged to use their developing English and native language assets (e.g., cognates, morphological awareness) and draw on their prior knowledge. Teachers can examine text and tasks for key language forms and structures, and general as well as discipline-specific, high-utility academic vocabulary words linked to

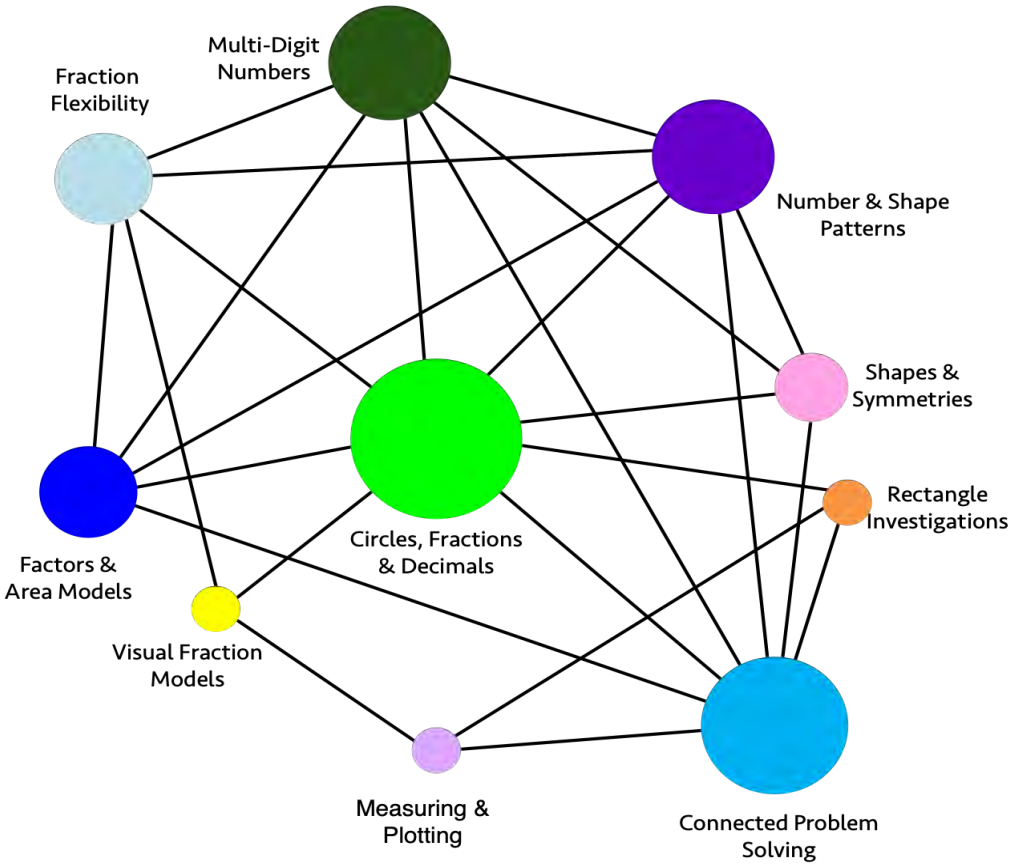
[200] https://www.youcubed.org/wim/number-visuals-3-5/

[201] https://nrich.maths.org/

the big ideas and connections. Teachers can provide purposeful scaffolds and supports to engage English learners in sustained mathematical discourse in multiple contexts to build academic language and knowledge. Planned and "just-in-time" scaffolds and supports provide multiple entry points for meaning making and sharing of ideas in mathematical ways and include representations, expression starters and builders, and targeted academic vocabulary and language structures (e.g., problems, explanations, arguments, descriptions, procedures). Teachers guide deconstruction and/or co-construction of problems, investigations, arguments, explanations, descriptions, and procedures.

Critical Areas of Instructional Focus

Figure 7.3. Grade 4 Big Ideas



Long description: The graphic illustrates the connections and relationships of some fourth-grade mathematics concepts. Direct connections include:

- Number & Shape Patterns directly connects to: Shapes & Symmetries, Connected Problem Solving, Circles Fractions & Decimals, Factors & Area Models, Fraction Flexibility, Multi-Digit Numbers

- Shapes & Symmetries directly connects to: Connected Problem Solving, Circles Fractions & Decimals, Multi-Digit Numbers, Number & Shape Patterns
- Rectangle Investigations directly connects to: Connected Problem Solving, Measuring & Plotting, Circles Fractions & Decimals
- Connected Problem Solving directly connects to: Rectangle Investigations, Shapes & Symmetries, Number & Shapes Patterns, Multi-Digit Numbers, Circles Fractions & Decimals, Factors & Area Models, Measuring & Plotting
- Measuring & Plotting directly connects to: Connected Problem Solving, Rectangle Investigations, Visual Fraction Models
- Visual Fraction Models directly connects to: Measuring & Plotting, Circles Fractions & Decimals, Fraction Flexibility
- Factors & Area Models directly connects to: Connected Problem Solving, Circles Fractions & Decimals, Number & Shape Patterns, Multi-Digit Numbers, Fraction Flexibility
- Fraction Flexibility directly connects to: Factors & Area Models, Circles Fractions & Decimals, Number & Shape Patterns, Multi-Digit Numbers
- Multi-Digit Numbers directly connects to: Number & Shape Patterns, Shapes & Symmetries, Connected Problem Solving, Circles Fractions & Decimals, Factors & Area Models, Fraction Flexibility
- Circles Fractions & Decimals directly connects to: Multi-Digit Numbers, Number & Shape Patterns, Shapes & Symmetries, Rectangle Investigations, Connected Problem Solving, Visual Fraction Models, Factors & Area Models, Fraction Flexibility

Figure 7.3a. Grade 4 Content Connections, Big Ideas, and Standards

Content Connection	Big Idea	Grade 4 Standards
Communicating Stories with Data	Measuring & Plotting	**MD.1, MD.4, NF.1, NF.2:** Collect data consisting of distance, intervals of time, volume, mass, or money. Read, interpret, and create line plots that communicate data stories where the line plot measurements consist of fractional units of measure. For example, create a line plot showing classroom or home objects measured to the nearest quarter inch.
Communicating Stories with Data	Rectangle Investigations	**MD1, MD2, MD3, MD5, MD6:** Investigate rectangles in the world, measuring lengths and angles, collecting the data, and displaying it using data visualizations.

Content Connection	Big Idea	Grade 4 Standards
Exploring Changing Quantities	Number & Shape Patterns	**OA.5, OA.1, OA.2, NBT.4:** Generalize number and shape patterns that follow a given rule. Communicate understanding of how the pattern changes in words, symbols, and diagrams - working with multi-digit numbers.
Exploring Changing Quantities	Factors & Area Models	**OA.1, OA.2, OA.4, NBT.5, NBT.6:** Break numbers inside of 100 into factors. Illustrate whole number multiplication and division calculations as area models and rectangular arrays that illustrate factors.
Exploring Changing Quantities	Multi-Digit Numbers	**NBT.1, NBT.2, NBT 3, NBT.4, OA.1:** Read and write multi-digit whole numbers in expanded form and express each number component of the expanded form as a multiple of a power of ten.
Taking Wholes Apart, Putting Parts Together	Fraction Flexibility	**NF.3, NF.1, NF.4, NF.5, OA.1:** Understand that addition and subtraction of fractions as joining and separating parts that are referring to the same whole. Decompose fractions and mixed numbers into unit fractions and whole numbers, and express mixed numbers as a sum of unit fractions.
Taking Wholes Apart, Putting Parts Together	Visual Fraction Models	**NF.2, NF.1, NF.3, NF.5, NF.6, NF.7:** Use different ways of seeing and visualizing fractions to compare fractions using student generated visual fraction models. Use >, < and = to compare fraction size, through linear and area models, and determine whether fractions are greater or less than benchmark numbers, such as ½ and 1.
Taking Wholes Apart, Putting Parts Together & Discovering Shape and Space	Circles, Fractions & Decimals	**NF.5, NF.6, NF.7, OA.1. MD2, MD5, MD7:** Understand, compare, and visualize fractions expressed as decimals. Recognize fractions with denominators of 10 and 100, e.g., 25 cents can be written as 0.25 or 25/100. Connect a circle fraction model to the clock face. Example 3/10 + 4/100 = 30/100 + 4/100 = 34/100
Discovering Shape and Space	Shapes & Symmetries	**MD.5, MD.6, MD.7, G.1, G.2, G.3, NBT.3, NBT.4,** Draw and identify shapes, looking at the relationships between rays, lines, and angles. Explore symmetry through folding activities.
Discovering Shape and Space	Connected Problem Solving	**OA.3, MD.1, MD.2, OA2, MD.3, NBT.3 place value, NBT.4, NBT.5, NBT.6, OA.2, OA.3, G.3:** Solve problems with perimeter, area, volume, distance, and symmetry, using operations and measurement.

Grade Five

In fifth grade, equivalence and flexibility are big ideas, with both particularly relating to operations and fractions. Using relationships in the world to make meaning out of multiplication, division, fractions, and estimation requires a great deal of exploration. Using portion sizes to estimate with fractions is helpful because thinking about portions is a useful and underdeveloped idea that gives fractions meaning and utility. At this grade, students work with powers of ten, use exponential notation, and can explain patterns in the placement of the decimal point when a decimal is multiplied by a power of 10.

Fifth-grade students are expected to fully understand the place value system, including decimal values to thousandths, building from the foundation laid in earlier grades. Ideas to help with decimal understanding include using base ten blocks, with the 3-dimensional cube representing one unit so that students have a tactile, visual model to consider the value of the small cube, the rod, and the 10 by 10 flat. In a virtual environment, students can use a CAD, Tinkercad, or other program to design and build complex shapes. While they are building 3-D representations in a 2-D space, it is important to ask students to think about what makes their 2-D drawings appear to be 3-D. Shapes in this environment may appear to be a parallelogram or a rhombus when they are representing a 3-D object—what the shape of the face really is in 3-D space is a square. Asking students to build their CAD designs out of cardboard or paper is a good way to have them explore the way shapes look when they change the angle of their view.

Another useful tool is a printed 10 x 10 grid. Students visualize the whole grid as representing the whole and can shade in various decimal values. Fifth-grade students use equivalent fractions to solve problems; so, it is important that they have a strong grasp of equality and can use benchmark fractions (e.g., 1/2, 2/3, 3/4) to reason about, compare, and calculate with fractions. Experiences with placing whole numbers, fractions, and decimals on the same number line contribute to building fraction number sense. Students need time and opportunity to collaborate, critique, and reason about where to place the numbers on the number line.

When students in fifth grade conduct data investigations, they ask questions, collect data, analyze results, and communicate their findings. While the data visualizations included in the fifth-grade standards only include picture graphs, bar graphs, and line plots, students do not need to be restricted to these; data in the modern world is represented in many creative and non-standard ways, and it is important that students learn to read such data representations. Also, while standard data representations, such as bar graphs, show repeated measurements of a *single* varying quantity, science curricula in particular, and many questions of interest in general, require the consideration of relationships between *two or more different* changing quantities, such as erosion and time (NGSS 4-ESS2-1 Earth’s Systems) or length or direction of shadows and time (NGSS 5-ESS1-2 Earth's Place in the Universe). Such reasoning involves multiple variables, which is an important aspect of modern encounters with data that students experience. Although the scatter plot, a crucial data representation tool for two varying quantities, is not expected to be fully understood until later grades

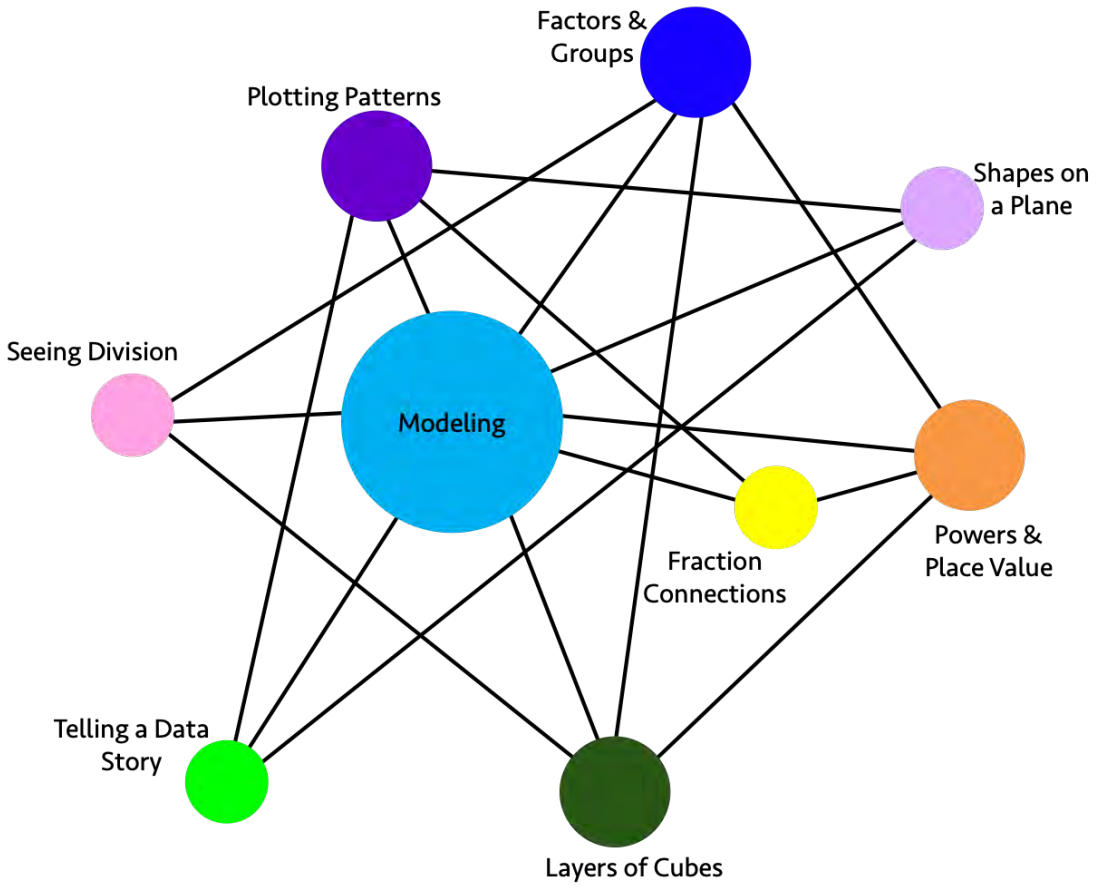
(8.SP.1), it can be explored informally much earlier for students to be prepared for middle school content. For example, students can plot quantities changing over time (e.g., height of a plant, length of the day, high temperature for the day), with time on the horizontal axis and the changing quantity on the vertical. Once such a plot is created, it is an excellent context for a “notice and wonder” discussion.

Moving to the fore in fifth grade are ideas about patterns and relationships in two- and three-dimensional space. Students begin to use the coordinate plane to represent and question relationships, and they begin to think about how to count and represent volume using cubic units. Providing investigations where students see volume as a visual model of unit cubes contained inside a 3-D shape is important work. Students have ample opportunities to study the volume of complex shapes, e.g., a pyramid, where they construct the volume as layers of unit cubes and grapple with the fractions of unit cubes that make up the volume. This is a way to further connect the meaning of a unit with fractions of a unit. In a virtual environment, students can build complex shapes in Tinkercad or other similar apps. Ask students to create and then hand draw their designs since this will engage different areas of their brain. If students are building complex 3-D designs virtually in a CAD (Computer-Aided Design) space, it is a good idea to ask them to try to construct their designs outside of the computer environment. Ask if they can construct their shape out of cardboard or paper. Was it possible to build the shapes they had drawn? What challenges did you face?

English learners are encouraged to use their developing English and native language assets (e.g., cognates, morphological awareness) and draw on their prior knowledge. Teachers can examine text and tasks for key language forms and structures, and general as well as discipline-specific, high-utility academic vocabulary words linked to the big ideas and connections. Teachers can provide purposeful scaffolds and supports to engage English learners in sustained mathematical discourse in multiple contexts to build academic language and knowledge. Planned and “just-in-time” scaffolds and supports provide multiple entry points for meaning making and sharing of ideas in mathematical ways and include representations, expression starters and builders, and targeted and high-utility academic vocabulary and language structures (e.g., problems, explanations, arguments, descriptions, procedures). Teachers guide deconstruction and/or co-construction of problems, investigations, arguments, explanations, descriptions, methods, and connections.

Critical Areas of Instructional Focus

Figure 7.4. Grade 5 Big Ideas



Long description: The graphic illustrates the connections and relationships of some fifth-grade mathematics concepts. Direct connections include:

- Factors & Groups directly connects to: Powers & Place Values, Layers of Cubes, Modeling, Seeing Division
- Shapes on a Plane directly connects to: Telling a Data Story, Modeling, Plotting Patterns
- Powers & Place Value directly connects to: Layers of Cubes, Fraction Connections, Modeling, Factors & Groups
- Layers of Cubes directly connects to: Powers & Place Value, Factors & Groups, Modeling, Seeing Division
- Telling a Data Story directly connects to: Shapes on a Plane, Modeling, Plotting Patterns

- Seeing Division directly connects to: Layers of Cubes, Modeling, Factors & Groups
- Plotting Patterns directly connects to: Telling a Data Story, Modeling, Fraction Connections, Shapes on a Plane
- Fraction Connections directly connects to: Powers & Place Value, Modeling, Plotting Patterns
- Modeling directly connects to: Plotting Patterns, Factors & Groups, Shapes on a Plane, Powers & Place Value, Fraction Connections, Layers of Cubes, Telling a Data Story, Seeing Division

Figure 7.4a. Grade 5 Content Connections, Big Ideas, and Standards

Content Connection	Big Idea	Grade 5 Standards
Communicating Stories with Data	Plotting Patterns	**G.1, G.2, OA.3: MD.2, NF.7:** Students generate and analyze patterns, plotting them on a line plot or coordinate plane, and use their graph to tell a story about the data. Some situations should include fraction and decimal measurements, such as a plant growing.
Communicating Stories with Data & Exploring Changing Quantities & Discovering Shape & Space	Telling a Data Story	**G.1, G.2, OA.3:** Understand a situation, graph the data to show patterns and relationships, and to help communicate the meaning of a real-world event.
Exploring Changing Quantities	Factors & Groups	**OA.1, OA.2, MD.4, MD.5:** Students use grouping symbols to express changing quantities and understand that a factor can represent the number of groups of the quantity.
Exploring Changing Quantities	Modeling	**NBT.3, NBT.5, NBT.7, NF.1, NF.2, NF.3, NF.4, NF.5, NF.6, NF.7, MD.4, MD.5, OA.3:** Set up a model and use whole, fraction, and decimal numbers and operations to solve a problem. Use concrete models and drawings and justify results.

Content Connection	Big Idea	Grade 5 Standards
Exploring Changing Quantities & Taking Wholes Apart, Putting Parts Together	Fraction connections	**NF.1, NF.2, NF.3, NF.4, NF.5, NF.7, MD.2, NBT.3:** Make and understand visual models, to show the effect of operations on fractions. Construct line plots from real data that include fractions of units.
Exploring Changing Quantities & Discovering Shape & Space	Shapes on a Plane	**G.1, G.2, G.3, G4, OA.3, NF.4, NF.5, NF.6:** Graph 2-D shapes on a coordinate plane, notice and wonder about the properties of shapes, parallel and perpendicular lines, right angles, and equal length sides. Use tables to organize the coordinates of the vertices of the figures and study the changing quantities of the coordinates.
Taking Wholes Apart, Putting Parts Together	Seeing Division	**MD.3, MD.4, MD.5, NBT.4, NBT.6, NBT.7:** Solve real problems that involve volume, area, and division, setting up models and creating visual representations. Some problems should include decimal numbers. Use rounding and estimation to check accuracy and justify results.
Taking Wholes Apart, Putting Parts Together	Powers and Place Value	**NBT.3, NBT.2, NBT.1, OA.1, OA.2:** Use whole number exponents to represent powers of 10. Use expanded notation to write decimal numbers to the thousandths place and connect decimal notation to fractional representations, where the denominator can be expressed in powers of 10.
Discovering Shape and Space	Layers of Cubes	**MD.5, MD.4, MD.3, OA.1, MD.1:** Students recognize volume as an attribute of three-dimensional space. They understand that a 1-unit by 1-unit by 1-unit cube is the standard unit for measuring volume. They decompose three-dimensional shapes and find volumes of right rectangular prisms by viewing them as decomposed into layers of arrays of cubes.

Chapter 8: Mathematics in Grades Six through Eight

Figure 8.1. A Progression Chart of Big Ideas through Grades 6-8

Content Connections	Big Ideas: Grade 6	Big Ideas: Grade 7	Big Ideas: Grade 8
Communicating Stories with Data	Variability in data	Visualize Populations	Data explorations
Communicating Stories with Data	The shape of distributions	Populations and samples	Data graphs and tables
Communicating Stories with Data	n/a	Probability Models	Interpret scatter plots
Exploring Changing Quantities	Fraction relationships	Proportional Relationships	Multiple representations of functions
Exploring Changing Quantities	Patterns inside numbers	Unit rates in the world	Linear equations
Exploring Changing Quantities	Generalizing with multiple representations	Graphing relationships	Slopes and intercepts
Exploring Changing Quantities	Relationships between variables	Scale Drawings	Interpret scatter plots
Taking Wholes Apart, Putting Parts Together	Model the world	Shapes in the world	Cylindrical investigations
Taking Wholes Apart, Putting Parts Together	Nets and Surface Area	2-D and 3-D connections	Pythagorean explorations
Taking Wholes Apart, Putting Parts Together	n/a	Angle relationships	Big and small numbers
Discovering shape and space	Nets and Surface Area	Shapes in the world	Shape, number, and expressions
Discovering shape and space	Distance and direction	2-D and 3-D connections	Pythagorean explorations
Discovering shape and space	Graphing shapes	Scale drawings	Cylindrical investigations
Discovering shape and space	n/a	Angle relationships	Transformational geometry

As students enter the middle grades, the number sense they acquired in the elementary grades deepens with the content. Students transition from exploring numbers and arithmetic operations in K–5 to exploring relationships between numbers (CC2—Exploring Changing Quantities and CC3—Taking Wholes Apart and Putting Parts Together) and making sense of contextual situations using various representations. SMP.2 is especially critical at this stage, as students represent a wide variety of real-world situations through the use of real numbers and variables in expressions, equations, and inequalities. Big ideas in number sense for the middle grades include:

- number line understanding;
- proportions, ratios, percents, and relationships among these; and
- and generalized numbers as leading to algebra.

The big ideas of data science include the following:

- Data in the world: exploration, interpretation, decision making, ethics
- Variability: describing, displaying, and comparing
- Sampling to understand a population: randomness, bias, how many?
- Are they related? Multivariate thinking
- What are the chances? Probability as the basis for data-based claims

As in earlier grades, students experience data science as a tool to help understand their worlds via a process that begins with wondering questions. This is also the beginning of the mathematical modeling cycle, the statistical and data science exploration process, and investigations in science.

The sixth through eighth grade span is an important time for further development of important mathematical concepts needed for high school. Students are introduced to irrational numbers through investigations using the Pythagorean Theorem. Students work with right triangles and apply their learning to further investigations of plane figures and solids, where the Pythagorean Theorem is useful in finding unknown measures. Students explore cylinders, cones, and spheres, while noticing radius as a useful component of right triangles. Students continue investigating 3-D shapes as they consider these shapes to be made up of slices of 2-D shapes. Students begin their formal study of transformational geometry as the study of shapes that twist, turn, and grow in the plane. Students investigate and make meaning of these transformations as they connect them to similarity and congruence.

The following interview highlights an educator who is using digital tools to help students in this grade span express their thinking and provide feedback and supports as necessary.

Voices from the Field: Martin Joyce | Taylor Middle School | Millbrae, CA

Joyce—a 12-year veteran who currently teaches pre-algebra at Taylor Middle School—leverages technology integration, collaboration, and feedback to engage all of his learners.

Describe some of the challenges that you and your students have experienced with the implementation of distance learning. How have you turned those into opportunities for success?

In terms of success, the most prominent example for me has been around using Desmos—imagine having an interactive PowerPoint with graphs, sketch capabilities, and fantastic feedback options. I've been fortunate to be part of their pilot sixth through eighth grade math curriculum. Students get real-time feedback and can use the data to continually revise their work. We can take snapshots of students' work and use those as models to demonstrate to the entire class. In other words, it's not just me showing them the successful way to problem solve.

Desmos complements monitoring, selecting, sequencing, and connecting extremely well. I really focus on questions to support those students who may struggle. As I monitor their work in real time, I see what they are doing (sketching) and then identify whose work I want to share. I select and invite participation from diverse learners who may not just volunteer. When it comes to their problem solving, I often start with the most common mistakes or the methods of success.

In terms of challenges, the primary one for me has been around pacing. I think teachers have had to accept that we are often not going to get as much done as we had in years past. I've had to continually ask myself reflective questions such as, "What do I skip?" or "Where do I compress?" I've really had to allow for more time, and I've had to learn to be more patient. I've also had to be flexible with when and how students may respond to questions.

Another challenge is that some students don't participate in places like virtual breakout rooms versus how they might in face-to-face environments. Overall, I think the student discourse has lessened during distance learning. I've had to intervene and facilitate more. I've had to prompt them more to connect with one another. I've had to teach them more communication and collaboration skills.

One small tip I recently picked up is facilitating a Zoom [video conferencing platform] chat waterfall. I ask students to answer a question in the chat box but instruct them to not hit enter until told to do so. I honor time to wait or think and then have them hit enter to create a cascade (a waterfall) of responses all at once. Otherwise, we are influenced by one another's responses or thoughts.

How do you strike a balance between analog and digital tools or synchronous and asynchronous learning experiences for your students?

This year, our school has scheduled asynchronous time Tuesday through Friday, 1:30-3:00 pm. Our classes are 80 minutes long. Students have three of these classes per day. We created the asynchronous opportunities to address the amount of screen time

and to develop independence. We have used this time for office hours focused on intervention and support. For math, I take the practice problems and do a screencast recording for these asynchronous times. Although there are plenty of great YouTube tutorial videos for math, I think it's valuable for students to have access to videos I create.

Synchronous time for me is focused on instruction and students working with me in real time. I use warm-ups to activate prior knowledge, we do some problems together with discussion, and then we have lesson synthesis after all of the activities. I have started to incorporate cool-downs or exit tickets. I use one or two problems for quick formative assessments.

How are you using technology to help students build foundational algebra skills and understand key concepts?

Desmos and game-like applications are helpful. Technology allows students to see these math principles in concrete representations. It allows them to visualize. They can try things and see if they are right or wrong. This works well with both horizontal and vertical number lines.

In eighth grade, we work with ratios and the slope of a graph. Desmos would be the key here for the graphing. Google Sheets [collaborative online spreadsheets] work well for the percentages and two-way tables.

I have a year-end project on the Pythagorean Theorem, which has traditionally been challenging for students who have been absent. I now use Edpuzzle [video-based lessons] to record myself and share videos on how they can get started. It's great to voice over (audio record) my instruction and demonstrations.

What are your main priorities or concerns when selecting technology for your classes?

My primary considerations are both access and ease of use. I'm really starting to think that less is more when it comes to educational technology. I like to have a baseline app or an interface that I can use. It can't always be about adding an entirely new thing.

For example, Flipgrid [video-based discussion software] is a great add-on, and it works extremely well with Desmos. It's easy to use, and it creates opportunities for student voice. I use it from the first days of school, where students record themselves demonstrating the correct pronunciation of their name, as well as throughout the year for demonstrations of mastery. I will still use Desmos for the assessment, but if a student wants to increase their score, they can record themselves in Flipgrid discussing their mistakes and how to arrive at the right answer. I want them to convince me what they know now and didn't know before. It doesn't matter when one knows it, just that one knows it. I want to value the work and the learning.

I've really found HyperDocs [digital lesson plans] to be especially helpful during distance learning and think it will continue to have significant value as we return to face-to-face. It really gives students a structure to follow when doing a multi-step project.

There are a lot of great tools out there, but I don't want to overwhelm my students with too many. I think teachers need to be more careful and intentional with introducing new technologies. I try to have a core application with a couple great add-ons.

Grade Six

Proportional reasoning, unit rates, and generalizing relationships are central to sixth grade. This represents a major shift for students and is worthy of deep, sustained attention. Students build new ways to represent the world symbolically, on the number line, and through data that add nuance to the mathematical terrain. In sixth grade, students are introduced to the concepts of ratios and unit rates, and they use tables of equivalent ratios, double number lines, tape diagrams, and equations to solve real-world problems. A critical feature to emphasize for students is the ability to think multiplicatively, as well as additively.

Students are **often** introduced to the idea of a variable, not through the concept of variation, but through exercises that ask them to find a missing number that is represented by x or another variable. Unfortunately, this gives them the idea that a variable stands for a single number, rather than something that varies - which causes students problems when they later need to learn about functions and other uses of algebra where a variable varies. The best way to introduce students to the idea of a variable is to give them examples of pattern growth that they can analyze, represent in words, and eventually as variables. The Path problem—finding how many squares are in the path that borders different sized squares—is an ideal way to introduce the concept of a variable.[202] Ideas of equivalence and operations, laid before in earlier grades, now take on new meaning, as students apply properties of operations to generate equivalent expressions and identify when two expressions are equivalent.

Sixth-grade students engage in data investigations to help them understand variability. If they are given opportunities to develop curiosity and ask questions about the world, they can collect and analyze data, determine and confirm results, and represent findings with different representations. Teachers can ask students to collect data and/or bring in real data sets from the world that students are invited to investigate. The Common Online Data Analysis Platform (CODAP) is a website providing free educational software for data analysis. CODAP is an ideal tool for introducing students to data exploration. CODAP includes many interesting data sets and lessons, and students can

[202] https://www.youcubed.org/algebra/ - week-1

look visually at the shape of data distributions, leading to consideration of measures of center and variability.[203]

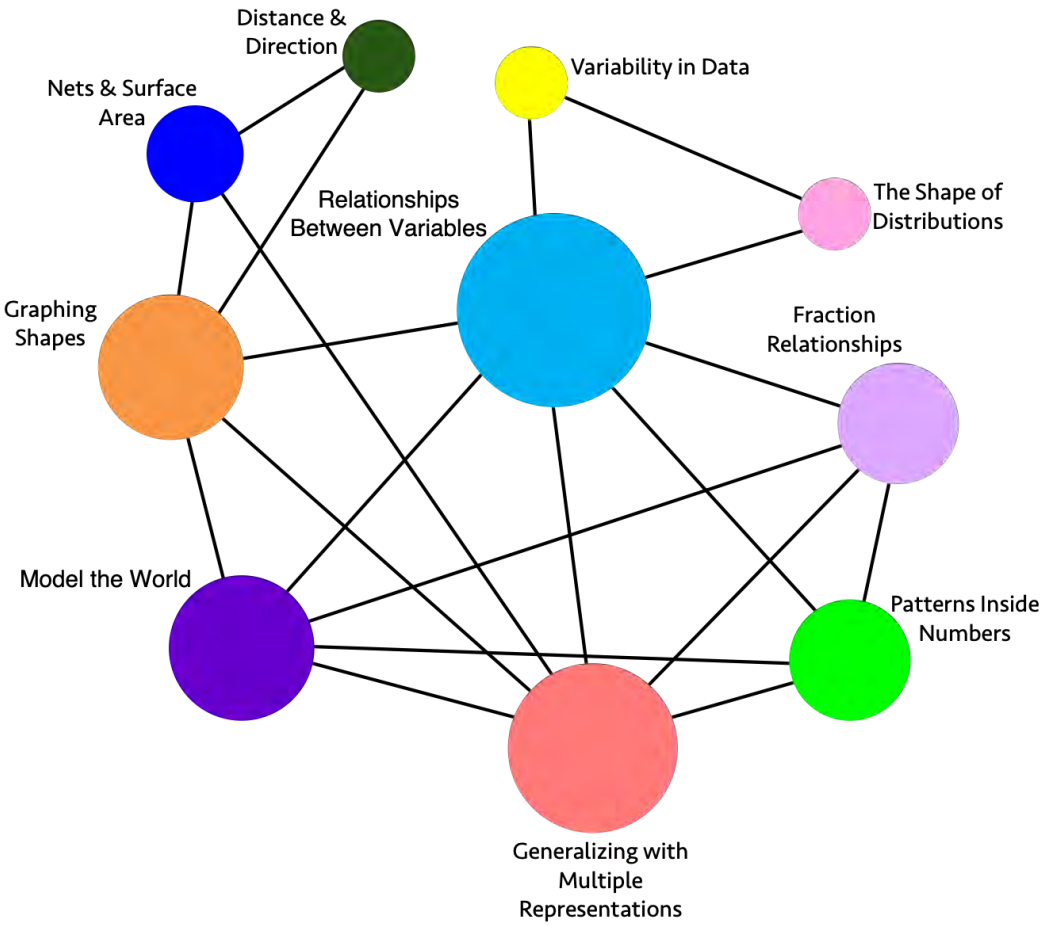
Students in grade six also develop new ways to compose and decompose with two- and three-dimensional shapes, thinking about volume and area as additive and using nets to explore the surfaces that create solids. Moving from 3-D solids to 2-D representations of 3-D solids is a topic where students explore, construct, and take apart, building with unit cubes and drawing representations. In a virtual environment, students can use a CAD, Tinkercad, or other programs to design and build complex shapes. While they are building 3-D representations in a 2-D space, it is important to ask students to think about what makes their 2-D drawings appear to be 3-D. Shapes in this environment may appear to be a parallelogram or a rhombus when they are representing a 3-D object—what the shape of the face really is in 3-D space is a square. Asking students to build their CAD designs out of cardboard or paper is a good way to have them explore the way shapes look when they change the angle of their view. Students in grade six also learn about absolute value. An ideal opportunity to learn absolute value is an exploration of the shapes on a 4-quadrant coordinate grid, with absolute value used as a measure of distance, while integer coordinates represent the vertices of the shapes.

English learners are encouraged to use their developing English and native language assets (e.g., cognates, morphological awareness) and draw on their prior knowledge. Teachers can examine text and tasks for key language forms and structures, and general as well as discipline-specific, high-utility academic vocabulary words linked to the big ideas and connections. Teachers can provide purposeful scaffolds and supports to engage English learners in sustained mathematical discourse in multiple contexts to build academic language and knowledge. Planned and “just-in-time” scaffolds and supports provide multiple entry points for meaning making and sharing of ideas in mathematical ways and include representations, expression starters and builders, and targeted and high-utility academic vocabulary and language structures (e.g., problems, explanations, arguments, descriptions). Teachers guide deconstruction and/or co-construction of problems, investigations, arguments, explanations, descriptions, and connections.

Critical Areas of Instructional Focus

Figure 8.2. Grade 6 Big Ideas

[203] https://codap.concord.org/



Long description: The graphic illustrates the connections and relationships of some sixth-grade mathematics concepts. Direct connections include:

- Variability in Data directly connects to: The Shape of Distributions, Relationships Between Variables
- The Shape of Distributions directly connects to: Relationships Between Variables, Variability in Data
- Fraction Relationships directly connects to: Patterns Inside Numbers, Generalizing with Multiple Representations, Model the World, Relationships Between Variables
- Patterns Inside Numbers directly connects to: Fraction Relationships, Generalizing with Multiple Representations, Model the World, Relationships Between Variables

- Generalizing with Multiple Representations directly connects to: Patterns Inside Numbers, Fraction Relationships, Model the World, Relationships Between Variables, Nets & Surface Area, Graphing Shapes
- Model the World directly connects to: Fraction Relationships, Relationships Between Variables, Patterns Inside Numbers, Generalizing with Multiple Representations, Graphing Shapes
- Graphing Shapes directly connects to: Model the World, Generalizing with Multiple Representations, Relationships Between Variables, Distance & Direction, Nets & Surface
- Nets & Surface directly connects to: Graphing Shapes, Generalizing with Multiple Representations, Distance & Direction
- Distance & Direction directly connects to: Graphing Shapes, Nets & Surface Area
- Relationships Between Variables directly connects to: Variability in Data, The Shape of Distributions, Fraction Relationships, Patterns Inside Numbers, Generalizing with Multiple Representations, Model the World, Graphing Shapes

Figure 8.2a. Grade 6 Content Connections, Big Ideas, and Standards

Content Connection	Big Idea	Grade 6 Standards
Communicating Stories with Data	Variability in Data	**SP.1, SP.5, SP.4:** Investigate real world data sources, ask questions of data, start to **u**nderstand variability - within data sets and across different forms of data, consider different types of data, and represent data with different representations.
Communicating Stories with Data	The Shape of Distributions	**SP.2, SP.3, SP.5:** Consider the distribution of data sets - look at their shape and consider measures of center and variability to describe the data and the situation which is being investigated.
Exploring Changing Quantities	Fraction Relationships	**NS.1, RP.1, RP.3:** Understand fractions divided by fractions, thinking about them in different ways (e.g., how many 1/3 are inside 2/3?), considering the relationship between the numerator and denominator, using different strategies and visuals. Relate fractions to ratios and percentages.
Exploring Changing Quantities	Patterns inside Numbers	**NS.4, RP.3:** Consider how numbers are made up, exploring factors and multiples, visually and numerically.

Content Connection	Big Idea	Grade 6 Standards
Exploring Changing Quantities	Generalizing with Multiple Representations	**EE.6, EE.2, EE.7, EE.3, EE.4, RP.1, RP.2, RP.3:** Generalize from growth or decay patterns, leading to an understanding of variables. Understand that a variable can represent a changing quantity or an unknown number. Analyze a mathematical situation that can be seen and solved in different ways and that leads to multiple representations and equivalent expressions. Where appropriate in solving problems, use unit rates.
Exploring Changing Quantities	Relationships Between Variables	**EE.9, EE.5, RP.1, RP.2, RP.3, NS.8, SP.1, SP.2:** Use independent and dependent variables to represent how a situation changes over time, recognizing unit rates when it is a linear relationship. Illustrate the relationship using tables, 4 quadrant graphs and equations, and understand the relationships between the different representations and what each one communicates.
Taking Wholes Apart, Putting Parts Together	Model the World	**NS.3, NS.2, NS.8, RP.1, RP.2, RP.3:** Solve and model real world problems. Add, subtract, multiply, and divide multi-digit numbers and decimals, in real-world and mathematical problems - with sense making and understanding, using visual models and algorithms.
Taking Wholes Apart, Putting Parts Together & Discovering Shape and Space	Nets and Surface Area	**EE.1**, **EE.2, G.4, G.1, G.2, G.3:** Build and decompose 3-D figures using nets to find surface area. Represent volume and area as expressions involving whole number exponents.
Discovering Shape and Space	Distance and Direction	**NS.5, NS.6, NS.7, G.1, G.2, G.3, G.4:** Students experience absolute value on numbers lines and relate it to distance, describing relationships, such as order between numbers using inequality statements.
Discovering Shape and Space	Graphing Shapes	**G.3, G.1, G.4, NS.8, EE.2:** Use coordinates to represent the vertices of polygons, graph the shapes on the coordinate plane, and determine side lengths, perimeter, and area.

Grade Seven

A big idea for seventh grade is proportional reasoning, which students experience in many different ways as they consider fractions, decimals, percents, and integers. An

important idea for students is that every fraction, decimal, percent, integer, and whole number can be written as a rational number defined to be the ratio of two integers and understandings of fractions, decimals, percents, integers, and whole numbers can all be subsumed into a larger understanding of rational numbers. This unified understanding is achieved, in part, through students' use of number lines to represent operations on rational numbers, such as the addition and subtraction of rational numbers on a number line. Students can be introduced to a host of representations as they reason through proportional situations: graphs, equations, verbal descriptions, tables, charts, and double number lines. There are many approaches to solving proportions, and it is important to emphasize that sense-making is more important than answer finding.

Students in seventh grade should continue investigations that involve generalization, allowing them to see and use algebra as a useful problem-solving tool.

A big idea in the Communicating Stories with Data strand is variability, and understanding variability is at the heart of data literacy. When working with visualizations of data, students consider not only the most popular value in a dataset (the mode) but also describe the shape and spread of data distributions. As they engage in experiences where they produce their own data through measurement, teachers can highlight for students the variation that results. For example, if students plant a particular variety of flower seed at multiple locations around the school, then measure the plants' height and the amount of sunlight each month, they can conduct investigations into the ways plant growth and sunlight relate to each other. They Discuss and describe any patterns in their bivariate data and reasons for the variability. Finally, students consider their own measurement techniques and how confident they are that they all measured the same way (so that if someone else measured, they would get the same height or sunlight). Students can be invited to study populations by taking random samples and determining if the samples accurately represent the population, considering issues of bias and ethics. They can use classroom simulations and computer software to model repeated sampling, analyzing the variation in results. Students can also use measures of center and variability to draw comparative inferences about populations, considering what the visual plots show.

New ideas for grade seven are randomness, probability, and uncertainty. At this point, students can begin to conceive of probability as a measure of the chance that something will happen, seeing it as a basic measure of certainty or uncertainty. They can learn to use sample spaces, lists, tables, and tree diagrams.

Students connect proportional reasoning to the two- and three-dimensional world through the construction of scale figures. Students investigate angles and connections between angles, including supplementary and complementary angles, noticing that increasing one decreases the other.

Students solve problems involving solid figures and develop intuition about 2-D slices of 3-D figures. The idea of sliced objects and the shape produced, as well as measure and area, is important to the further study of mathematics in higher education. Students can be using technology to support their calculations as they are building understanding of the physical shapes. In a virtual environment, students can use a CAD, Tinkercad, or

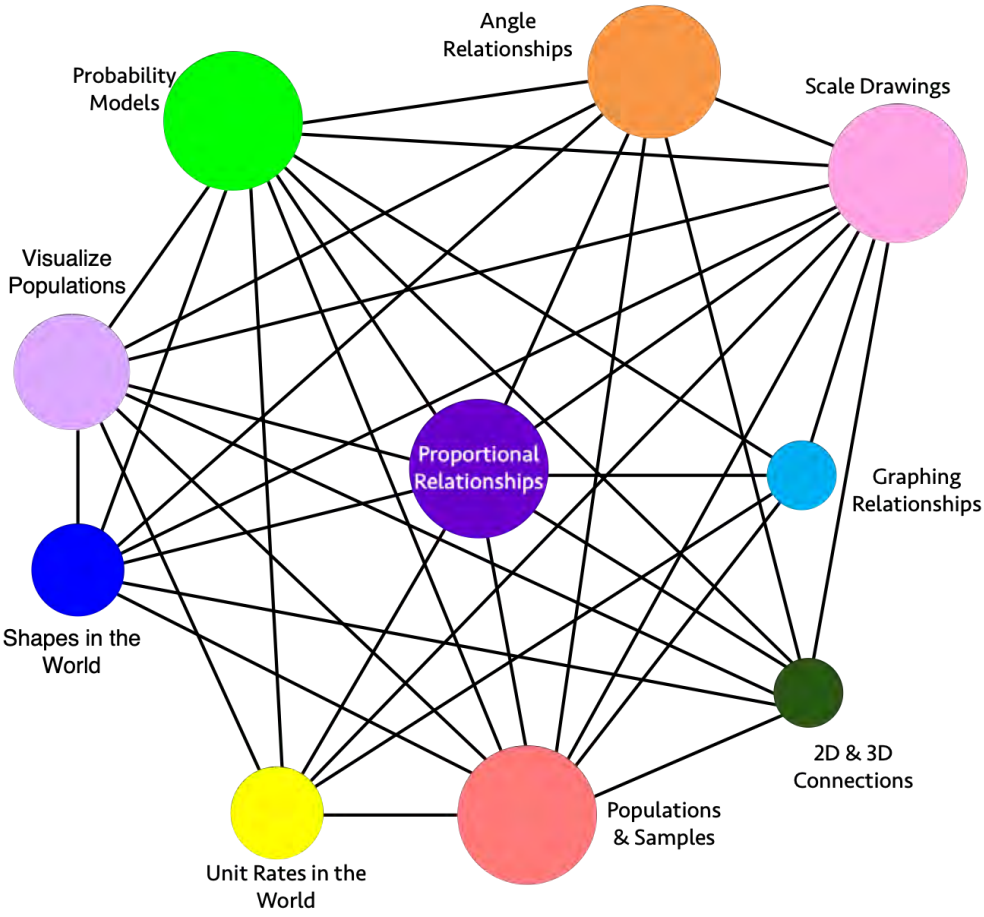
other program to design and build complex shapes. While they are building 3-D representations in a 2-D space, it is important to ask students to think about what makes their 2-D drawings appear to be 3-D. Shapes in this environment may appear to be a parallelogram or a rhombus when they are representing a 3-D object—what the shape of the face really is in 3-D space is a square. Asking students to build their CAD designs out of cardboard or paper is a good way to have them explore the way shapes look when they change the angle of their view.

Measurements that include decimal and fraction numbers can be used throughout their investigations. When considering physical objects and quantifying the objects using measures, students are supported in building important connections between visual models and numbers.

English learners are encouraged to use their developing English and native language assets (e.g., cognates, morphological awareness) and draw on their prior knowledge. Teachers can examine text and tasks for key language forms and structures, and general as well as discipline-specific, high-utility academic vocabulary words linked to the big ideas and connections. Teachers can provide purposeful scaffolds and supports to engage English learners in sustained mathematical discourse in multiple contexts to build academic language and knowledge. Planned and “just-in-time” scaffolds and supports provide multiple entry points for meaning making and sharing of ideas in mathematical ways and include representations, expression starters and builders, and targeted and high-utility academic vocabulary and language structures (e.g., problems, explanations, arguments, descriptions, and connections). Teachers guide deconstruction and/or co-construction of problems, investigations, arguments, explanations, descriptions, and connections. Clear and precise expressions, as well as cohesive writing, support stronger communication of mathematical concepts and practices.

Critical Areas of Instructional Focus

Figure 8.3 Grade 7 Big Ideas



Long description: The graphic illustrates the connections and relationships of some seventh-grade mathematics concepts. Direct connections include:

- Angle Relationships directly connects to: Scale Drawings, 2D & 3D Connections, Populations & Samples, Proportional Relationships, Shapes in the World, Visualize Populations, Probability Models
- Scale Drawings directly connects to: 2D & 3D Connections, Graphing Relationships, Populations & Samples, Unit Rates in the World, Proportional Relationships, Visualize Populations, Probability Models, Angle Relationships
- Graphing Relationships directly connects to: Populations & Samples, Unit Rates in the World, Proportional Relationships, Probability Models, Scale Drawings
- 2D & 3D Connections directly connects to: Scale Drawings, Angle Relationships, Probability Models, Proportional Relationships, Visualize Populations, Shapes in the World, Populations & Samples
- Populations & Samples directly connects to: 2D & 3D Connections, Scale Drawings, Angle Relationships, Probability Models, Proportional Relationships,

Visualize Populations, Shapes in the World, Unit Rates in the World, Graphing Relationships

- Unit Rates in the World directly connects to: Populations & Samples, Graphing Relationships, Scale Drawings, Proportional Relationships, Probability Models, Visualize Populations
- Shapes in the World directly connects to: Populations & Samples, 2D & 3D Connections, Proportional Relationships, Scale Drawings, Angle Relationships, Probability Models, Visualize Populations
- Visualize Populations directly connects to: 2D & 3D Connections, Scale Drawings, Angle Relationships, Probability Models, Proportional Relationships, Populations & Samples, Shapes in the World, Unit Rates in the World
- Probability Models directly connects to: 2D & 3D Connections, Scale Drawings, Angle Relationships, Proportional Relationships, Visualize Populations, Shapes in the World, Unit Rates in the World, Graphing Relationships, Populations & Samples
- Proportional Relationships directly connects to: 2D & 3D Connections, Scale Drawings, Angle Relationships, Probability Models, Populations & Samples, Visualize Populations, Shapes in the World, Unit Rates in the World, Graphing Relationships

Figure 8.3a. Grade 7 Content Connections, Big Ideas, and Standards

Content Connection	Big Idea	Grade 7 Standards
Communicating Stories with Data	Populations & Samples	**SP.1, SP.2, RP.1, RP.2, RP.3, NS.1, NS.2, NS.3, EE.3:** Study a population by taking random samples and determine if the samples accurately represent the population. ● Analyze and critique reports by examining the sample and the claims made to the general population ● Use classroom simulations and computer software to model repeated sampling, analyzing the variation in results.
Communicating Stories with Data	Visualize Populations	**SP.3, SP.4, NS.1, NS.2, NS.3, EE.3:** Draw comparative inferences about populations - consider what visual plots show, and use measures of center and variability ● Students toggle between the mathematical results and their meaningful interpretation with their given context, considering audiences, implications, etc.

Content Connection	Big Idea	Grade 7 Standards
Communicating Stories with Data	Probability Models	**SP.5, SP.6, SP.7, SP.8, RP.1, RP.2, RP.3, NS.1, NS.2, NS.3, EE.3:** Develop a probability model and use it to find probabilities of events and compound events, representing sample spaces and using lists, tables, and tree diagrams. • Compare observed probability and expected probability. • Explore potential bias and over-representation in real world data sets, and connect to dominating narratives and counter narratives used in public discourse.
Exploring Changing Quantities	Proportional Relationships	**EE.2, EE.3, RP.1, RP.2, RP.3:** Explore, understand, and use proportional relationships: - using fractions, graphs, and tables.
Exploring Changing Quantities	Unit Rates in the World	**RP.1, RP.2, RP.3, EE1, EE.2, EE.3, EE.4:** Solve real world problems using equations and inequalities, and recognize the unit rate within representations.
Exploring Changing Quantities	Graphing Relationships	**EE.4, RP.1, RP.2, RP.3:** Solve problems involving proportional relationships that can lead to graphing using geometry software and making sense of solutions.
Exploring Changing Quantities & Discovering Shape and Space	Scale Drawings	**G.1, EE.2, EE.3, EE.4, NS.2, NS.3, RP.1, RP.2, RP.3:** Solve problems involving scale drawings and construct geometric figures using unit rates to accurately represent real world figures. (Use technology for drawing)
Taking Wholes Apart, Putting Parts Together & Discovering Shape and Space	Shapes in the World	**G.1, G.2, G.3, G.4, G.5, G.6, NS.1, NS.2, NS.3:** Solve real life problems involving triangles, quadrilaterals, polygons, cubes, right prisms, and circles using angle measures, area, surface area, and volume.

Content Connection	Big Idea	Grade 7 Standards
Taking Wholes Apart, Putting Parts Together & Discovering Shape and Space	2-D and 3-D Connections	**G.1,G.2, G.3, NS.1, NS.2, NS.3:** Draw and construct shapes, slice 3-D figures to see the 2-D shapes. Compare and classify the figures and shapes using area, surface area, volume, and geometric classifications for triangles, polygons, and angles. Make sure to measure with fractions and decimals, using technology for calculations.
Taking Wholes Apart, Putting Parts Together & Discovering Shape and Space	Angle Relationships	**G.5, G.6, NS.1, NS.2, NS.3:** Explore relationships between different angles, including complementary, supplementary, vertical, and adjacent, recognizing the relationships as the measures change. For example, angles A and B are complementary. As the measure of angle, A increases, the measure of angle B decreases.

Grade Eight

In eighth grade, students' understanding of rational numbers is extended in two important ways. First, rational numbers have decimal expansions, which eventually repeat, and vice versa. All numbers with decimal expansions, which eventually repeat, are rational numbers. A typical task to demonstrate the first aspect of this standard is to ask students to investigate long division with a calculator, or other technology, to demonstrate that 3/11 has a repeating decimal expansion, and to explain why. As students realize the connection between the remainder and the repeating portion, their understanding of rational numbers can fully integrate with their understanding of decimals and place value.

Second, as students begin to recognize that there are numbers that are not rational, which are called *irrational* numbers, they can see that these new types of numbers can still be located on the number line and can also be approximated by rational numbers. The foundation for this recognition is actually built through seventh-grade geometry explorations of the relationship between the circumference and diameter of a circle, and formalized into the formula for circumference, where the division of the circumference by the diameter for a given circle always results in a number a little larger than three, irrespective of the size of the circle. In exploring this quotient of circumference by diameter, students get a look at a decimal approximation for their first irrational number, pi. In eighth grade, the notation for numbers expands greatly, with the introduction of integer exponents and radicals to represent solutions of equations. Number sense plays a critical role in eighth grade, as students can check the accuracy of their answers with estimation. They can also use technological tools to work with place value and to express large and small numbers in scientific notation.

Proportional relationships continue to be a hub of mathematical thought in eighth grade, serving as a tool for thinking about patterns of growth, functions, and geometric transformations. Functions are an important addition to the algebraic space in eighth grade. One big idea that challenges students' notions of clean, linear relationships, after all their work on functions and proportions, is the idea of extracting meaning from data. Data in the real world is rarely neat and lock-step; this is an important moment to develop a lens for looking at scatter plots and genuinely asking what relationships can be found.

Eighth grade students conduct data investigations that allow them to interpret bivariate and multivariate data. They also continue to visualize and represent *single-variable* data with dot plots, histograms, and box plots; use measures of center and spread to describe such distributions; and compare distributions from different populations or samples using these representations and statistics. Students also construct scatter plots, which show an association between two variables that is visually identifiable. Fitting a function to the data is the creation of a mathematical model. This work begins in eighth grade with visual fitting of a linear model. While the type of function that is used most frequently is a line (a linear function), students also need experiences with plotting associations that are clearly non-linear, as well as experimenting with fitting other types of functions (quadratic, exponential).

Any standard data software (including spreadsheets, Desmos, Geogebra, CODAP) will fit lines, quadratic functions, and exponential functions to given data. Students have experiences fitting lines and some other functions visually (by adjusting parameters on appropriate function types in graphing software) and using appropriate software tools, which perform the regression behind the scenes.

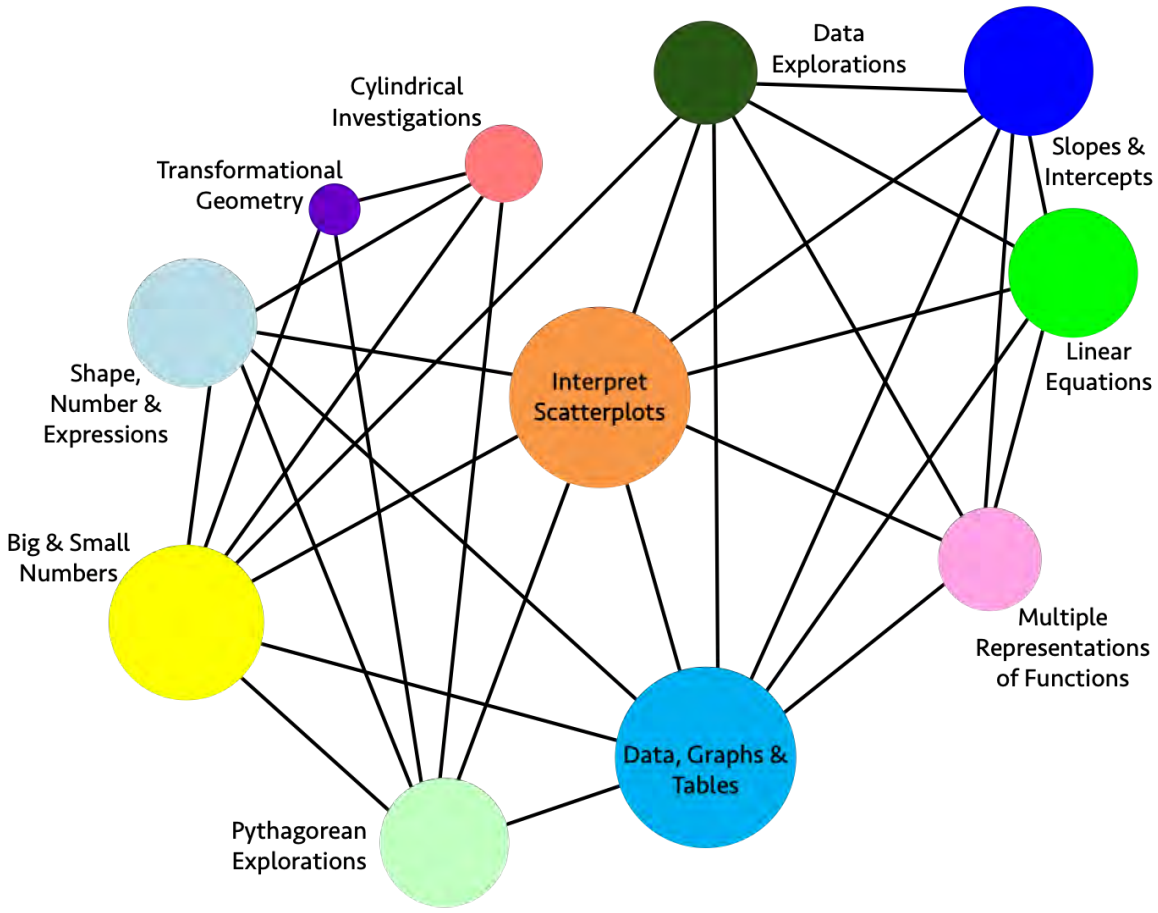
In grade eight, students are introduced to irrational numbers through the study of circles, spheres, and other solids that have a circle as a base. Students investigate the relationships between the side lengths of right triangles and use the Pythagorean Theorem to find a missing side length when two others are known. When studying quadrilaterals and using the Pythagorean Theorem, students can consider rectangles and squares with whole number side lengths and investigate which rectangles have diagonals with irrational side lengths. Students connect their understanding of right triangles and the Pythagorean Theorem to solids where they can use this knowledge to determine distances between two points. Students continue their study of two-dimensional shapes as they learn to move them across a plane, using transformations to investigate similarity and congruence. This initial journey into slides, rotations, reflections, and dilations is intended to be an initial introduction and should include the use of a dynamic geometric software.

English learners are encouraged to use their developing English and native language assets (e.g., cognates, morphological awareness) and draw on their prior knowledge. Teachers can examine text and tasks for key language forms and structures, and general as well as discipline-specific, high-utility academic vocabulary words linked to the big ideas and connections. Teachers can provide purposeful scaffolds and supports to engage English learners in sustained mathematical discourse in multiple contexts to build academic language and knowledge. Planned and "just-in-time" scaffolds and

supports provide multiple entry points for meaning making and sharing of ideas in mathematical ways and include representations, expression starters and builders, and targeted and high-utility academic vocabulary and language structures (e.g., problems, explanations, arguments, descriptions, and connections). Teachers guide deconstruction and/or co-construction of problems, investigations, arguments, explanations, descriptions, and procedures. Clear and precise expressions, as well as cohesive writing, support stronger communication of mathematical concepts and practices.

Critical Areas of Instructional Focus

Figure 8.4. Grade 8 Big Ideas



Long description: The graphic illustrates the connections and relationships of some eighth-grade mathematics concepts. Direct connections include:

- Data Explorations directly connects to: Slopes & Intercepts, Linear Equations, Multiple Representations of Functions, Data Graphs & Tables, Interpret Scatter plots, Big & Small Numbers
- Slopes & Intercepts directly connects to: Linear Equations, Multiple Representations of Functions, Data Graphs & Tables, Interpret Scatter plots, Data Explorations
- Linear Equations directly connects to: Slopes & Intercepts, Data Explorations, Multiple Representations of Functions, Data Graphs & Tables, Interpret Scatter plots
- Multiple Representations of Functions directly connects to: Data Graphs & Tables, Interpret Scatter plots, Data Explorations, Slopes & Intercepts, Linear Equations
- Data Graphs & Tables directly connects to: Multiple Representations of Functions, Linear Equations, Slopes & Intercepts, Data Explorations, Interpret Scatter plots, Shape Number & Expressions, Big & Small Numbers, Pythagorean Explorations
- Pythagorean Explorations directly connects to: Data Graphs & Tables, Interpret Scatter plots, Cylindrical Investigations, Transformational Geometry, Shape Number & Expressions, Big & Small Numbers
- Big & Small Numbers directly connects to: Pythagorean Explorations, Data Graphs & Tables, Interpret Scatter plots, Data Explorations, Cylindrical Investigations, Transformational Geometry, Shape Number & Expressions
- Shape Number & Expressions directly connects to: Big & Small Numbers, Pythagorean Explorations, Data Graphs & Tables, Interpret Scatter plots, Cylindrical Investigations
- Transformational Geometry directly connects to: Big & Small Numbers, Pythagorean Explorations, Cylindrical Investigations
- Cylindrical Investigations directly connects to: Big & Small Numbers, Pythagorean Explorations, Shape Number & Expressions, Transformational Geometry
- Interpret Scatter plots directly connects to: Data Explorations, Slopes & Intercepts, Linear Equations, Multiple Representations of Functions, Data Graphs & Tables, Pythagorean Explorations, Big & Small Numbers, Shape Number & Expressions

Figure 8.4a. Grade 8 Content Connections, Big Ideas, and Standards

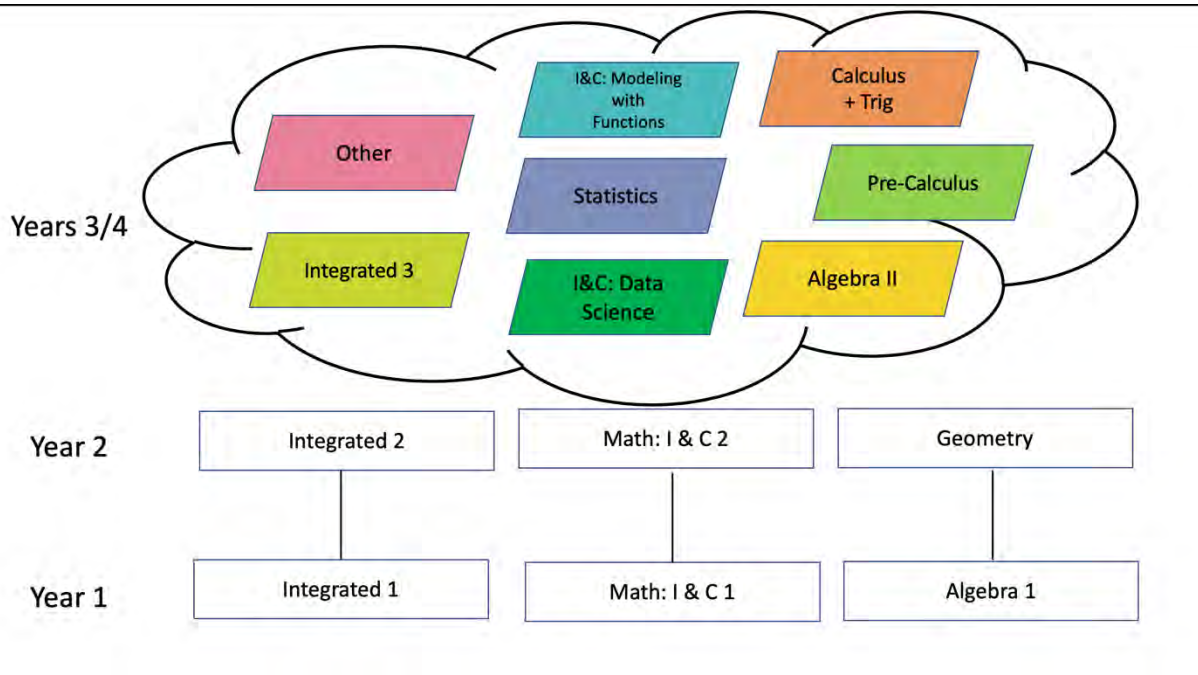
Content Connection	Big Idea	Grade 8 Standards
Communicating Stories with Data & Exploring Changing Quantities	Interpret Scatter plots	**SP.1, SP.2, SP.3, EE.2, EE.5, F.1, F.2, F.3:** Construct and interpret data visualizations, including scatter plots for bivariate measurement data using two-way tables. Describe patterns noting whether the data appear in clusters, are linear or nonlinear, whether there are outliers, and if the association is negative or positive. Interpret the trend(s) in change of the data points over time.
Communicating Stories with Data	Data, Graphs & Tables	**SP.3, SP.4, EE.2, EE.5, F.3, F.4, F.5:** Construct graphs of relationships between two variables (bivariate data), displaying frequencies and relative frequencies in a two-way table. ● Use graphs with categorical data to help students describe events in their lives, looking at patterns in the graphs.
Communicating Stories with Data	Data Explorations	**SP.1, SP.2, SP.3, SP.4, EE.4, EE.5, F.1, F.2, F.3, F.4, F.5:** Conduct data explorations, such as the consideration of seafloor spreading, involving large data sets and numbers expressed in scientific notation, including integer exponents for large and small numbers using technology. ● Identify a large dataset and discuss the information it contains ● Identify what rows and columns represent in a spreadsheet
Exploring Changing Quantities	Linear Equations	**EE.5, EE.7, EE.8, F.2, F.4, F.5:** Analyze slope and intercepts and solve linear equations including pairs of simultaneous linear equations through graphing and tables and using technology.
Exploring Changing Quantities	Multiple Representations of Functions	**EE.5, EE.6, EE.7:** Move between different representations of linear functions (i.e., equation, graph, table, and context), sketch and analyze graphs, use similar triangles to visualize slope and rate of change with equations containing rational number coefficients.
Exploring Changing Quantities	Slopes & Intercepts	**EE.5, SP.1, SP.2, SP.3:** Construct graphs using bivariate data, comparing the meaning of parallel and non-parallel slopes with the same or different y-intercepts using technology.

Content Connection	Big Idea	Grade 8 Standards
Taking Wholes Apart, Putting Parts Together & Discovering Shape and Space	Cylindrical Investigations	**G.9, G.6, G.7, G.8, NS.1, NS.2:** Solve real world problems with cylinders, cones, and spheres. Connect volume and surface area solutions to the structure of the figures themselves (e.g., why and how is the area of a circle formula used to find the volume of a cylinder?). Show visual proofs of these relationships, through modeling, building, and using computer software.
Taking Wholes Apart, Putting Parts Together & Discovering Shape and Space	Pythagorean Explorations	**G.7, G.8, NS.1, NS.2, EE.1, EE.2:** Conduct investigations in the coordinate plane with right triangles to show that the areas of the squares of each leg combine to create the square of the hypotenuse and name this as the Pythagorean Theorem. Using technology, use the Pythagorean Theorem to solve real world problems that include irrational numbers.
Taking Wholes Apart, Putting Parts Together	Big & Small Numbers	**EE.1, EE.2, EE.3, EE.4, NS.1, NS.2:** Use scientific notation to investigate problems that include measurements of very large and very small numbers. Develop number sense with integer exponents (e.g., $1/27 = 1/3^3 = 3^{-3}$).
Discovering Shape and Space	Shape, Number & Expressions	**G.9, G.6, G.7, G.8, EE.1, EE.2, NS.1, NS.2:** Compare shapes containing circular measures to prisms. Note that cubes and squares represent unit measures for volume and surface area. See and use the connections between integer exponents and area and volume.
Discovering Shape and Space	Transformational Geometry	**G.1, G.2, G.3, G.4, G.5, G.6, G.7, G.8:** Plot two dimensional figures on a coordinate plane, using geometry software, noting similarity when dilations are performed and the corresponding angle measures maintain congruence. Perform translations, rotations, and reflections and notice when shapes maintain congruence.

Chapter 9: Mathematics in High School, Grades Nine and Ten

This section focuses on years 9 and 10, as the draft 2021 *Mathematics Framework* sets out a few common pathways for grades 9 and 10, followed by a plethora of options for later years, as set out in Figure 9.1:

Figure 9.1: High School Pathways from the Draft Mathematics Framework



Long description: Diagram indicating three pathways of courses for Years 1 and 2 of high school and a cloud indicating a variety of course offerings for Years 3 and 4. The courses in Year 1 and Mathematics: Investigating and Connecting 1, Integrated 1 and Algebra 1. The courses in Year 2 and Mathematics: Investigating and Connecting 2, Integrated 2 and Geometry. The course in Years 3 and 4 are: MIC—Modeling with Functions, Statistics, Calculus with Trigonometry, Other, Pre-Calculus, Integrated 3, Algebra II and MIC—Data Science.

In the first two years of high school, the big ideas of mathematics fall into three main areas, which are ideally taught together rather than as separate courses. When the content is truly integrated, for example, students learning the content of functions through exciting data explorations, or analyzing the design of buildings with great cultural significance by studying and representing patterns of shapes and their transformations and vectors, then the content of high school comes to life. At this time, students can be learning to develop models and to use technological tools, such as geometry software, data modeling tools, such as CODAP, and programs that provide conceptual insights into computation, such as Desmos and Wolfram-Alpha.

Algebra and Functions

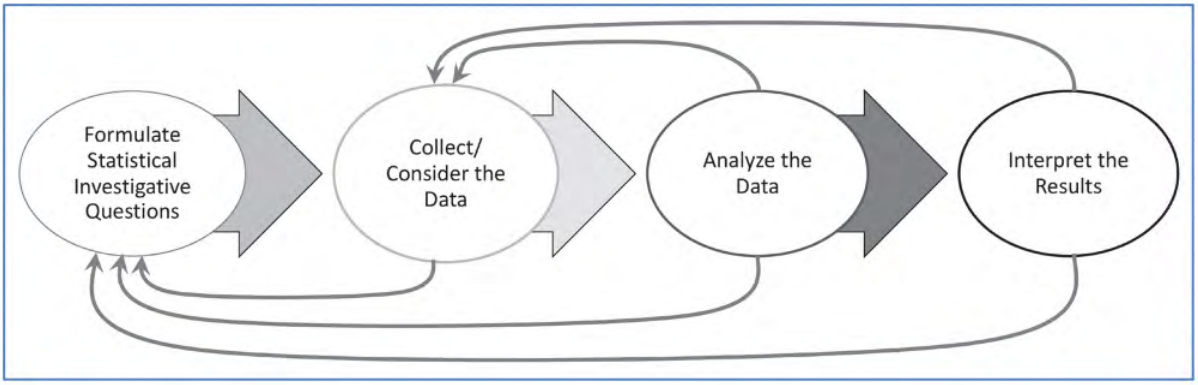
The number sense students developed in grades kindergarten through eight help students see the parallels between numbers (and how they interact) and functions, especially polynomials and rational functions. This area of mathematics should develop students' ability to recognize, represent, and solve problems involving relations among quantitative variables. Students can start to engage in the modelling of problems, using linear, quadratic, exponential, power, and polynomial functions. The investigations with this content, which fall under the area of "Exploring Changing Quantities" will help students to understand rates of change, growth, and decay functions, and many other topics important to solving problems in the world. As students investigate with the power of mathematical modeling, they will see the ways that they can use mathematics to make sense of the world and impact the future, two of the Drivers of Investigation. Many of the important algebraic topics can be taught through data investigations.

Data Literacy leading to Data Science

In the high school years, students develop their understanding of variability, learning how to measure and analyze variation. They can also be introduced to large and complex data sets and encouraged to ask their own questions of the data. Ideally, teachers will bring in data sets from their own communities, so that students can use mathematics to solve important problems that help their communities and develop their sense of mathematical agency (Berry et al., 2020). Randomization is an important high school understanding, leading to probability models and sample spaces. Technology plays an important role as it makes it possible for students to generate plots, regression functions, and correlation coefficients.

This is the beginning of moving from data literacy to the subject known as "data science" for students and a time when they can be using powerful technological tools to help visualize data distributions and analyze data. Data investigations, represented in Figure 9.2, involve many different areas of content, from within and outside mathematics, and students can be encouraged to report on their investigations, communicating their results with words, numbers, and data visualizations. The draft 2021 *Mathematics Framework* shares many ideas for data investigations that help students learn about social and racial injustices (such as redlining, voter suppression, wealth gap, and food insecurity), agriculture, the environment, healthcare, and other topics of importance for students in California.

Figure 9.2. GAISE Report 2020. (Franklin & Bargagliotti, 2020)



Visual and Geometric Reasoning

The third strand of the high school years with ideas from Discovering Shape and Space & Taking Wholes Apart, Putting Parts Together, is in visual and geometric reasoning. Students learn to construct and interpret mathematical models in visual and physical terms. They learn to describe patterns in shape, size, and location, representing patterns with drawings, coordinates, and vectors. Geometric ideas can be developed through experimentation and reasoning, while probabilistic ideas can be developed through geometric sample spaces.

English learners are encouraged to use their developing English and native language assets (e.g., cognates, morphological awareness) and draw on their prior knowledge. Teachers can examine text and tasks for key language forms and structures, and general as well as discipline-specific, high-utility academic vocabulary words linked to the big ideas and connections. Teachers can provide purposeful scaffolds and supports to engage English learners in sustained mathematical discourse in multiple contexts to build academic language and knowledge. Planned and “just-in-time” scaffolds and supports provide multiple entry points for meaning making and sharing of ideas in mathematical ways and include representations, expression starters and builders, and targeted and high-utility academic vocabulary and language structures (e.g., problems, explanations, arguments, descriptions, and connections). Teachers guide deconstruction and/or co-construction of problems, investigations, arguments, explanations, descriptions, and connections. Clear and precise expressions, as well as cohesive writing, support stronger communication of mathematical concepts and practices.

The following interview highlights an educator who is using digital tools to help students in this grade span express their thinking and collaborate with peers on problems, as well as to provide feedback and support as necessary.

Voices from the Field: Kristan Morales | Chaparral High School | Temecula, CA

With 25 years of experience in the classroom, math teacher Kristan Morales focuses on engagement, technology integration, and social-emotional learning. She continues to reevaluate and redesign her math instruction, pushing the envelope with what’s possible in math class in order to better serve her diverse learners.

Morales—who teaches geometry and pre-calculus and serves as a technology coach at Chaparral High School in the Temecula Valley Unified School District—has experienced high levels of student engagement, creativity, and learning outcomes.

How have you overcome the challenges of remote instruction, especially balancing synchronous and asynchronous learning experiences for your students?

For me, whether it's in-person or virtual, my dominant focus is always about student connections and connectivity. Granted, this has proven to be more challenging online. So, I knew right away that I would have to be intentional in creating opportunities to connect in virtual settings.

I created something I call "What's Up Weekly." It starts as a blank slideshow where every student creates a slide asynchronously. The students post their submission each week on a class Padlet [collaborative digital presentation software]. So, when I'm online with them, I refer to these slideshows and ask them to share. This is about creating community. I've learned so much about them, and they have, in turn, learned so much about one another.

Students buy into the relationship and the connection first, then into the math. One has to create and facilitate situations to hear students' voices. We have 90-minute classes, and there is no way that we are only going to listen to me talking. Some are reluctant, but I continue to create more ways for students to participate. We have such great tools now—all available to create these different avenues for students to be heard and for teachers to learn from students.

Even our traditional way of sharing our daily agenda has to be rethought. I now use a three-part Hyperdoc: explore, explain, and apply. Everyone can access this—students, parents, special education staff, and counselors.

In what ways are you combining analog and digital tools for distance learning?

There is no way around doing analog work in math. Math teachers have traditionally used notebooks to document student work and check for understanding or mastery. Well, we now can use very dynamic digital notebooks.

Math is built for analog and digital to co-exist and complement one another. For example, we solve problems on paper but can take pictures of them to document. I have my students work in teams and jigsaw the problems. They share with their teams using Jamboards [collaborative digital whiteboards] or Google Slides [collaborative digital presentation software].

There are so many ways to deploy digital tools with analog experiences. For example, while recently learning about radius and 2Pi, I asked my students to find a cylinder at home. It could be anything from lip gloss to a paper towel roll, coffee can, or skateboard wheel. As another example, we recently used household items and photography to study volume and students shared their work on Padlet. I have had success when my students do analog activities but then show their work digitally.

How do these digital tools used during remote instruction enhance what may be done in a traditional classroom setting?

For asynchronous times, I might focus on additional support. I may add a video of me thinking out loud while demonstrating something or working out a math problem. Many teachers will not make a mistake in their problem solving when creating a video. That will leave kids thinking that math is perfect, not messy. When in reality, we need to demonstrate the mistakes. When you make a mistake, neuroscience shows we are learning.

The tools available now can really improve the experience for learners. As an example, I use Desmos for graphing. This amazing free tool allows us to go much further and faster. Recently, we did a lesson using pendulums, and we collected the data in class using pendulums of different lengths. We then used our class data to curve fit the correct function using Desmos and our knowledge of functions. Once we found the best function to match our data, we made a prediction as to how much time it would take for a giant pendulum to swing, and our function from Desmos was very accurate.

We need to see end results more quickly and be able to visualize the learning. My students don't need to get bogged down in hand graphing. Geogebra is another free tool that is particularly useful for angles and relationships. Like Desmos, students are able to experience the dynamic properties in math. These tools have allowed students to see math in new and powerful ways. Technology doesn't replace analog but rather enhances the understanding and power of discovery for my students.

I really appreciate incorporating high quality tools that are free and available to all. I also really see value in tools that support all learners. For example, I think tools, such as Google Apps and Pear Deck [a formative assessment platform], are great because of the immersive reader or translation capabilities, making text and images larger and more.

I think tools that provide teachers with high-quality and real-time data and feedback on their students are important, too. Nearpod is a great formative assessment platform that provides teachers insight into what their students are thinking about, learning, or needing is useful. A recent Nearpod focused on special right triangles. Teachers know how to create content, but we need to continue to develop ways for all learners to engage in the content. We're not spending a lot of money on paper and copies any longer, so let's keep investing in technology and our students.

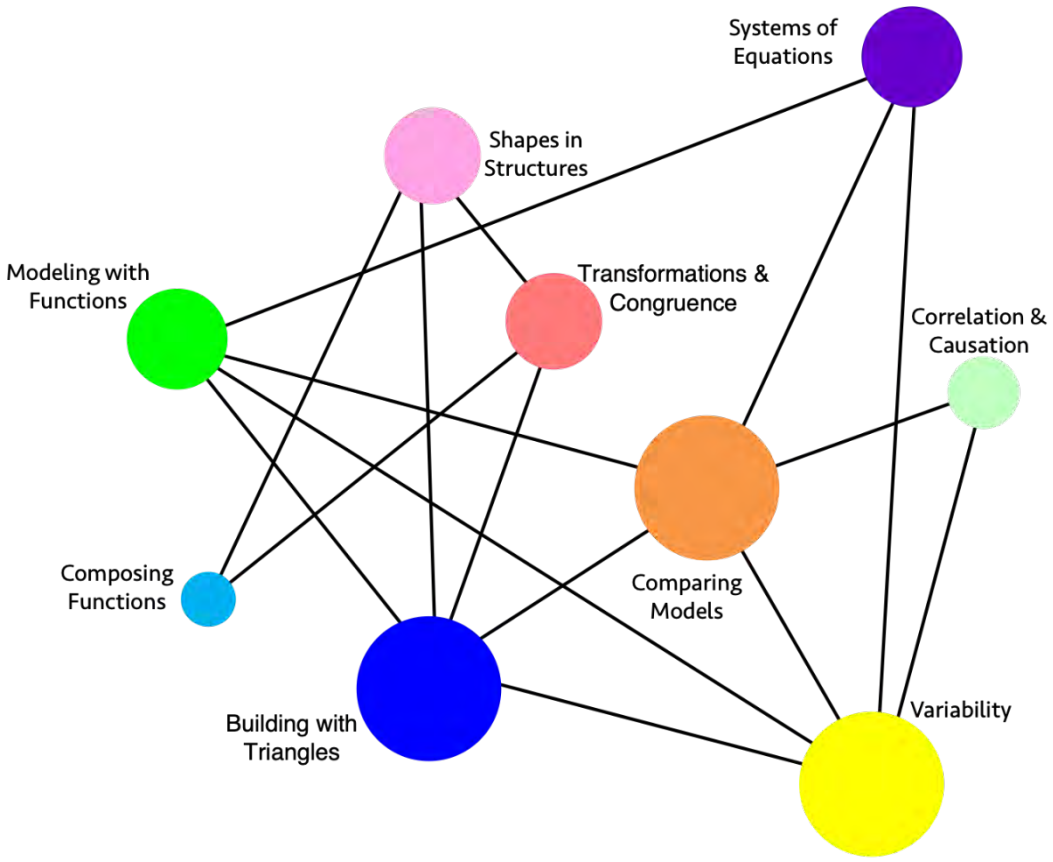
Figure 9.3. A Progression Chart of Big Ideas through Integrated 1 & 2

Content Connections	Big Ideas: Integrated 1	Big Ideas: Integrated 2
Communicating Stories with Data	Modeling with functions	The shape of distributions
Communicating Stories with Data	Comparing models	Geospatial data
Communicating Stories with Data	Variability	Probability modeling
Communicating Stories with Data	Correlation & causation	Experimental models and functions

Content Connections	Big Ideas: Integrated 1	Big Ideas: Integrated 2
Exploring Changing Quantities	Fraction relationships	The shape of distributions
Exploring Changing Quantities	Patterns inside numbers	Equations to predict & model
Exploring Changing Quantities	Generalizing with multiple representations	Experimental models & functions
Exploring Changing Quantities	Relationships between variables	Transformation & similarity
Taking Wholes Apart, Putting Parts Together	Model the world	Functions in the world
Taking Wholes Apart, Putting Parts Together	Nets & Surface Area	Polynomial identities
Taking Wholes Apart, Putting Parts Together	n/a	Function representations
Discovering shape and space	Nets & Surface Area	Circle relationships
Discovering shape and space	Distance & direction	Trig functions
Discovering shape and space	Graphing shapes	Transformation & similarity

Critical Areas of Instructional Focus

Figure 9.4. High School Integrated 1 Big Ideas



Long description: The graphic illustrates the connections and relationships of some high school integrated mathematics concepts. Direct connections include:

- Systems of Equations directly connects to: Variability, Comparing Models, Modeling with Functions
- Correlation & Causation directly connects to: Variability, Comparing Models
- Variability directly connects to: Correlation & Causation, Comparing Models, Systems of Equations, Modeling with Functions, Building with Triangles
- Building with Triangles directly connects to: Variability, Comparing Models, Transformations & Congruence, Shapes in Structures, Modeling with Functions
- Composing Functions directly connects to: Transformations & Congruence, Shapes in Structures

- Modeling with Functions directly connects to: Building with Triangles, Variability, Comparing Models, Systems of Equations
- Shapes in Structures directly connects to: Transformations & Congruence, Building with Triangles, Composing Functions
- Transformations & Congruence directly connects to: Building with Triangles, Composing Functions, Shapes in Structures
- Comparing Models directly connects to: Correlation & Causation, Variability, Building with Triangles, Modeling with Functions, Systems of Equations

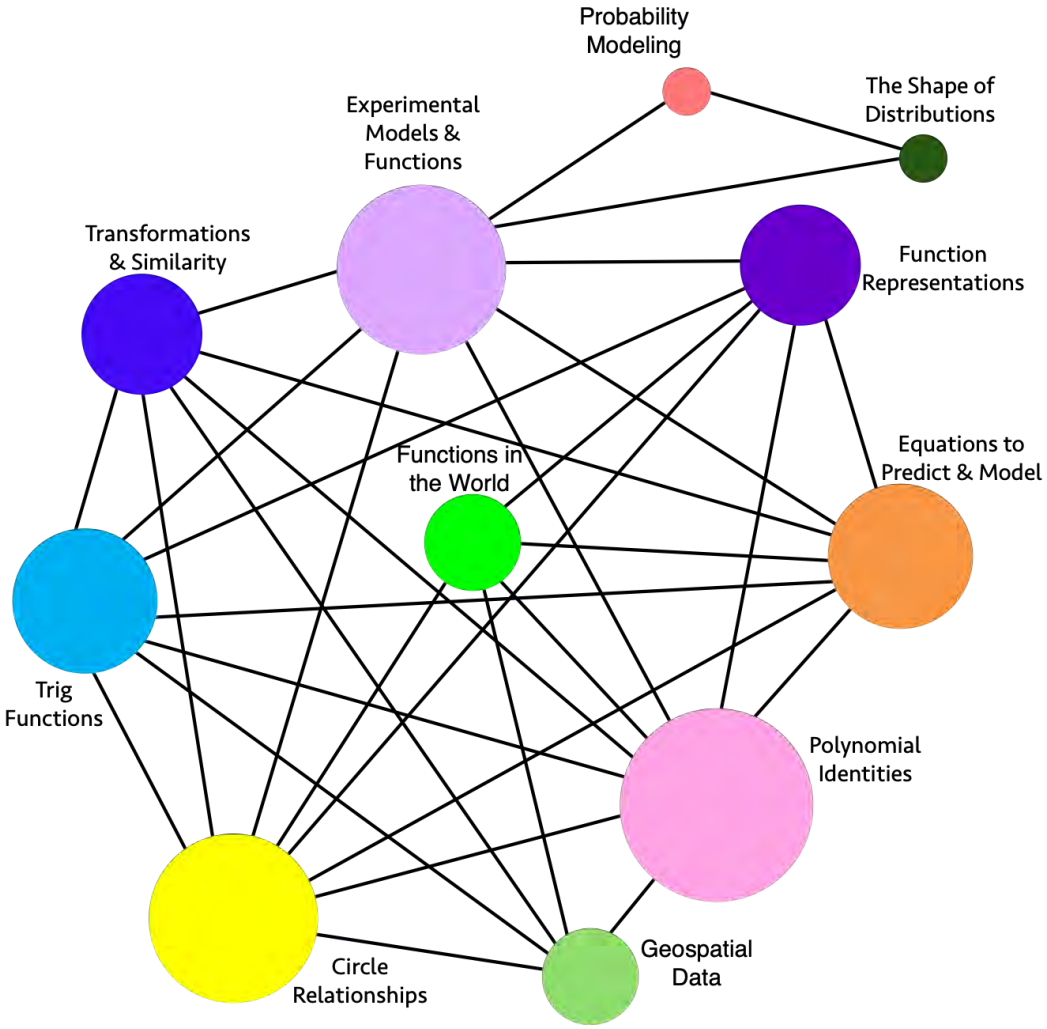
Figure 9.4a. High School Integrated 1 Content Connections, Big Ideas, and Standards

Content Connection	Big Idea	Integrated 1 Standards
Communicating Stories with Data & Exploring Changing Quantities	Modeling with Functions	**N-Q.1, N-Q.2, N-Q.3, A-CED.2, F-BF.1 ,F-IF.1, F-IF.2, F-IF.4, F-LE.5, S-ID.7, A-CED.1, A-CED.2, A-CED.3, A-SSE.1:** Build functions that model relationships between two quantities, including examples with inequalities; using units and different representations. Describe and interpret the relationships modeled using visuals, tables, and graphs.
Communicating Stories with Data & Exploring Changing Quantities	Comparing Models	**F-LE.1, F-LE.2, F-LE.3, F-IF.4, F-BF.1, F-LE.5, S-ID.7, S-ID.8, A-CED.1, A-CED.2, A-CED.3, A-SSE.1:** Construct, interpret, and compare linear, quadratic, and exponential models of real data, and use them to describe and interpret the relationships between two variables, including inequalities. Interpret the slope and constant terms of linear models, and use technology to compute and interpret the correlation coefficient of a linear fit.
Communicating Stories with Data & Exploring Changing Quantities	Variability	**S-ID.5, S-ID.6, S-ID.7, S-ID.1, S-ID.2, S-ID.3, S-ID.4, A-SSE.1:** Summarize, represent, and interpret data. For quantitative data, use a scatter plot and describe how the variables are related. Summarize categorical data in two-way frequency tables and interpret the relative frequencies.
Communicating Stories with Data	Correlation & Causation	**S-ID.9, S-ID.8, S-ID.7:** Explore data that highlights the difference between correlation and causation. Understand and use correlation coefficients, where appropriate. (see resource section for classroom examples).

Content Connection	Big Idea	Integrated 1 Standards
Exploring Changing Quantities & Taking Wholes Apart, Putting Parts Together	Systems of Equations	**A-REI.1, A-REI.3, A-REI.4, A-REI.5, A-REI.6, A-REI.7, A-REI.10, A-REI.11, A-REI.12, NQ.1, A-SEE.1:** Students investigate real situations that include data for which systems of 1 or 2 equations or inequalities are helpful, paying attention to units. Investigations include linear, quadratic, and absolute value. Students use technology tools strategically to find their solutions and approximate solutions, constructing viable arguments, interpreting the meaning of the results, and communicating them in multidimensional ways.
Taking Wholes Apart, Putting Parts Together	Composing Functions	**F-BF.3, F-BF.2, F-IF.3:** Build and explore new functions that are made from existing functions, and explore graphs of the related functions using technology. Recognize sequences are functions and are defined recursively.
Taking Wholes Apart, Putting Parts Together & Discovering Shape and Space	Shapes in Structures	**G-CO.6, C-CO.7, C-CO.8, G-GPE.4, G-GPE.5, G.GPE.7, F.BF.3:** Perform investigations that involve building triangles and quadrilaterals, considering how the rigidity of triangles and non-rigidity of quadrilaterals influences the design of structures and devices. Study the changes in coordinates and express the changes algebraically.
Taking Wholes Apart, Putting Parts Together & Discovering Shape and Space	Building with Triangles	**G-GPE.4, G-GPE.5, G-GPE.6, GPE.7, F-LE.1, F-LE.2, A-CED.2:** Investigate with geometric figures, constructing figures in the plane, relating the distance formula to the Pythagorean Theorem, noticing how areas and perimeters of polygons change as the coordinates change. Build with triangles and quadrilaterals, noticing positions and movement, and creating equations that model the changing edges using technology.
Discovering Shape and Space	Transformations & Congruence	**G-CO.1, G-CO.2, G-CO.3, G-CO.4, G-CO.5, G-CO.12, G-CO.13, G-GPE.4, G-GPE.5, G.GPE.7, F-BF.3:** Explore congruence of triangles, including quadrilaterals built from triangles, through geometric constructions. Investigate transformations in the plane. Use geometry software to study transformations, developing definitions of rotations, reflections, and translations in terms of angles, circles, perpendicular lines, and parallel lines. Express translations algebraically.

Critical Areas of Instructional Focus

Figure 9.5. High School Integrated 2 Big Ideas



Long description: The graphic illustrates the connections and relationships of some high school integrated mathematics concepts. Direct connections include:

- Function Representations directly connects to: Equations to Predict & Model, Polynomial Identities, Circle Relationships, Functions in the World, Trig Functions, Experimental Models & Functions
- Equations to Predict & Model directly connects to: Polynomial Identities, Circle Relationships, Trig Functions, Functions in the World, Transformations & Similarity, Experimental Models & Functions, Function Representations
- Polynomial Identities directly connects to: Geospatial Data, Circle Relationships, Trig Functions, Transformations & Similarity, Functions in the World, Experimental Models & Functions, Function Representations, Equations to Predict & Model

- Geospatial Data directly connects to: Polynomial Identities, Functions in the World, Transformations & Similarity, Trig Functions, Circle Relationships
- Circle Relationships directly connects to: Geospatial Data, Polynomial Identities, Trig Functions, Transformations & Similarity, Functions in the World, Experimental Models & Functions, Function Representations, Equations to Predict & Model
- Trig Functions directly connects to: Geospatial Data, Circle Relationships, Polynomial Identities, Transformations & Similarity, Experimental Models & Functions, Function Representations, Equations to Predict & Model
- Transformations & Similarities directly connects to: Geospatial Data, Circle Relationships, Trig Functions, Polynomial Identities, Experimental Models & Functions, Equations to Predict & Model
- Experimental Models & Functions directly connects to: Circle Relationships, Trig Functions, Transformations & Similarity, Polynomial Identities, Function Representations, Equations to Predict & Model, The Shape of Distributions, Probability Modeling
- Probability Modeling directly connects to: The Shape of Distributions, Experimental Models & Functions
- The Shape of Distributions directly connects to: Probability Modeling, Experimental Models & Functions
- Functions in the world directly connects to: Functions Representations, Equations to Predict & Model, Polynomial Identities, Geospatial Data, Circle Relationships

Figure 9.5a. High School Integrated 2 Content Connections, Big Ideas, and Standards

Content Connection	Big Idea	Integrated 2 Standards
Communicating Stories with Data	Probability Modeling	**S.CP.1, S.CP.2, S.CP.3, S.CP.4, S.CP.5, S-IC.1, S-IC.2, S-IC.3, S.MD.6, S.MD.7:** Explore and compare independent and conditional probabilities, interpreting the output in terms of the model. Construct and interpret two-way frequency tables of data as a sample space to determine if the events are independent, and use the data to approximate conditional probabilities. Examples of topics include product and medical testing, and player statistics in sports.

Content Connection	Big Idea	Integrated 2 Standards
Communicating Stories with Data	The shape of distributions	**S-IC.1, S-IC.2, S-IC.3, S-ID.1, S-ID.2, S-ID.3, S-MD.1, S-MD.2:** Consider the shape of data distributions to decide on ways to compare the center and spread of data. Use simulation models to generate data, and decide if the model produces consistent results.
Communicating Stories with Data & Exploring Changing Quantities	Experimental Models & Functions	**S-ID.1, S-ID.2, S-ID.3, S- ID.6, S-ID.7, S-IC.1, S-IC.2, S-IC.3, A-CED.1, A-REI.1, A-REI.4, F-IF.2, F-IF.3, F-IF.4, F-BF.1, F-LE.1, F-TF.2, A-APR.1:** Conduct surveys, experiments, and observational studies - drawing conclusions and making inferences. Compare different data sources and what may be most appropriate for the situation. Create and interpret functions that describe the relationships, interpreting slope and the constant term when linear models are used. Include quadratic and exponential models when appropriate, and understand the meaning of outliers.
Communicating Stories with Data	Geospatial Data	**G-MG.1, G-MG.2, G-MG.3, F-LE.6, G-GPE.4, G-GPE.6, G-SRT.5, G-CO.1, G-CO.2, G-CO.12, G-C.2, G-C.5:** Explore geospatial data that represent either locations (e.g., maps) or objects (e.g., patterns of people's faces, road objects for driverless cars) and connect to geometric equations and properties of common shapes. Demonstrate how a computer can measure the distance between two points using geometry and then account for constraints (e.g., distance and then roads for directions) and multiple points with triangulation. Model what shapes and geometric relationships are most appropriate for different situations.
Exploring Changing Quantities	Equations to Predict & Model	**A-CED.1, A-CED.2, A-REI.4, A-REI.1, A-REI.2, A-REI.3, F.IF.4, F.IF.5, F.IF.6, F.BF.1, F.BF.3, A-APR.1:** Model relationships that include creating equations or inequalities, including linear, quadratic, and absolute value. Use the equations or inequalities to make sense of the world or to make predictions, understanding that solving equations is a process of reasoning. Make sense of the real situation, using multiple representations, such as graphs, tables, and equations.

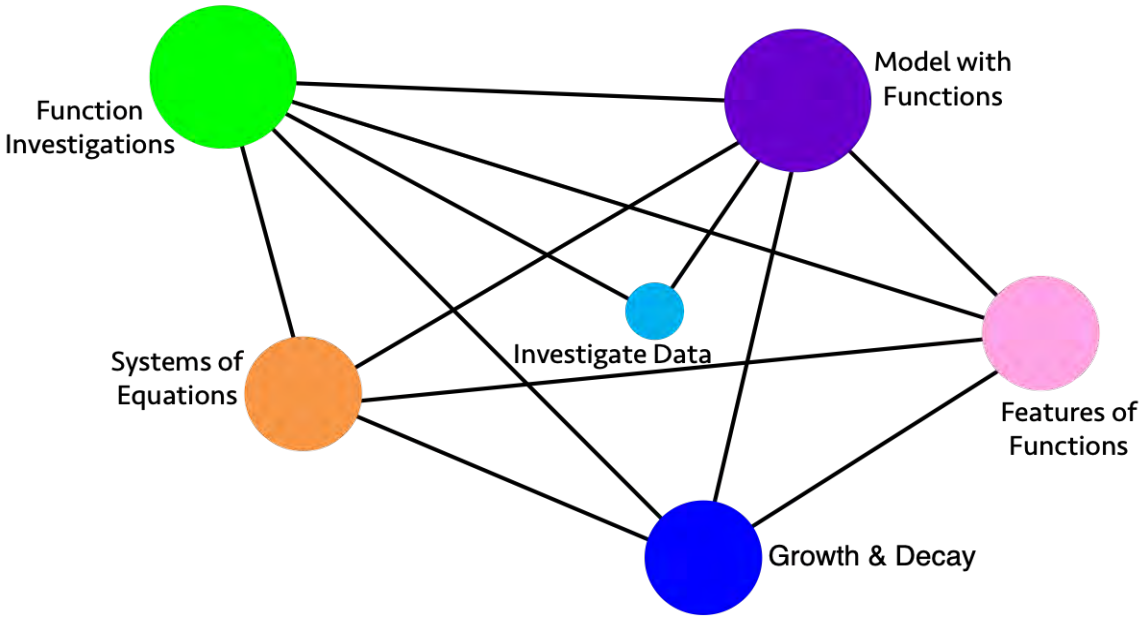
Content Connection	Big Idea	Integrated 2 Standards
Exploring Changing Quantities & Discovering Shape and Space	Transformations & Similarity	**G-SRT.1, G- SRT.2, G-SRT.3, , A-CED.2, G-GPE.4, F-BF.3, F-IF.4, A-APR.1:** Explore similarity and congruence in terms of transformations, noticing the changes dilations have on figures and the effect of scale factors. Discover how coordinates can be used to describe translations, rotations, and reflections, and generalize findings to model the transformations using algebra.
Taking Wholes Apart, Putting Parts Together	Functions in the World	**F-LE.3, F-LE.6, F-IF.9, N-RN.1**, **N-RN.2**, **A-SSE.1**, **A-SSE.2:** Apply quadratic functions to the physical world, such as motion of an object under the force of gravity. Produce equivalent forms of the functions to reveal zeros, max and min, and intercepts. Investigate how functions increase and decrease, and compare the rates of increase or decrease to linear and exponential functions.
Taking Wholes Apart, Putting Parts Together	Polynomial Identities	**A-SSE.1, A-SSE.2, A-APR.1, A-APR.3, A-APR.4, G-GMD.2, G-MG.1, S-IC.1, S-MD.2:** Prove polynomial identities, and use them to describe numerical relationships, using a computer algebra system to rewrite polynomials. Use the binomial theorem to solve problems, appreciating the connections with Pascal's triangle.
Taking Wholes Apart, Putting Parts Together	Functions Representations	**F-IF.4, F-IF.5, F-IF.6, F-IF.7, F-IF.8, F-IF.9, N-RN.1, N-RN.2, F-LE.3, A-APR.1:** Interpret functions representing real world applications in terms of the data understanding key features of graphs, tables, domain, and range. Compare properties of two functions each represented in different ways (algebraically, graphically, numerically, in tables or by written/verbal descriptions).
Discovering Shape and Space	Circle Relationships	**G-C.1, G-C.2, G-C.3, G-C.4, G-C.5, G-GPE.1, A-REI.7, A-APR.1, F-IF.9:** Investigate the relationships of angles, radii, and chords in circles, including triangles and quadrilaterals that are inscribed and circumscribed. Explore arc lengths and areas of sectors using the coordinate plane. Relate the Pythagorean Theorem to the equation of the circle given the center and radius, and solve simple systems where a line intersects the circle.
Discovering Shape and Space	Trig Functions	**G-TF.2, G-GPE.1, G-GMD.2, G-MG.1, A-APR.1:** Model periodic phenomena with trigonometric functions. Translate between geometric descriptions and the equation for a conic section. Visualize relationships between 2-D and 3-D objects.

Figure 9.6. A Progression Chart of Big Ideas through Algebra and Geometry

Content Connections	Big Ideas: Algebra	Big Ideas: Geometry
Communicating Stories with Data	Investigate data	Fairness in data
Communicating Stories with Data	Model with functions	Geospatial data
Communicating Stories with Data	n/a	Probability modeling
Exploring Changing Quantities	Function investigations	Trig explorations
Exploring Changing Quantities	Systems of equations	Triangle congruence
Exploring Changing Quantities	Features of functions	Triangle problems
Exploring Changing Quantities	n/a	Circle relationships
Exploring Changing Quantities	n/a	Points & slopes
Taking Wholes Apart, Putting Parts Together	Growth & decay	Triangle congruence
Taking Wholes Apart, Putting Parts Together	n/a	Transformations
Discovering shape and space	Model with functions	Triangle congruence
Discovering shape and space	Investigate data	Transformations
Discovering shape and space	n/a	Congruence theorems
Discovering shape and space	n/a	Circle relationships
Discovering shape and space	n/a	Geometric models

Critical Areas of Instructional Focus

Figure 9.7. High School Algebra Big Ideas



Long description: The graphic illustrates the connections and relationships of some high school algebra mathematics concepts. Direct connections include:

- Model with Functions directly connects to: Features of Functions, Growth & Decay, Investigate Data, Systems of Equations, Function Investigations
- Features of Functions directly connects to: Growth & Decay, Systems of Equations, Function Investigations, Model with Functions
- Growth & Decay directly connects to: Features of Functions, Model with Functions, Function Investigations, Systems of Equations
- Systems of Equations directly connects to: Growth & Decay, Features of Functions, Model with Functions, Function Investigations
- Function Investigations directly connects to: Model with Functions, Features of Functions, Growth & Decay, Investigate Data, Systems of Equations
- Investigate Data directly connects to: Model with Functions, Function Investigations

Figure 9.7a. High School Algebra Content Connections, Big Ideas, and Standards

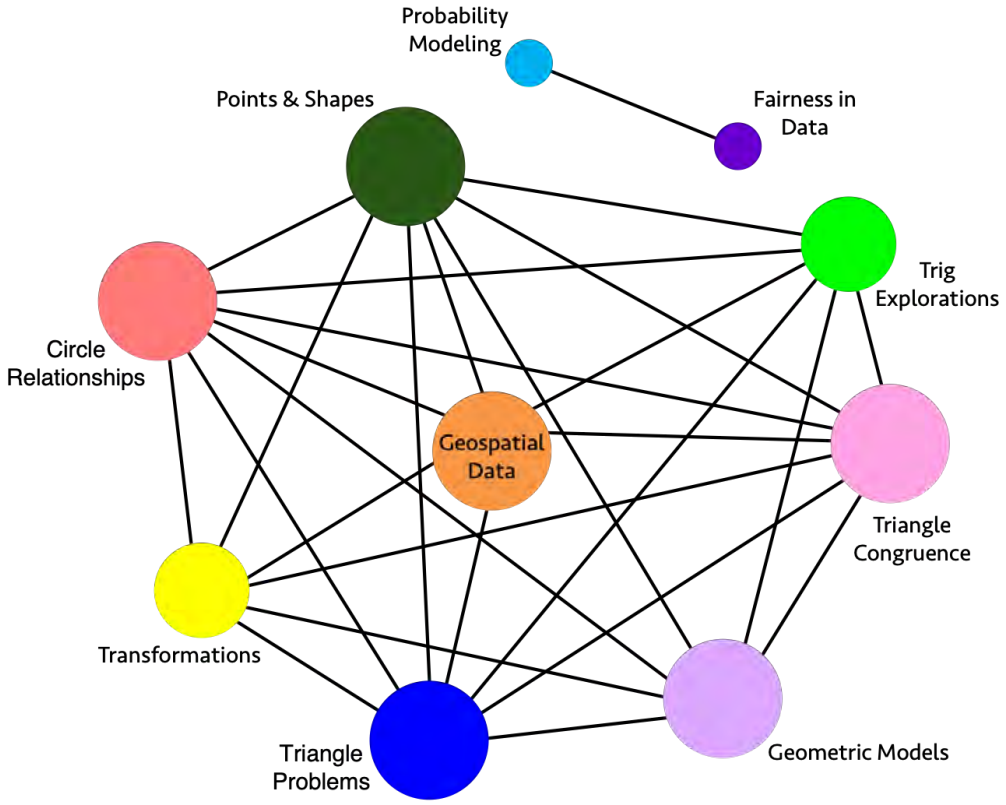
Content Connection	Big Idea	Algebra Standards
Communicating Stories with Data & Discovering Shape and Space	Investigate Data	**S-ID.1, S-ID.2, S-ID.3, S-ID.6:** Represent data from two or more data sets with plots, dot plots, histograms, and box plots, comparing and analyzing the center and spread, using technology, and interpreting the results. Interpret and compare data distributions using center (median, mean) and spread (interquartile range, standard deviation) through the use of technology. ● Students have opportunities to explore and research a topic of interest and meaning to them, using the statistical methods, tools, and representations. ● Have students consider how different, competing interpretations can be made from different audiences, histories, and perspectives. ● Allow students to develop follow-up questions to investigate, spurred by the original data set.
Communicating Stories with Data & Discovering Shape and Space	Model with Functions	**F-IF.1, F-IF.2, F-IF.4, F-IF.5, F-IF.6, F-IF.7, F-IF.8, F-IF.9, F-BF.1, F-BF.2, F-BF.4, F-LE.1, F-LE.2, S-ID.5, S-ID.6, S-ID.7, S-ID.8, S-ID.9:** Investigate data sets by table and graph and using technology; fit and interpret functions** to model the data between two quantities. Interpret information from the functions, noticing key features* and symmetries. Develop understanding of the meaning of the function and how it represents the data that it is modeling; recognizing possible associations and trends in the data - including consideration of the correlation coefficients of linear models. ● Students can disaggregate data by different characteristics of interest (populations for example), and compare slopes to examine questions of fairness and bias among groups. ● Students have opportunities to consider how to communicate relevant concerns to stakeholders and/or community members. ● Students can identify both extreme values (true outliers) and data errors, and how the inclusion or exclusion of these observations may change the function that would most appropriately model the data. *intercepts, slope, increasing or decreasing, positive or negative ** functions include linear, quadratic and exponential

Content Connection	Big Idea	Algebra Standards
Exploring Changing Quantities	Systems of Equations	**A-REI.1, A-REI.3, A-REI.4, A-REI.5, A-REI.6, A-REI.7, A-REI.10, A-REI.11, A-REI.12, NQ.1, A-SEE.1, F-LE.1, F-LE.2:** Students investigate real situations that include data for which systems of 1 or 2 equations or inequalities are helpful, paying attention to units. Investigations include linear, quadratic, and absolute value. Students use technology tools strategically to find their solutions and approximate solutions, constructing viable arguments, interpreting the meaning of the results, and communicating them in multidimensional ways.
Exploring Changing Quantities	Function investigations	**F-IF.1, F-IF.2, F-IF.4, F-IF.5, F-IF.6, F-IF.7, F-IF.8, F-IF.9, F-BF.1, F-BF.2, F-BF.4, S-ID.5, S-ID.6, S-ID.7, S-ID.8, S-ID.9, F-LE.1, F-LE.2:** Students investigate data sets by table and graph and using technology; such as earthquake data in the region of the school; they fit and interpret functions to model the data between two quantities and consider the meaning of inverse relationships. Students interpret information from the functions, noticing key features* and symmetries. Students develop understanding of the meaning of the function and how it represents the data that it is modeling; they recognize possible associations and trends in the data - including consideration of the correlation coefficients of linear models. *one to one correspondence, intercepts, slope, increasing or decreasing, positive or negative
Exploring Changing Quantities	Features of Functions	**A-SSE.3, F-IF.3, F-IF.4, F-LE.1, F-LE.2, F-LE.6:** Students investigate changing situations that are modeled by quadratic and exponential forms of expressions and create equivalent expressions to reveal features* that help understand the meaning of the problem and situation being investigated. (driver of investigation 1, making sense of the world) Investigate patterns, such as the Fibonacci sequence and other mathematical patterns, that reveal recursive functions. *Factored form to reveal zeros of a quadratic function, standard form to reveal the y-intercept, vertex form to reveal a maximum or minimum.

Content Connection	Big Idea	Algebra Standards
Taking Wholes Apart, Putting Parts Together	Growth & Decay	**F-LE.1, F-LE.2, F-LE.3, F-LE.5, F-LE.6, F-BF.1, F-BF.2, F-BF.3, F-BF.4, F-IF.4, F-IF.5, F-IF.9, NQ.1, A-SEE.1:** Investigate situations that involve linear, quadratic, and exponential models, and use these models to solve problems. Recognize linear functions grow by equal differences over equal intervals; exponential functions grow by equal factors over equal intervals, and functions grow or decay by a percentage rate per unit interval. Interpret the inverse of functions, and model the inverse in graphs, tables, and equations.

Critical Areas of Instructional Focus

Figure 9.8 High School Geometry Big Ideas



Long description: The graphic illustrates the connections and relationships of some high school geometry mathematics concepts. Direct connections include:

- Probability Modeling directly connects to: Fairness in Data
- Fairness in Data directly connects to: Probability Modeling
- Trig Explorations directly connects to: Triangle Congruence, Geometric Models, Triangle Problems, Geospatial Data, Circle Relationships, Points & Shapes
- Triangle Congruence directly connects to: Geometric Models, Triangle Problems, Transformations, Geospatial Data, Circle Relationships, Points & Shapes, Trig Explorations
- Geometric Models directly connects to: Triangle Problems, Transformations, Circle Relationships, Points & Shapes, Trig Explorations, Triangle Congruence
- Triangle Problems directly connects to: Geometric Models, Triangle Congruence, Transformations, Geospatial Data, Circle Relationships, Points & Shapes, Trig Explorations
- Transformations directly connects to: Geometric Models, Triangle Problems, Triangle Congruence, Geospatial Data, Circle Relationships, Points & Shapes
- Circle Relationships directly connects to: Geometric Models, Triangle Problems, Transformations, Geospatial Data, Triangle Congruence, Points & Shapes, Trig Explorations
- Points & Shapes directly connects to: Geometric Models, Triangle Problems, Transformations, Geospatial Data, Circle Relationships, Triangle Congruence, Trig Explorations
- Geospatial Data: Triangle Problems, Transformations, Triangle Congruence, Circle Relationships, Points & Shapes, Trig Explorations

Figure 9.8a. High School Geometry Content Connections, Big Ideas, and Standards

Content Connection	Big Idea	Geometry Standards
Communicating Stories with Data	Probability Modeling	**S-CP.1, S-CP.2, S-CP.3, S-CP.4, S-CP.5, S-IC.1, S-IC.2, S-IC.3, S-MD.6, S-MD.7:** Explore and compare independent and conditional probabilities, interpreting the output in terms of the model. Construct and interpret two-way frequency tables of data as a sample space to determine if the events are independent and use the data to approximate conditional probabilities. Examples of topics include product and medical testing, and player statistics in sports.

Content Connection	Big Idea	Geometry Standards
Communicating Stories with Data	Fairness in Data	**S-MD.6, S-MD.7:** Determine fairness and make decisions based on evaluation of outcomes. Allow students to explore fairness by researching topics of interest, analyzing data from two-way tables. Provide opportunities for students to make meaningful inference, and communicate their findings to community or other stakeholders.
Communicating Stories with Data	Geospatial Data	**G-MG.1, G-MG.2, G-MG.3, F-LE.6, G-GPE.4, G-GPE.6, G-SRT.5, G-CO.1, G-CO.2, G-CO.12, G-C.2, G-C.5:** Explore geospatial data that represent either locations (e.g., maps) or objects (e.g., patterns of people's faces, road objects for driverless cars), and connect to geometric equations and properties of common shapes. Demonstrate how a computer can measure the distance between two points using geometry, and then account for constraints (e.g., distance and then roads for directions) and multiple points with triangulation. Model what shapes and geometric relationships are most appropriate for different situations.
Exploring Changing Quantities	Trig Explorations	**G-SRT.1, G-SRT.2, G-SRT.3, G-SRT.5, G-SRT.9, G-SRT.10, G-SRT.11, GPE.7. G-C.2, G-C.4:** Investigate properties of right triangle similarity and congruence and the relationships between sine, cosine, and tangent; exploring the relationship between sine and cosine of complementary angles, and apply that knowledge to problem solving situations. Students recognize the role similarity plays in establishing trigonometric functions, and they use trigonometric functions to investigate situations. Using dynamic geometric software students investigate similarity and trigonometric identities to derive the Laws of Sines and Cosines and use the laws to solve problems.
Exploring Changing Quantities & Taking Wholes Apart, Putting Parts Together & Discovering Shape and Space	Triangle Congruence	**G-CO.1, G-CO.2, G-CO.7, G-CO.8, G-CO.9, G-CO.10, G-CO.11, G-CO.12, G-CO.13, G-SRT.5:** Investigate triangles and their congruence over rigid transformations verifying findings using triangle congruence theorems (ASA, SSS, SAS, AAS, and HL) and other geometric properties, including vertical angles, angles created by transversals across parallel lines, and bisectors.

Content Connection	Big Idea	Geometry Standards
Exploring Changing Quantities	Triangle Problems	**G-SRT.4, G-SRT.5, G-SRT.6, G-SRT.8, G-C.2, G-C.4, G-CO.12:** Understand and use congruence and similarity when solving problems involving triangles, including trigonometric ratios. Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems using dynamic geometric software.
Exploring Changing Quantities & Discovering Shape and Space	Circle Relationships	**G-C.1, G-C.2, G-C.3, G-C.4, G-CO.1, G-CO.12, G-CO.13, G-GPE.1:** Investigate similarity in circles and relationships between angle measures and segments, including inscribed angles, radii, chords, central angles, inscribed angles, circumscribed angles, and tangent lines using dynamic geometric software.
Exploring Changing Quantities	Points & Shapes	**G-GPE.1, G-GPE.2, G-GPE.4, G-GPE.5, G-GPE.6, G-GPE.7, G-CO.1, G-CO.12, G-C.2, G-C.4:** Solve problems involving geometric shapes in the coordinate plane using dynamic geometric software to apply the distance formula, Pythagorean Theorem, slope, and similarity rules in solving problems. • Investigate equations of circles and how coefficients in the equations correspond to the location and radius of the circles. • Find areas and perimeters of triangles and rectangles in the coordinate plane.
Taking Wholes Apart, Putting Parts Together & Discovering Shape and Space	Transformations	**G-CO.1, G-CO.3, G-CO.4, G-CO.5, G-CO.12**: Understand rotations, reflections, and translations of regular polygons, quadrilaterals, angels, circles, and line segments. Identify transformations, through investigation, that move a figure back onto itself, using that process to prove congruence.

Content Connection	Big Idea	Geometry Standards
Discovering Shape and Space	Geometric Models	**G-GMD.1, G-GMD.3, G-GMD.4, G-GMD.5, G-MG.1, G-MG.12, G-MG.13, SRT.5, G-CO.12, G-C.2, G-C.4:** Apply geometric concepts in modeling situations to solve design problems using dynamic geometric software. ● Investigate 3-D shapes and their cross sections. ● Use volume, area, circumference, and perimeter formulas. ● Understand and apply Cavalieri's principle. ● Investigate and apply scale factors for length, area, and volume.

Note: Digital tools and resources to support the implementation of the strategies and considerations identified in this section are included in the Appendices. Please also note that digital tools referenced in Appendix B include free and premium options, and their inclusion in the guidance are largely derived from interviews with California educators. LEAs exercise local control when selecting digital tools and resources. Resources and digital tools included in the guide should not be considered endorsements by the CDE.

Section C: Standards Guidance for English Language Arts, Literacy, and English Language Development

Chapter 10: Digital Learning in English Language Arts, Literacy, and English Language Development

Chapter 1 presented a wide range of general recommendations associated with effective teaching in a digital learning environment. The information in this chapter provides several additional suggested strategies for a focused subset of topics most relevant to English Language Arts (ELA) and/or English Language Development (ELD) instruction and aligned to the ISTE Standards for Educators and National Standards for Quality Online Teaching, which were introduced in Chapter 1.

When implementing the strategies in this chapter, educators are encouraged to create ongoing partnerships with family members and caregivers who help their students with their learning. This cultivates a robust support system for students as they work through assignments that may be challenging. Educators might invite family and caregivers to online office hours and/or one-on-one meetings with students to identify interventions and resources and further strengthen the support system.

Preparing and Supporting Teachers for Digital Teaching

Professional Responsibilities

As referenced in Chapter 1, both the ISTE Standards for Educators and National Standards for Quality Online Teaching emphasize that it is vitally important for teachers to stay informed about the best digital learning practices by participating in quality professional development. In addition to the professional learning opportunities listed in Chapter 1 *Professional Responsibilities*, the National Council of Teachers of English provides several focused resources—including books, articles, and journals—to build teachers' knowledge of new digital tools and strategies they can use in online or blended learning settings.[204] These resources are organized by grade band and feature ideas for specific activities for students.

Teacher Presence

In Chapter 1, both the ISTE Standards for Educators and National Standards for Quality Online Teaching emphasize the use of digital tools to foster teacher-student relationships that build students' sense of belonging within the school community. This focus on relationships is especially important in distance learning, where teacher presence is critical to helping students feel best supported for their success. This does not suggest that teachers have to be connected to students synchronously all of the time. Instead, it can be achieved through a personalized note, quick feedback on an

[204] https://ncte.org/resources/resources-virtual-instruction-online-learning/

assignment, a private message of encouragement during group time, or email messages.

In the learning environment specifically, digital tools for ELA that allow teachers and peers to communicate feedback via video and/or audio help make the learning experience much more personable than purely text-based feedback. Additionally, videos allow students to stop and replay the content if they missed information the first time they heard it.

Digital Citizenship

Digital citizenship, as one of the core tenets of both the ISTE Standards for Educators and National Standards for Quality Online Teaching, calls on teachers to model, guide, and encourage legal, ethical, and safe behavior related to students' technology use. Additionally, the CDE School Library Standards provide guidance to students for accessing, evaluating, and using information as well as to teachers for integrating information literacy skills into all areas of learning.[205] Chapter 1 presented the DigCitCommit competencies[206] as a framework through which teachers may consider reinforcing a comprehensive set of digital citizenship skills.

The ELA content area provides rich opportunities for practicing the "Informed" competency of the DigCitCommit framework—"I evaluate the accuracy, perspective, and validity of digital media and social posts." Sources of information for this type of evaluation by students might include print materials, e-books, databases, websites, and internet search results. Reinforcing this competency complements the research and media skills currently incorporated in the College and Career Readiness (CCR) Anchor Standards of the California State Standards for ELA and Literacy:[207]

> Students need the ability to gather, comprehend, evaluate, synthesize, and summarize information and ideas, to conduct original research to answer questions or solve problems, and to analyze and create a high volume and extensive range of print and nonprint texts in media forms old and new.

By giving students ample opportunities to reinforce these information and media literacy skills, students are empowered to navigate the information age and beyond. Suggested strategies for helping students practice this skill include the following:

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[205] https://www.cde.ca.gov/be/st/ss/documents/librarystandards.pdf

[206] https://digcitcommit.org/

[207] https://www.cde.ca.gov/be/st/ss/documents/finalelaccssstandards.pdf

- Hold a whole-group discussion about how to evaluate resources.[208,209] Working with the whole class, students can first reflect on how they typically search for information. Building on that discussion, the teacher might add ways for students to evaluate sources more effectively. The teacher can use Zoom [video conferencing tool] to facilitate breakout rooms where students can look at specific resources and make collaborative discussions as to whether or not they would use them and why. This process allows students to reinforce digital citizenship skills, while applying ELA/ELD skills of listening and speaking.
- Provide students with a checklist, such as this list of questions from Edutopia,[210] to confirm the authenticity and validity of online resources. Older students can help develop the list or evaluate an existing list for gaps.
- Ask students to find online articles about the same event that present different facts. Use this as an opportunity to discuss heuristics and fallacies, such as confirmation bias. Some sample questions could include the following:
    - How do we respond to information or evidence that contradicts our beliefs or assumptions?
    - How can confirmation bias influence the way people select and respond to information?
    - How does confirmation bias affect our ability to judge information accuracy?
- Develop a lesson in which students compare news from varied sources to identify and illustrate media bias.

Furthermore, ELA instruction may incorporate the "Alert" competency of the DigCitCommit framework—"I am aware of my online actions, and know how to be safe and create safe spaces for others online." Suggested strategies to help students practice this skill include the following:

- Build a "Digital Citizenship Graphic Organizer" that asks students to reflect on their digital footprint.[211] To raise students' awareness of varying perspectives and to reinforce the importance of remaining mindful of their actions in the online learning environment, teachers may have students use the "share screen"

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[208] https://www.youtube.com/watch?v=2VjZX-4Sfgw

[209] https://www.youtube.com/watch?v=mozpgvMm4zo

[210] https://www.edutopia.org/blog/evaluating-quality-of-online-info-julie-coiro

[211] https://www.commonsense.org/education/digital-citizenship/topic/digital-footprint-and-identity

function of a video conferencing tool to have students share and discuss their reflections in the graphic organizer.

- Prompt students to reflect on their digital identity. In this writing or discussion exercise, students can first reflect on a well-known person (such as a music artist or leader they admire) and relate how the individual's digital identity has impacted the artist/leader. From there, students can reflect on the impact of their own digital identity.
- Hold a group discussion on what it means to be positive, socially responsible, and empathetic online. What does it look like? What does it sound like? Brainstorm ways that students can practice these behaviors.
- Identify an opportunity to model the use of posting to social media and perform a "think aloud" to craft a post.

Teachers will find additional ideas for ELA/ELD lessons for digital citizenship in resources, such as Common Sense Media[212] and Tech InCtrl.[213] Refer to *Digital Citizenship* in Chapter 1 to learn about more strategies.

Data-Informed Instruction

Both the ISTE Standards for Educators and National Standards for Quality Online Teaching emphasize the importance of the teacher's use of ongoing data to inform instruction. Within the context of ELA/ELD, there are many ways digital tools can be used for formative assessments to help determine pedagogical effectiveness. By analyzing formative data, the teacher is also able to determine individuals or groups in need of additional support or acceleration and move toward more individualized instruction.

As mentioned in Chapter 2, assessment *for* learning allows teachers to take a glimpse at students' understanding of specific concepts frequently before, during, or following instruction.

This may be achieved through written work, such as synchronous entrance slips and asynchronous exit slips, or quick "check for understanding" questions to gauge student comprehension to adjust the speed of instruction accordingly. Online polling is another way teachers can quickly assess where students are with their understanding of a concept.

For writing projects, students might meet with teachers through virtual check-ins and reflect on their progress to identify next steps in their writing process. Teachers can create rubrics, such as a know/show chart (see Chapter 2, Figure 2.3) built in Google Forms [an online survey tool], that students can use to guide their self-assessment.

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[212] https://www.commonsensemedia.org/search/digital citizenship ela

[213] https://teachinctrl.org/english-language-arts/

Additionally, students can write in a shared document so that teachers can actively follow their progress to provide ongoing, supportive feedback and notes to help bolster students as they continue their writing process.

Assessment can also be varied and provide an opportunity to build student agency by incorporating choice boards. The choice boards can include options for writing activities, such as journal entries, letters, and postcards. Students can also use digital tools, such as Jamboard [collaborative digital whiteboard] or Padlet [online brainstorming tools] to create visual representations of their knowledge through picture collages and drawings, as well as video and/or audio recordings, using cell phones, slide shows, or cameras. Refer to *Data-Informed Instruction* in Chapter 1, as well as Chapter 2, to learn about more strategies.

Designing Meaningful Digital Learning Experiences

Aggregating Quality Synchronous vs. Asynchronous Instructional Time

Both the ISTE Standards for Educators and National Standards for Quality Online Teaching call on educators to design learning experiences that are best-suited for the specific context, such as deciding what information is better conveyed in real-time (synchronous) or without direct, simultaneous interaction (asynchronous).[214]

As mentioned in Chapter 1, when meeting synchronously, it is advised to present content as concisely as possible and dedicate the majority of the time to engage in active learning activities. In the context of ELA/ELD, these might include, but not be limited to, the following:

- Interactive Read-alouds: When meeting synchronously with students for read-alouds activities to model pitch, tone, pace, and volume, teachers can invite students to read-aloud as well. After each page, teachers can pause, ask questions of students to check for listening and comprehension, and ask students to provide comments and interpretations based on what is happening in the story. In this way, students are invited to practice their own speaking skills.
- Co-Created Virtual Vocabulary Walls: As students read the text asynchronously, teachers can ask students to identify words that they are curious about. Teachers can create a vocabulary wall using a shared document or digital graphic organizer (e.g., Padlet). When the class meets synchronously, the teacher and students can discuss what words are on the vocabulary wall. This shows students that they are not the only ones curious about or struggling with a certain word. This activity also gives students perspective on how others are relating to a term based on their cultural and experiential contexts.
- Connections Between Text to Self: As an optional activity, teachers can ask students to take pictures of their life experiences that are connected to what they are reading. Students can add their pictures to a shared digital space for the

[214] https://www.cde.ca.gov/ls/he/hn/guidanceplanning.asp

teacher to put together a collage. During the synchronous time together, students can reflect on why they took the picture they took, specifically relating it back to the readings.

- Echo Reading: During a synchronous session, teachers can invite students for an echo reading activity to increase fluency. When conducted in a large group, this can be done with students muted to avoid overlaps in audio. The teacher can also choose to do these echo readings with students individually.

- Presentations to Increase Fluency: Teachers can invite students to use digital tools to create interpretive presentations based on a story the class is reading. The student can create a version of the story based on their own lives, which can help them connect the text to their culture and experiences. The presentations can also increase students' fluency and provide students an opportunity to practice their listening and speaking skills.

- On-Demand Writing Prompts: During synchronous meetings, teachers can invite students to write in an electronic journal that students are keeping. While the students are writing, the teacher can interact in real time with students and provide encouraging comments and feedback.

- Students Teaching Peers: Invite students to teach their peers about certain concepts they are learning from their reading and writing practices. One of the best ways to learn something is to teach someone else (Koh, Lee, & Lim, 2018). Invite students to create informative and explanatory presentations or poster tutorials for other students. Teachers can record these tutorials (with permission from students and parents) and curate a collection of student-produced tutorials on a variety of topics, cultivating an ever-expanding library of tools that other students can use into the future. This activity also provides students a chance to take control of and have an empowered voice in their learning.

Asynchronous learning activities can include materials students need to review in order to prepare for synchronous time, such as short, teacher-created videos or audio files introducing lessons and background reading. Other activities include, but are not limited to, the following:

- Virtual Field Trips: To help bring stories to life, teachers can create virtual field trips for their students to explore a setting in which a story takes place.[215]

- Recorded Read-alouds: Invite students to do read-alouds with their families, caregivers, and others in order to practice speaking. Teachers can ask students to record and share their read-alouds so they can provide feedback.

[215] https://www.discoveryeducation.com/community/virtual-field-trips/

- Daily Electronic Journals: Ask students to keep a daily journal where they can reflect on their lives as they connect with the readings. This will allow students the opportunity to practice comprehension and writing.
- Digital Writing Portfolio: Teachers can invite students to set up a digital portfolio to collect the writing that students do throughout the year. At certain points, (e.g., quarterly), students can look back at how they have progressed over the year and add that reflection into their portfolio.
- Character Descriptions: Using a graphic organizer or digital comic strip software, students can provide an illustration of what a period character would be like today, providing students with an opportunity to connect what they are reading to their lives.

Many other general strategies and examples of learning activities for synchronous and asynchronous time can be found under *Aggregating Quality Synchronous vs. Asynchronous Instructional Time* and *Developmental Considerations* within Chapter 1. See the introductions to Chapters 11 through 16 for additional suggestions for when synchronous or asynchronous learning may be best suited in the context of ELA/ELD instruction.

Universal Design for Learning

The ISTE Standards for Educators and National Standards for Quality Online Teaching emphasize that educators must design digital learning experiences that take individual learner differences into careful consideration. This includes leveraging the Universal Design for Learning (UDL) framework, introduced in Chapter 1, to help support all learners with accessible learning experience design.

LD OnLine, a national education service organization working in partnership with the National Joint Committee on Learning Disabilities (NJCLD), shares a number of key technology-empowered approaches grounded in the UDL framework that teachers can use to "support struggling students and those with learning disabilities in acquiring background knowledge and vocabulary, improving their reading comprehension, and making connections between reading and writing:"[216]

- Relieve cognitive load by using digital tools that have just-in-time support, such as built-in dictionaries, encyclopedias, thesaurus, so that students can focus on comprehending what they are reading and creating a written representation of their knowledge.
- Provide multiple ways for students to understand a concept. For instance, include videos, how-to diagrams, animations, illustrations, and other visual tools to help students make connections related to sequencing, interactions, and relationships between ideas, words, and concepts.

[216] http://www.ldonline.org/article/61304/

- Using digital text can allow students to enlarge fonts and change background colors. Students can also use text-to-speech (TTS) software to have the text read-aloud to them. For those students who struggle with reading, hearing a passage read-aloud can free up their cognitive space for attention and comprehension.

- Digital tools that allow students to annotate provide a way for students to build their skills in active reading. These tools typically include features like sticky notes, bookmarking, highlighting, and color coding.

- Digital tools provide word-prediction ability that can help students with suggested words or phrases. Nearly every platform, including iOS and Android mobile devices, Windows tablets, Chromebooks, Windows 10, and macOS includes this feature.[217]

- Graphic organizing software provides students a way to map out the connections between ideas, which can aid in their comprehension and transfer of learning.

- Voice recognition software, such as voice typing in Google Documents [collaborative online document], can help students express their ideas in different ways, especially for those who have difficulty with motor skills.

Other suggested strategies for integrating the UDL framework in ELA/ELD contexts may include, but are not limited to, the following:

- Use screencasting tools to share read-alouds so that students can review the recordings as many times as they need.

- Use synchronous learning tools that facilitate video discussions to offer collaborative spaces, where students can share their reflections on key concepts, as well as practice speaking and listening.

- Leverage tools, such as Quizzizz, Quizlet, and Kahoot! [online quiz applications], which feature digital flashcards that allow students to practice vocabulary. Students can also use Camstudio, Screencast-O-Matic, and Explain Everything [screencasting tools].

- Explore news websites specifically designed for students with different reading levels to support students where they are. These sites also provide many visuals to further aid students in fully understanding a concept.

[217] https://www.understood.org/en/school-learning/assistive-technology/assistive-technologies-basics/word-prediction-technology-what-it-is-and-how-it-works

CDE also includes a webpage with resources for supporting EL students in distance learning environments.[218] This page includes webinars from WestEd[219] that feature activities for EL students at various grade levels that provide multiple means of engagement with ELA/ELD content. The page also includes a curated list of resources designed for EL students developed by the California County Superintendents Educational Services Association (CCSESA) Curriculum and Instruction Subcommittee (CISC).[220]

To support students with disabilities, organizations like Common Sense Education have curated useful tools for diverse learners.[221] Refer to *Universal Design for Learning* in Chapter 1 to learn about more strategies.

Infusing Opportunities for Creativity

The ISTE Standards for Educators call on educators to nurture creativity and creative expression to communicate ideas, knowledge, or connections. There are many ways to infuse imaginative and creative activities for students within ELA/ELD content. Some of these include, but are not limited to, the following:

- Host a literature circle using web conferencing tools. Students can engage in these literature circles, sometimes called literary seminars or book studies, where students can play specific leadership roles, ask reflective questions, and more.[222] These groups provide students with the opportunity to engage with other students in creative exploration of literature.
- Invite authors to give virtual book talks and engage with students, providing an opportunity for students to learn from a professional writer about concepts such as the writing process, literary analysis, as well as where their ideas originate from. Inviting members of the community to participate virtually can promote student creativity as they learn about how others relate to the literature.
- Encourage students to collaboratively create digital infographics that share information from resources they have evaluated and curated to support informative and explanatory writing. As students work in teams to complete the task, they learn how others perceive a particular resource, thus gaining additional skills in deciphering which resources are more reliable than others. As students

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[218] https://www.cde.ca.gov/sp/el/er/ellearningaccleration.asp

[219] https://www.wested.org/webinars-home/archived-webinars/

[220] https://padlet.com/molly1alex/slsb60tdtj4q9h2f

[221] https://www.commonsense.org/education/top-picks/apps-and-websites-for-special-education-programs

[222] https://www.edutopia.org/article/virtual-literature-circles-create-safe-space-students

explore the perspectives of others, they may also acquire new information that promotes or enriches their creativity.

- Invite students to create their own stories individually or with peers using Google Slides [online presentation tool]. If working in groups, each student can share the part of the story that they have been assigned using text, images, video, etc. Students might also assist each other in expanding the story and deciding which words might be better to use in certain places.

Refer to *Infusing Opportunities for Creativity* in Chapter 1 to learn about more strategies.

Encouraging Authentic Collaboration

The ISTE Standards for Educators call on educators to collaborate and co-learn with students to discover, use, and create new digital resources. This type of collaboration in online learning environments is critical to establishing meaningful relationships, cultivating a supportive community, and providing a foundation to grow students' sense of belonging. In ELA/ELD, opportunities to encourage authentic collaboration can include, but are not limited to, the following:

- Invite students to create a video response to a specific reading and encourage other students to respond via video to that student's video with reflections or questions for their peer. Many learning management systems allow for this type of online discussion and peer, multimedia feedback.
- Encourage students to reflect with others on readings in a virtual, shared, inclusive space with others, and ask them to relate their responses to their own experiences. This not only provides students with the opportunity to share connections between readings and their own culture but also allows them to practice social awareness by developing a respect for the experiences of others.
- After providing appropriate protocols and guidance for students for productive and positive communication, teachers can invite them to engage in peer editing of each other's work. This also provides students with feedback and evaluation experiences to further reinforce digital collaboration skills.[223]

Some additional examples of encouraging authentic collaboration can be found from the International Literacy Association.[224] Refer to *Encouraging Authentic Collaboration* in Chapter 1 to learn about more strategies.

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[223] https://www.youtube.com/watch?v=0GCJC_pcBts

[224] https://www.literacyworldwide.org/blog/literacy-now/2020/08/25/together-apart-fostering-collaboration-in-a-remote-learning-environment

Chapter 11: Introduction to Standards Guidance for English Language Arts, Literacy, and English Language Development

The *California Common Core State Standards: English Language Arts and Literacy in History/Social Studies, Science, and Technical Subjects*[225] (*ELA/Literacy Standards*) and the *California English Language Development Standards*[226] (*ELD Standards*) have wide-ranging importance. The ability to read, write, and communicate with competence and confidence in English across a range of personal and academic contexts expands students' opportunities for career and college success, full and wise participation in a democratic society and global economy, and achievement of their personal aspirations. Moreover, skill in literacy and language provides individuals with access to extraordinary and powerful literature that widens perspectives, illuminates the human experience, and deepens understandings of self and others. And, because literacy and language are foundational to all learning, both sets of standards play a crucial role in ensuring that California (CA) students achieve content standards in every subject area.

Chapter 10 provided information about digital learning in English language arts, literacy, and English language development. The purpose of Chapters 11-16 is to present standards guidance and instructional considerations for ELA, literacy, and ELD instruction that are aligned with California's commitment to serve all students, with attention to equity and the whole child. These chapters prioritize critical areas of instructional focus for the continuum of learning from transitional kindergarten through grade twelve. Attention to these critical areas will ensure that students transition to the next grade level well prepared to learn new skills and concepts. This guidance serves as a companion resource to the *ELA/Literacy Standards*, the *ELD Standards,* and the *English Language Arts/English Language Development Framework for California Public Schools: Kindergarten Through Grade Twelve* (*ELA/ELD Framework*). The organization of the standards highlights the relationships among the standards and reflects an integrated model of instruction. The standards guidance is intended to support teachers as they implement ELA, literacy, and ELD instruction in online, blended, or in-person learning environments.

The Big Picture of California's English Language Arts, Literacy, and English Language Development Instruction

The *ELA/ELD Framework* provides guidance on the implementation of the *ELA/Literacy Standards* and the *ELD Standards* and was the primary source for the standards guidance contained in Section C. See the *ELA/ELD Framework* for citations related to the research basis and state policies that informed the development of that document. This section is also informed by research and resources that have become available since the publication

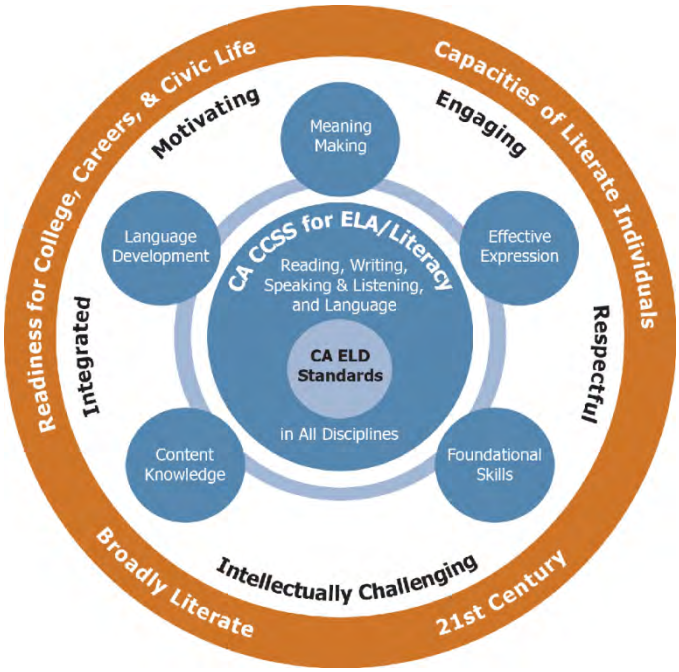
[225] https://www.cde.ca.gov/be/st/ss/documents/finalelaccssstandards.pdf

[226] https://www.cde.ca.gov/sp/el/er/documents/eldstndspublication14.pdf

of the framework. See the references at the conclusion of this document, *California Digital Learning Integration and Standards Guidance*, for more current citations.

The Circles of Implementation graphic shared in Figure 11.1 depicts the big picture of implementation of English language arts (ELA)/literacy and English language development (ELD) instruction as described in the framework.

Figure 11.1. Big Picture of California's English Language Arts, Literacy, and English Language Development Instruction



The outer ring displays the overarching goals. By the time California's students complete high school, they have:

- developed the readiness for college, careers, and civic life;
- attained the capacities of literate individuals;
- become broadly literate; and
- acquired the skills for living and learning in the 21st century.

In the center of the graphic are the grade-level ELA/literacy standards, which identify year-end expectations for student knowledge and abilities and guide instructional planning. Embedded within the ELA/literacy standards are the ELD standards. Aligned with the ELA/literacy standards, they amplify areas of English language development that are crucial for academic learning. The ELD standards help teachers support students learning English as an additional language to interact in meaningful ways with others and with complex texts, engage in and learn through intellectually challenging tasks across the content areas, develop academic English, and develop awareness about how English

works so that they can use it intentionally and purposefully. Both sets of standards comprise the pathway to achievement of the overarching goals of ELA/literacy and ELD instruction.

Circling the standards are the crosscutting themes of the standards. Instruction across the strands of the ELA/literacy standards (Reading, Writing, Speaking and Listening, and Language) and the parts of the ELD Standards (Part I: Interacting in Meaningful Ways, Part II: Learning About How English Works, and Part III: Using Foundational Skills) focuses on **Meaning Making, Language Development, Effective Expression, Content Knowledge**, and **Foundational Skills**. These themes, described in the chart below, highlight the interconnections among the strands of the ELA/literacy standards and the parts of the ELD standards; the themes guide ELA/literacy and ELD instruction and are considered critical areas of instructional focus. Consistent with these ideas, the *ELA/ELD Framework* calls for teachers to teach the language arts as meaning making processes, facilitate students' language development, model and teach effective expression, expand students' content knowledge, and ensure that students acquire the foundational skills.

The field inside the outer ring and surrounding the crosscutting themes represents the context in which instruction occurs. Instruction reflects an integrated model of literacy, that is, the strands of the language arts—reading, writing, speaking, listening, and language—are closely intertwined with one another and integrated into every discipline. Instruction in English language development is integrated with and amplifies learning in English language arts and all content areas. Instruction is motivating and engaging; it draws upon and expands students' experiences and interests, is authentic and relevant, allows choice, and promotes active engagement. Instruction is respectful of all learners; it values and capitalizes on their funds of knowledge, promotes positive relationships, fosters a positive self-image, and is culturally relevant and sustaining. And instruction is intellectually challenging for all students.

Crosscutting Themes of ELA/Literacy and ELD Instruction

At every grade level, instruction focuses on the following:

Meaning Making

Meaning making is at the heart of ELA/literacy and ELD instruction. It is the central purpose for interacting with text, composing text, engaging in research, participating in discussion, speaking with others, and giving and listening to and viewing presentations. It is the reason for learning the foundational skills and for expanding language. Meaning making includes literal understanding but is not confined to it at any grade or with any student. Inference making and critical reading, writing, and listening are given substantial and explicit attention in every discipline. Among the contributors to meaning making are language, knowledge, motivation, comprehension monitoring, and in the case of reading and writing, the ability to recognize printed words and use the alphabetic code to express ideas.

Language Development

Language is the cornerstone of literacy and learning. It is with and through language that students learn; think; and express information, ideas, perspectives, and questions. The strands of the ELA/literacy standards—Reading, Writing, Speaking and Listening, and Language—all have language at the core, as do the parts of the ELD standards—Interacting in Meaningful Ways, Learning About How English Works, and Using Foundational Literacy Skills. Students enrich their language as they read, write, speak, and listen; interact with one another and learn about language; and engage with rich content in all disciplines. The foundational skills provide access to written language.

Effective Expression

Each strand of the ELA/literacy standards and each part of the ELD standards includes attention to effective expression. Students learn to examine the author's craft as they read, analyzing how authors use language, text structure, and images to convey information, influence, or evoke responses from readers. They learn to effectively express themselves as writers, discussion partners, and presenters, and they use digital media and visual displays to enhance their expression. They gain command over the conventions of written and spoken English, and they learn to communicate in ways appropriate for the purpose, audience, context, and task.

Content Knowledge

Content knowledge, which includes literary, cultural, and domain knowledge, is a powerful contributor to comprehension of text and other sources of information and ideas. It also undergirds the ability to write effective opinions/arguments, explanatory/informational text, narratives, and other types of text; engage in meaningful discussions; and present ideas and information to others. It contributes significantly to language development, and it is fundamental to learning about how English works. Both sets of standards ensure that students can learn from informational texts, can research questions of interest, and can share their knowledge as writers and speakers. An organized independent reading program contributes to knowledge building. Content knowledge has a powerful reciprocal relationship with the development of literacy and language.

Foundational Skills

Acquisition of the foundational skills enables students to independently read and use written language to learn about the world and themselves; experience extraordinary and diverse works of literary fiction and nonfiction; and share their knowledge, ideas, stories, and perspectives with others. ***Their achievement is crucial, warranting high priority instructional attention in the early school years and thereafter as needed***. (See CDE's *Resource Guide to the Foundational Skills.*[227]) Students who know how to decode, develop automaticity with an increasing number of words, and become fluent users of written language are best positioned to make significant strides in meaning

[227] https://www.cde.ca.gov/ci/rl/cf/documents/foundskillswhitepaper.pdf

making, language development, effective expression, and content knowledge. At the same time, attention to those themes provides the very reason for learning about the alphabetic code and propels progress in the foundational skills.

An Important Note Regarding Students Who Are English Learners

Students who are English learners (EL) participate fully in the ELA/literacy and other content curriculum at the same time as they are learning English as an additional language. Teachers use the ELD Standards to support students in meeting both goals: achievement in ELA/literacy and other content curriculum and learning English. It is important to note that even as they are learning English, California values the primary languages of its students and encourages their continued development. This is recognized by the establishment of the State Seal of Biliteracy. In addition, California takes an additive stance to language development for all children. California views the "nonstandard" dialects of English (such as African American English or Chicana/Chicano English) that linguistically and culturally diverse students bring to school from their homes and communities as valuable assets—resources in their own right and solid foundations to be built upon for developing academic English.

Teachers support acceleration by providing explicit, intensive and extensive instruction in oral language and skills (depth and breadth of vocabulary, listening comprehension, discourse practices, as well as grammatical structures) and by ensuring EL students have many opportunities to engage in extended conversations. Teachers engage EL students in challenging curriculum and apprentice them into successful uses of academic language; teachers make the features of English transparent in order to build proficiency with and critical awareness of the features of discipline-specific academic language. Teachers invite EL students to use their language resources in English and/or native language as they engage in learning experiences. Planned and "just-in-time" scaffolding is provided based on daily assessments of EL students' receptive and productive practices. Guidance on welcoming, understanding, and educating the diverse population of students who are English learners attending California public schools may be found on the CDE website.[228] Refer to *Meeting the Needs of English Learners* in Chapter 1 to learn about more strategies.

An Important Note Regarding Students with Disabilities

Students with disabilities, a diverse group of children and youth with varying needs and abilities, have a right under the Individuals with Disabilities Education Act (IDEA) to an intellectually rich and engaging curriculum. Teachers work closely with education specialists, students, and families to provide access to grade-level curriculum with appropriate supports and services, including accommodations and modifications as needed. Support for students with diverse learning needs should begin with high quality first instruction and be augmented through any additional identified necessary supports outlined in Individual Educational Program (IEP) or 504 Plans. Some students need assistive technology, which is provided in all settings, including both virtual and in-class

[228] https://www.cde.ca.gov/sp/el/rm/

environments. Difficulty reading is the most common type of specific learning disability, and some of these students are diagnosed with dyslexia. It is important to note, however, that students experiencing difficulty reading do not necessarily have a learning disability. There are many causes of reading difficulties, including inadequate curriculum, instruction, and learning support. Special consideration should be given to students who are also learning English as an additional language, as this can make diagnosing learning disabilities more complex. Guidelines may be found about both dyslexia[229] and support for EL students with disabilities[230] on the CDE website. Refer to *Meeting the Needs of Students with Disabilities* in Chapter 1 to learn about more strategies.

Abbreviations and Numbering of Standards

ELA/Literacy Standards are abbreviated according to the following list:

- RL = Reading Literature
- RI = Reading Informational Text
- RF = Reading Foundational Skills
- W = Writing
- SL = Speaking and Listening
- L = Language
- RH = Reading in History/Social Studies (grades 6-12 only)
- RST = Reading in Science and Technical Subjects (grades 6-12 only)
- WHST = Writing in History/Social Studies, Science, and Technical subjects (grades 6-12 only)

Standards are designated by grade and standard number. For example, RI.3.1 refers to Reading Informational Text, grade 3, standard #1.

ELD Standards are abbreviated according to the following list:

- PI = Part I: Interacting in Meaningful Ways
- PII = Part II: Learning About How English Works

[229] https://www.cde.ca.gov/sp/se/ac/documents/cadyslexiaguidelines.pdf

[230] https://www.cde.ca.gov/sp/se/ac/documents/ab2785guide.pdf

- PIII = Part III: Using Foundational Skills
- Em = Emerging (English proficiency level)
- Ex = Expanding (English proficiency level)
- Br = Bridging (English proficiency level)

Standards are designated by grade and standard number. For example, ELD.PI.8.3.Ex refers to Part I: Interacting in Meaningful Ways, grade 8, standard #3 at the Expanding English proficiency level.

Identification and Organization of the Standards

All ELA/literacy and ELD standards support students' attainment of the overarching goals of ELA/literacy instruction described in the 2014 *ELA/ELD Framework* and the increased attention to informational text, textual evidence, and text complexity called for in the adoption of the standards in 2010/13. These standards reflect critical areas of instructional focus, that is, the five crosscutting themes of meaning making, language development, effective expression, content knowledge, and foundational skills. Some standards have been identified as "key standards" in this document. These standards are likely to require significant instructional attention, and many provide an instructional context in which several standards can be addressed simultaneously due to their interrelationships or overlapping nature. They are also critical to the integration of literacy—the communication processes of reading, writing, speaking and listening, and language—in all academic disciplines.

Key standards and closely related additional standards in ELA/literacy have been identified for each of the five themes—or critical areas of instructional focus—for every grade. The organization of the standards highlights their relationships to one another, to key supporting ELD Standards, and to one or more crosscutting themes. For example, in the table for the theme of meaning making in kindergarten, RL/RI.K.1 ("With prompting and support, ask and answer questions about key details in a text") and SL.K.2 ("Confirm understanding of a text read aloud or information presented orally or through other media by asking and answering questions about key details and requesting clarification if something is not understood.") are inter-related and can be addressed at the same time instructionally, and so they are clustered together in a table cell. These, along with ELD Standard PI.K.5.Ex ("Demonstrate active listening to read-alouds and oral presentations by asking and answering questions, with oral sentence frames and occasional prompting and support.") are noted in the left-hand column. Bulleted comments are included in the right-hand column to clarify, contextualize, or emphasize an aspect of the standard(s) identified in the left-hand column or highlight instructional considerations. Related standards—those that can be addressed in the context of the key standard(s) or subsumed within it—are also included in these bullets as relevant. This is in keeping with the integrated model of literacy instruction.

The standards are presented as follows:

- Key ELA/literacy standards are listed according to the theme(s), or critical areas of focus, with which they are most closely aligned.

- Many key standards are repeated across themes because of the important role they play in supporting progress in the themes. Color coding is added to highlight this repetition. For example, Writing Standards 1-3 are strongly related to meaning making, effective expression, content knowledge, and foundational skills. These repeated key standards are also highlighted in purple in each of these theme charts.

- Some standards are presented in their full form, some are abbreviated, and some are merged as appropriate to convey the key ideas.

- Some substandards (e.g., RF.1.4a; RF.1.4b; RF.1.4c) are presented separately due to their distinctive nature and the special instructional attention they require.

- Key ELD standards at the Expanding proficiency level are included in cells where appropriate. They highlight and amplify language demands of the ELA/literacy standards and promote EL students' opportunities and capacities to interact in meaningful ways during instruction and build EL students' knowledge about how the English language works in different contexts to achieve specific communicative purposes. The ELD standards are addressed during integrated and designated ELD instruction.

- Related standards in ELA/literacy and ELD are identified in parentheses in bulleted comments in the right-hand column. It is important to note that standards from different strands—reading, writing, speaking and listening, and language—are identified in nearly every chart, highlighting the integrated nature of the language arts.

Decision Making: Synchronous and Asynchronous Instruction

Teachers must be thoughtful in determining what instruction to provide synchronously and what to provide asynchronously. Synchronous time may be quite limited, so it must be optimally used. Priority for synchronous instruction should be given to the learning content that most requires teachers' and/or peers' "in-the-moment" presence. Guidance for deciding whether learning experiences should be provided synchronously or asynchronously follow.

Choose synchronous delivery when the content is such that:

- students work toward understanding concepts or acquiring skills likely requires immediate feedback or clarification to avoid misunderstanding;

- "just-in-time" scaffolding to support learning should not be delayed;

- the teacher's next instructional moves are crucial for student learning and can best be determined by close observations of students' real-time performance; and

- student learning is enriched by real-time interactions, collaboration, and discussion.

Choose asynchronous delivery when the content is such that:

- the likelihood of students misunderstanding the content is low;

- students benefit from time to engage in learning experiences and explore concepts and resources at their own pace;

- students benefit from the opportunity to revisit content, such as instructional videos or comments posted asynchronously by peers; and

- delays in responses from teachers or peers will not serve as roadblocks to learning.

Organization of the Chapters

The following chapters are organized by the grade-level spans presented in the *ELA/ELD Framework*: Transitional Kindergarten Through Grade One; Grades Two and Three; Grades Four and Five; Grades Six Through Eight; and Grades Nine Through Twelve. A brief overview is provided for the span. An interview featuring a California educator engaging in distance learning is provided in one elementary grade span (grades two and three) and in the middle and high school spans. The span overviews are followed by grade-level discussions.

For each grade level, an introduction highlights important learning in the five crosscutting themes, as well as offers comments regarding synchronous and asynchronous instruction. The introduction to the grade level is followed by the presentation, by theme, of the key and related standards in ELA/literacy and ELD and instructional considerations. Each grade level concludes with a Class Spotlight, which provides an example of literacy instruction within a digital environment. Although the teachers and children named in the spotlights are fictional, the practices are authentic.

Chapter 12: English Language Arts/Literacy and English Language Development in Transitional Kindergarten Through Grade One

Overview of the Span

The first years of schooling are a profoundly important time on the pathway to literacy, and the quality of the curriculum and instruction offered to children in the transitional kindergarten through grade one span has long lasting implications.

During these crucial years, instruction focuses on children's acquisition of the skills, knowledge, and dispositions that establish the foundation for a lifetime of learning. Special attention is given to ensuring children's progress in the foundational skills. Instruction is carefully specified and strategically sequenced and rich. Authentic experiences are provided in a developmentally appropriate environment that recognizes and responds to children's social-emotional, physical, and cognitive needs, all of which are critical to long-term literacy development. Young learners move and explore, engage in hands-on investigations, and interact freely and in structured ways with a range of peers and adults on interesting topics. They participate in self-directed and teacher-directed learning experiences.

Content and pedagogy in the grade span include the following:

Meaning Making: Children engage meaningfully with others and with a range of texts as listeners, writers, and readers. They learn to ask and answer questions to clarify and convey meaning. They are introduced to comprehension strategies and a variety of text structures, and they participate in conversations to share understandings about texts and topics. Teachers share and talk about texts to support meaning, and they establish an engaging and motivating context in which to teach and foster reading and listening comprehension.

Language Development: Because language is acquired largely through *exposure to* and *purposeful use of* language in a range of meaningful contexts, teachers establish language-rich environments. They model broad vocabulary and varied grammatical and discourse structures as they interact with children, deliver instruction, facilitate learning experiences across the curriculum, and discuss classroom routines. They read-aloud texts that expand children's language, engage children in genuine discussions about a range of topics using academic language, and provide stimulating social learning activities and investigations that fuel extended conversations.

Effective Expression: Children express themselves in writing by dictating their ideas to adults and by using pictures, marks, and their emerging knowledge of the alphabetic system. They learn how to participate in discussions (taking turns and listening attentively to the perspectives of others) and how to express their ideas more formally, such as through "show and tell" and other presentations. Their knowledge of language conventions expands through rich exposure to and regular reflections on language.

Content Knowledge: Children engage in many hands-on explorations, participate in shared research projects, and interact with informational text as listeners and beginning readers. Although there are many opportunities to pursue topics of personal interest, teachers also ensure that knowledge is built systematically by providing text sets (several books on a topic under investigation) and conceptually coherent curriculum so that concepts and domain-specific language are repeated and built upon. Children gain literary and cultural knowledge as they are exposed to a wide range of texts, including—importantly—those that reflect the diversity of humankind. All content areas (e.g., science, social studies, the arts) are considered crucial parts of the curriculum, and every child participates in all subject matter instruction.

Foundational Skills: Children manipulate and reflect on the sounds of spoken language as they are provided explicit instruction in phonemic awareness and, as they sing, engage with books that draw attention to the sounds of words, and play language games. They become increasingly familiar with the alphabetic system, learning letter-sound and spelling-sound correspondences. They apply their knowledge as they learn to decode words consisting of regular patterns and read simple text consisting of regular patterns and as they write for their own purposes. They learn relevant sight words in meaningful contexts. ***This grade span is a crucial period for acquiring the foundational skills, which must be given high priority to best position children for success with written language****.*

Students who are English learners engage with the same intellectually stimulating content through careful scaffolding (planned and "just-in-time") and guidance provided by the ELD Standards. At the same time, they are learning English as an additional language and are receiving instruction that attends to their steady progress along the ELD continuum. The cultural and language resources young children bring to the classroom are recognized as assets and are capitalized on in all instruction. Special attention is given to oral language development during this grade span. Learning about language occurs in meaningful, relevant contexts during both integrated and designated ELD instruction. Daily engagement with a range of language and literacy tasks (including singing, being read to, exploring books with peers, engaging in extended conversations, retelling stories and events, and many other learning tasks) is important for all children.

Synchronous and Asynchronous Instruction. Teachers should carefully consider which learning experiences are given priority during synchronous instruction. Some lessons are best conducted when teachers can make "in-the-moment" decisions about next instructional moves based on children's performance as they engage in the lesson. For example, teachers introduce Elkonin boxes in small group synchronous settings to teach phoneme segmentation. They model, guide, observe, repeat instruction or provide scaffolds as needed, and decide when to advance the lesson. Teachers' presence enables them to adjust instruction and ensure children's understanding without delay.

Other learning activities can occur effectively without the teacher available in real-time. For example, bulleted comments in several charts in the following areas state that children should be exposed to a range of literature. Often this can occur asynchronously. Teachers might create video recordings of themselves reading books

aloud. Depending on their purpose, teachers can pause during the read aloud and comment on interesting (and possibly unknown) words, highlighting word meanings in the text and commenting on other contexts in which the children might hear the words. Or teachers can pause during their reading to think aloud about a character's motives or to make a prediction about what is ahead in the text. Depending on children's technology skills and access and adult participation, children might be invited to leave an audio or video recording in response to the read aloud.

Standards for transitional kindergarten, kindergarten, and grade one are provided in the next areas.

Transitional Kindergarten

Transitional kindergarten programs capitalize on young children's active, social, and inquisitive natures. Teachers draw on the California Preschool Learning Foundations[231] and, as appropriate, the ELD Standards to support all children's progress toward the kindergarten ELA/literacy standards. Language development is a crucial focus of the ELA/literacy curriculum this year, and children participate in numerous language exchanges daily. They learn to listen attentively to their peers and adults as well as to express their own thoughts. They use language purposefully, and they notice language as they make language choices and witness the impact of their words on others, learn new words, and are exposed to longer, syntactically complex sentences.

Foundational skills development receives high priority attention during this year. Instruction ensures children make great strides in learning the symbols of the written system (i.e., the alphabet) and acquiring phonemic awareness, and that they make progress in learning letter-sound correspondences. Instruction also ensures that children have many opportunities to interact with print in meaningful contexts—print that answers their questions (e.g., paper and digital text on a topic of interest), serves a purpose (e.g., labels, instructions), and is a written record of their ideas (e.g., a caption for a painting dictated to an adult). Teachers create print-rich environments, and children find print—and the tools to generate their own printed messages—in virtual and classroom activities and spaces.

Transitional kindergarteners also have conceptually coherent experiences with content (e.g., science, the arts, social studies) that build knowledge appropriate for their age, backgrounds, and interests and that expose them to a range of human experiences and perspectives.

Standards and instructional considerations for transitional kindergarten follow. Selected Preschool Foundations are included as they are drawn upon in transitional kindergarten. Many ELA/literacy standards can be addressed across the curriculum, that is, as a part of science, social studies, arts, and other subjects. ELA/literacy and content area instruction are mutually supportive, and to treat them as distinctly separate areas of instruction is to miss opportunities to enhance progress in both ELA/literacy and other subjects. The language arts complement and contribute to content instruction; they do not replace inquiry and other content approaches. The ELD standards promote progress for EL children in all curricular areas.

In distance learning settings, teachers should carefully consider which learning experiences are given priority during synchronous instruction. Guidelines are presented in Chapter 10 and also addressed in the Overview of the Span in this chapter. Refer to *Developmental Considerations* in Chapter 1 to learn about strategies for technology support for younger students.

Some key standards are included in more than one theme. For example, SL.K.1 is crucial in meaning making, language development, effective expression, and content knowledge.

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[231] https://www.cde.ca.gov/sp/cd/re/documents/preschoollf.pdf

Thus, it is included in four theme charts that follow. In each case, the repeated standard is highlighted in pink to make the repetition obvious. Likewise, RL/RI.K.10 appears in several charts, and so a different color (in this case, orange) is used to highlight the repetition. Presented first is a chart depicting the standards for transitional kindergarten at a glance followed by detailed charts for each theme.

Critical Areas of Instructional Focus: At a Glance

Theme	Key Standards	Related Standards
Meaning Making	RL/RI.K.1,10; W.K.1-3; SL.K.1,2 ELD.PI.K.1,5,6,10,11.Ex Preschool R.1.2,4.1; W.1.2; LS.1.1	*RL/RI.K.2,5,6,7,9; RI.K.2; W.K.6; SL.K.3,5,6* *ELD.PII.K.1.Ex*
Language Development	RL/RI.K.4,10; SL.K.1; L.K.1f,6 ELD.PI.K.1,3,6,12b.Ex; PII.K.4,5.Ex Preschool LS.1.1,4,2.1,3.1	*RL/RI.K.2;SL.K.3,4,6;L.K.4,5* *ELD.PI.K.7,8.Ex*
Effective Expression	RL/RI.K.10; W.K.1-3; SL.K.1 ELD.PI.K.1,3,7,10.Ex Preschool LS.1.1	*RL/RI.K.6; W.K.5;SL.K.3,4,6; L.K.2*
Content Knowledge	RL/RI.K.1,4,10; W.K.2,7; SL.K.1,2 ELD.PI.K.1,2,5,6,10,12b.Ex Preschool LS.1.1	*RL/RI.K.6; RI.K.8; W.K.8; SL.K.4,6*
Foundational Skills	RF.K.1d,2,3a,b,c,4; W.K.1-3; L.K.2c Preschool R. 2.1,3.1,2,3; W.1.2 ELD.PI.K.10.Ex	*RI.K.5; RF.K.1,3d; L.K.2d* *Preschool R.1.1,1.2*

Critical Area of Instructional Focus: Meaning Making

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.K.1 With prompting and support, ask and answer questions about key details in a text. **SL.K.2** Confirm understanding of a text read-aloud or information presented orally or through other media by asking and answering questions about key details and requesting clarification if something is not understood. **Preschool R.4.1** Demonstrate knowledge of details in a familiar story, including characters, events, and ordering of events through answering questions (particularly summarizing, predicting, and inferencing), retelling, reenacting, or creating artwork. **ELD.PI.K.5.Ex** Demonstrate active listening to read-alouds and oral presentations by asking and answering questions, with oral sentence frames and occasional prompting and support.	● Text-dependent questions prompt children to attend closely to texts. Questions support young listeners' understanding of characters, settings, and major events in stories (*RL.K.3,9*); the main topic, key ideas, events, ideas, and information in informational text (*RI.K.2,3,7*); and the contributions of both text and illustrations to meaning (*RL/RI.K.7*). Questions also guide children to compare and contrast adventures and experiences of characters in familiar stories and to identify basic similarities and differences between two texts on the same topic (*RL/RI.K.9; ELD.PI.K.6.Ex*). ● Children not only answer questions posed by the teacher, but they are also encouraged to ask questions about a text or information through other media. Comprehension monitoring is evident when they pose questions to clarify meaning; engagement is evident when they question a character's behavior or ask about information provided in a text or otherwise presented (*SL.K.3*). ● All children participate in read-aloud experiences with increasingly complex texts (i.e., those in the grades 2–3 complexity band). Questions guide and build children's comprehension, preparing children for future independent reading of challenging texts. ● Children engage with a variety of text types, including an equal balance of narrative and informational texts. Exposure to a wide range of texts contributes to children's literary, cultural, and domain knowledge as well as their familiarity with various text structures and features (*RL/RI.K.5, ELD.PII.K.1.Ex*)—all of which contribute to meaning making.

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.K.10 Actively engage in group reading activities with purpose and understanding. Activate relevant prior knowledge and use illustrations and context to make predictions. **ELD.PI.K.6.Ex** Describe ideas, phenomena, and text elements in greater detail based on understanding of a variety of grade-level texts and viewing of multimedia, with moderate support. **ELD.PI.K.11.Ex** Offer opinions and provide good reasons and some textual evidence or relevant background knowledge.	● All children have many opportunities to participate in group read-aloud activities with a range of texts, with special and increasing attention to complex texts (i.e., for transitional kindergarteners, those in the grades 2–3 band or higher). ● Activities may take many forms, such as retellings, discussion, writing, dramatic play, and drawing—all of which support and reveal children's understanding of text (*RL/RI.K.2;SL.K.5*). ● Teachers identify and talk about the roles of authors and illustrators of the books they share with children (*RL/RI.K.6*). ● Teachers create opportunities for all children to select texts to read for study and enjoyment. ● Teachers ensure that all children see themselves in texts. ● Children have access to text in their home languages.
W.K.1-3 Use a combination of drawing, dictating, and writing to compose opinion pieces, informative/explanatory text (W.K.2), and narrative. **Preschool W.1.2** Write letters or letter-like shapes to represent words or ideas. **Preschool R.1.2** Understand that print is something that is read and has specific meaning. **ELD.PI.K.10.Ex** Draw, dictate, and write to compose short literary texts and informational texts, collaboratively and with an adult, with peers, and with increasing independence.	● Children use writing to communicate meaning (opinions, information, narratives), not simply to copy text or practice printing. They learn that writing is a meaning making process as they work to express themselves using written language. ● Writing is an authentic, daily activity and occurs both in virtual and in-class settings. Children are prompted to write about what they care about. At the same time, teachers provide a stimulating environment that expands children's interests and knowledge and exposes them to different purposes for writing (i.e., to communicate opinions, information, and stories).

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
SL.K.1 Participate in collaborative conversations with diverse partners about kindergarten topics and texts with peers and adults in small and larger groups. **Preschool LS.1.1** Use language to communicate with others for a variety of basic and advanced purposes, including reasoning, predicting, problem solving, and seeking new information. **ELD.PI.K.1.Ex** Contribute to class, group, and partner discussions.	● Children have multiple daily opportunities to engage in brief and extended conversations with a range of others in a range of contexts for a range of purposes in both virtual and in-class settings. Conversations include ones in which children share opinions, experiences, and information; respond to texts and learning activities; and listen to and ask questions of others. Children's understandings of topics and texts are enhanced through engagement with others. ● Teachers ensure a community culture in which all children feel comfortable contributing to conversations, are encouraged to do so, and feel heard and respected by others. Agreed-upon discussion norms are established (e.g., listening with care, valuing contributions, speaking one at a time, asking questions). Teachers ensure equitable opportunities for all learners to contribute to conversations. They gently guide children to speak audibly, and to express their thoughts, feelings, and ideas clearly (*SL.K.6*), signaling that all children's contributions matter to the group.

Critical Area of Instructional Focus: Language Development

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.K.4 Ask and answer questions about unknown words in a text. **ELD.PI.K.12b** Use a growing number of general academic and domain-specific words.	● Teachers ask questions not to quiz children on their knowledge but to guide children in noticing words and their impact on meaning (*ELD.PI.K.7,8.Ex*) and to model and prompt an enthusiastic interest in learning and sharing new words. They help children clarify the meaning of unknown and multiple-meaning words and support exploration of word relationships and nuances in meaning (*L.K.4,5*). As appropriate, teachers support children in using new words in novel contexts. ● Read-alouds especially can provide opportunities to expand children's vocabulary and are selected, in part, on the basis of the richness of the language. ● Multiple texts on the same topic (e.g., informational texts about frogs) maximize students' exposure to domain-specific vocabulary. ● Teachers leverage EL students' experiences and native language to support vocabulary development.

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.K.10 Actively engage in group reading activities with purpose and understanding. **ELD.PI.K.6.Ex** Describe ideas, phenomena, and text elements in greater detail based on understanding of a variety of grade-level texts and viewing of multimedia, with moderate support.	● Texts are a key source of language and teachers share a wide variety of texts, particularly those that use rich vocabulary and complex sentence structures. Teachers ensure that all children engage with texts daily whether in virtual or in-class settings. ● Discussions related to texts provide opportunities to talk about and use new vocabulary and sentence structures.
SL.K.1 Participate in collaborative conversations with diverse partners about kindergarten topics and texts with peers and adults in small and larger groups. **Preschool LS.1.1** Use language to communicate with others for a variety of basic and advanced purposes, including reasoning, predicting, problem solving, and seeking new information. **ELD.PI.K.1,3.Ex** Contribute to class, group, and partner discussions; offer opinions in conversations using an expanded set of learned phrases as well as open responses.	● Opportunities to use language contribute to language development. Children engage in brief and extended conversations daily with a range of others in a range of contexts for a range of purposes in both virtual and in-class settings. Conversations include ones in which children share opinions, experiences, and information; respond to texts and learning activities; and listen to and ask questions of others. ● Teachers ensure a community culture in which all children feel comfortable contributing to conversations, are encouraged to do so, and feel heard and respected by others. Agreed-upon discussion norms are established (e.g., listening with care, valuing contributions, speaking one at a time, asking questions). Teachers ensure equitable opportunities for all learners to contribute to conversations. They gently guide children to speak audibly, and to express their thoughts, feelings, and ideas clearly (*SL.K.6*), signaling that all children's contributions matter to the group.

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
L.K.1f Produce and expand complete sentences in shared language activities. **Preschool LS 1.4** Use language to construct extended narratives that are real or fictional. **Preschool LS.3.1** Understand and use increasingly complex and longer sentences. **ELD.PII.K.4,5.Ex** Expand noun phrases in a growing number of ways; expand sentences with prepositional phrases in shared language activities guided by the teacher and with increasing independence.	● Teachers prompt children to provide detail and "say more," demonstrating sincere interest in what children say (*SL.K.4*). They encourage children to retell stories (*RL.K.2*) and share their opinions, experiences, and knowledge with others.
L.K.6 Use words and phrases acquired through conversations, reading and being read to, and responding to texts. **Preschool LS 2.1** Understand and use an increasing variety and specificity of accepted words for objects, actions, and attributes encountered in both real and symbolic contexts. **ELD.PI.K.12b** Use a growing number of general academic and domain-specific words.	● Teachers model, scaffold (planned and "just-in-time"), and prompt the use of target words, especially those encountered in a text and discussions, in multiple contexts. Multiple daily opportunities to use language are crucial for language development.

Critical Area of Instructional Focus: Effective Expression

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.K.10 Actively engage in group reading activities with purpose and understanding. **ELD.PI.K.7.Ex** Describe the language an author uses to present an idea, with prompting and moderate support.	● Children listen to stories, poetry, and informational texts that are models of effective expression. Teachers guide children in identifying language or structures that evoke responses and emotions (e.g., laughter, surprise) or vivid mental images, provide clear explanations or interesting organization (e.g., use of a familiar pattern, such as days of the week, to develop a story or present information), or in some way capture readers' or listeners' attention (e.g., use of alliterations). Children become increasingly aware of the author's craft.
W.K.1-3 Use a combination of drawing, dictating, and writing to compose opinion pieces, informative/explanatory text, and to narrate. **ELD.PI.K.10.Ex** Draw, dictate, and write to compose short literary texts and informational texts, collaboratively with an adult, with peers, and with increasing independence.	● Teachers express interest and ask questions to prompt clear communication when taking children's dictation while also honoring children's ideas and language. Teachers encourage children to add details and to share with others and respond to suggestions (*W.K.5*). Teachers encourage children's interest in and enthusiasm for one another's written efforts. ● Authentic written expression opportunities are provided frequently. Children are prompted to write about what they care about. At the same time, teachers provide a stimulating environment—both in virtual and in-class settings—that expands children's interests and prompts their use of different text types. ● When teachers compose with children, they model conventions (e.g., capitalization, punctuation) and selectively draw attention to them (*L.K.2*). ● Teachers foster children's identities as authors, and they talk about the authors and illustrators of the books they share with children (*RL/RI.K.6*).

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
SL.K.1 Participate in collaborative conversations with diverse partners about kindergarten topics and texts with peers and adults in small and larger groups. **Preschool LS 1.1** Children extend their understanding and usage of language to communicate with others effectively. **ELD.PI.K.1,3.Ex** Contribute to class, group, and partner discussions; offer opinions in conversations using an expanded set of learned phrases as well as open responses.	● Children learn to listen carefully to others and to communicate their ideas clearly as they work to continue a conversation through multiple exchanges. They learn—with teacher guidance—to stay on topic and to ask and answer clarifying questions or seek help or information (*SL.K.3*). ● Teachers ensure a community culture in which all children feel comfortable contributing to conversations, are encouraged to do so, and feel heard and respected by others. Agreed-upon discussion norms are established (e.g., listening with care, valuing contributions, speaking one at a time, asking questions). Teachers ensure equitable opportunities for all learners to contribute to conversations. Teachers gently guide children to speak audibly, and to express their thoughts, feelings, and ideas clearly (*SL.K.6*), communicating that all children's contributions matter to the group. When appropriate, teachers prompt children to provide detail in descriptions of people, places, things, and events (*SL.K.4*).

Critical Area of Instructional Focus: Content Knowledge

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.K.1 With prompting and support, ask and answer questions about key details in a text. **SL.K.2** Confirm understanding of a text read-aloud or information presented orally or through other media by asking and answering questions about key details and requesting clarification if something is not understood. **ELD.PI.K.5.Ex** Demonstrate active listening to read-alouds and oral presentations by asking and answering questions, with oral sentence frames and occasional prompting and support.	● Informational texts that build children's knowledge are a crucial component of literacy programs at every grade level, including transitional kindergarten. Text sets on a given topic contribute to building knowledge. Children have access to informational text in their home languages to amplify domain knowledge and support meaning making. ● Text selections are based on grade-level content standards and learning experiences in different subject areas (e.g., science, social studies), children's interests, and cultural experiences. ● Children not only answer questions posed by the teacher, but they are also encouraged to ask questions about the text. Expressions of interest and curiosity—when pursued—lead to more knowledge building. ● Teachers guide children to identify reasons an author gives to support points in a text (*RI.K.8; ELD.PI.K.7.Ex*). In doing so, they are laying the groundwork for children's ability to critically evaluate and build arguments from evidence in future grades.
RI.K.4 Ask and answer questions about unknown words in a text. **ELD.PI.K.12b** Use a growing number of general academic and domain-specific words.	● Many words in informational text, in particular, are domain-specific; as children learn this vocabulary, they build knowledge. Importantly, vocabulary is learned in a meaningful context, and children have opportunities to use newly acquired vocabulary as they engage in content-related activities and investigations.
RL/RI.K.10 Actively engage in group reading activities with purpose and understanding. **ELD.PI.K.6.Ex** Describe ideas, phenomena, and text elements in greater detail based on understanding of a variety of grade-level texts and viewing of multimedia, with moderate support.	● Group reading activities ensure that children are exposed to a high volume of wide-ranging content-rich texts. This expands their knowledge of the natural and social world and, likely, broadens their interests. ● Instructional units are organized around conceptually related topics so that knowledge and related vocabulary are built. ● Children have access to informational text in their home languages to amplify domain knowledge and support meaning making.

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
W.K.2 Use a combination of drawing, dictating, and writing to compose informative/explanatory texts in which they name what they are writing about and supply some information about the topic. **W.K.7** Participate in shared research and writing projects. **ELD.PI.K.2,10.Ex** Collaborate with the teacher and peers on joint composing projects of informational and literary texts; draw, dictate, and write to compose short literary texts and informational texts, collaboratively with an adult, with peers, and with increasing independence.	● Children have many opportunities to convey what they are learning about topics of interest and topics under study in grade-level investigations. ● Children pursue their interests and build content knowledge. Instruction also piques children's interest in new topics. Teachers ensure that children experience a coherent curriculum in science, social studies, the arts, and all content areas. ● Children are guided and supported to recall information from experiences or gather information from provided sources to answer a question (*W.K.8*). ● Children work cooperatively, in both virtual and in-class settings, to explore topics of common interest. They build knowledge and increasingly effective communication skills as they have many opportunities to share their ideas with one another.
SL.K.1 Participate in collaborative conversations with diverse partners about kindergarten topics and texts with peers and adults in small and larger groups. **Preschool LS 1.1** Children extend their understanding and usage of language to communicate with others effectively. **ELD.PI.K.1.Ex** Contribute to class, group, and partner discussions.	● Conversations contribute to knowledge building. Children regularly share existing and new knowledge with one another in discussions before, during, and after engaging with texts and participating in investigations. ● Teachers ensure a community culture in which all children feel comfortable contributing to conversations, are encouraged to do so, and feel heard and respected by others. Agreed-upon discussion norms are established (e.g., listening with care, valuing contributions, speaking one at a time, asking questions). Teachers ensure equitable opportunities for all learners to contribute to conversations. Teachers gently guide children to speak audibly, and to express their thoughts, feelings, and ideas clearly (*SL.K.6*), communicating that all children's contributions matter to the group. When appropriate, teachers prompt children to provide detail in descriptions of people, places, things, and events (*SL.K.4*).

Critical Area of Instructional Focus: Foundational Skills

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RF.K.1d Recognize and name all upper- and lowercase letters of the alphabet. **Preschool R.3.2** Match more than half of uppercase letter names and more than half of lowercase letter names to their printed form.	● Each of the print concepts identified in RF.K.1 (e.g., directionality, print is used to convey language) as well as the ability to identify the front and back covers and the title page of a book (*RI.K.5; Preschool R.1.1,1.2*) is important, but priority instructional time is given to ensuring that TK children make considerable progress in recognizing and naming the upper- and lower-case letters of the alphabet. Attention is drawn to the use of these symbols in multiple meaningful contexts (e.g., children's names). ● Instruction in English for EL students capitalizes on similarities between the native language and English and highlights differences between the languages.
RF.K.2 Demonstrate understanding of spoken words, syllables, and sounds (phonemes). **Preschool R.2.1** Orally blend and delete words and syllables without the support of pictures or objects. **Preschool R.2.2** Orally blend the onsets, rimes, and phonemes of words and orally delete the onsets of words, *with* the support of pictures or objects.	● Especially important is that children develop phonemic awareness, specifically that they can isolate and pronounce the initial, medial, and final sounds in three-phoneme (CVC) spoken words and blend two to three phonemes into words. TK children make progress toward this skill. ● Instruction in English for EL students capitalizes on similarities between the native language and English and highlights differences between the languages. ● Pronunciation differences due to native language, dialect influences, or regional accent should not be misunderstood as decoding difficulties.
RF.K.3a,b Demonstrate basic knowledge of one-to-one letter-sound correspondences by producing the primary sounds or many of the most frequent sounds for each consonant and associate the long and short sounds with the common spellings for the five major vowels. **Preschool R.3.3** Begin to recognize that letters have sounds. **L.K.2c** Write a letter or letters for most consonant and short-vowel sounds.	● Transitional kindergartners make progress learning letter-sound correspondences. ● Instruction in English for EL students capitalizes on similarities between the native language and English and highlights differences between the languages. ● Pronunciation differences due to native language, dialect influences, or regional accent should not be misunderstood as decoding difficulties. ● Some transitional kindergarten children may start to spell simple words phonetically, drawing on existing knowledge of sound-letter relationships (*L.K.2d; RF.K.3d*). This is modeled and encouraged (e.g., as a teacher records a child's thoughts on a painting) but not demanded.

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RF.K.3c Read common high-frequency words by sight (e.g., *the, of, to, you, she, my, is, are, do, does*). **Preschool R.3.1** Recognize own name or other common words in print.	● In transitional kindergarten and kindergarten, regularly spelled words (e.g., *she*, *my*) may be taught as sight words. However, in subsequent grade-levels, only irregularly spelled words are taught as sight words. [Note: Here a "sight word" is a word that does not reflect common letter-sound or spelling-sound correspondences (e.g., *of*) and so must be learned by sight rather than through decoding.]
RF.K.4 Read emergent-reader texts with purpose and understanding.	● Children have many opportunities to handle and examine a variety of books, both familiar and unfamiliar. Access in virtual settings needs to be ensured. Children may engage in pretend reading; some may begin to attend closely to print and recognize or ask questions about letters or words.
W.K.1-3 Use a combination of drawing, dictating, and writing to compose opinion pieces, informative/explanatory text, and to narrate. **Preschool W.1.2** Write letters or letter-like shapes to represent words or ideas. **ELD.PI.K.10.Ex** Draw, dictate, and write to compose short literary texts and informational texts, collaboratively with an adult, with peers, and with increasing independence.	● Children are encouraged to apply their emerging knowledge of the code to write on their own. Their efforts will contribute to their understanding of the alphabetic principle. An overemphasis on accuracy by the teacher or child may inhibit children's insights into the code and their willingness to compose. ● Some transitional kindergarten children start to spell simple words phonetically, drawing on existing knowledge of sound-letter relationships (*L.K.2d*). This is modeled and encouraged but not demanded.

Class Spotlight

All 23 transitional kindergarten students are logged into the video conference and are greeting each other. Ty Jenkins is ready to start the synchronous session with a class routine that focuses on the ELA/literacy and ELD themes of meaning making and language development. During this time and the read aloud that follows, Mr. Jenkins is building his students' background knowledge and vocabulary. He joins the children's conversation saying, "Hello, busy bees! I'm super excited to see you all this morning. I think we're ready for See It, Say It Time!" Several students clap, and others make happy noises. Jiovanni says, "He called us bees, so I think the picture will be a bee." Mr. Jenkins responds, "Maybe. Let's look." He shares his screen, and the students see an image of a girl covered in paint. The paint is all over the living room, and there are paint footprints on the floor. Mr. Jenkins says, "Let's look carefully at this picture. We're going to use our sentence frame '*I see* ….' When you are ready, let me know." Clarissa says, "Mr. Jenkins, Clarissa." The teacher responds, "Yes Clarissa, go." She responds, "I see

a girl who was painting. She painted herself." "Mr. Jenkins, Paul." "Yes Paul, go." "I see white paint on the floor like her foot." Mr. Jenkins says, "I see that, too. Those are called footprints. Can you all say footprints?" The students continue until Mr. Jenkins says, "Okay, we're ready to talk about emotions. What emotions do you see? What emotions do you think others in the apartment might have?" "Mr. Jenkins, Ashley." "Yes Ashley, go." "I think she is happy. She is happy because of her smile, and it looks fun." "Mr. Jenkins, Mario." "Yes Mario, go." "I think that her mom will get mad because there is a mess." The students continue discussing emotional reactions, and then Mr. Jenkins asks, "What happened five minutes before this picture was taken?" The students theorize about adults leaving the room, something burning in the kitchen, a baby that needs to be taken care of, a dad who had to go to the bathroom, and so on. Later, Mr. Jenkins asks the students what will happen next, and they talk about cleaning up the room, showering, and one student says, "I think that they will have to move because they are gonna get in a lot of trouble." In addition to supporting the children's meaning making and language development, he is also providing them a safe place to talk and share their experiences. Each picture is connected with a book that he will read aloud to his class later in the day. Today's read-aloud will be *Louisa Loves Art* (Light, 2015) about a little boy who paints over his older sister's artwork.

Prominent ELA/Literacy/ELD Themes: Meaning Making, Language Development

Associated Standards: RL/RI.K.1,10; SL.K.1,2; ELD.PI.K.3,5.Ex

Kindergarten

Kindergarteners learn through play, social interactions, and teacher-directed instruction. Children increase their understanding of the purposes of print as they engage daily with a wide variety of texts and in their own daily attempts to express their ideas and knowledge in writing. Instruction includes a significant focus on how print works, and teachers ensure that kindergarten children make considerable progress in understanding the logic of the alphabetic code. They give priority attention to letter knowledge, phonemic awareness, letter-sound relationships, and, for many children, initial decoding of simple, regular words.

Reading aloud to children from high-quality texts occurs regularly in that it serves to broaden children's language and their knowledge of the natural and social world, while also stirring their imaginations and igniting their curiosity. Teachers engage in thinking aloud about texts to model reading as a meaning making experience, and children talk a great deal with one another about texts and other learning experiences.

Standards and instructional considerations for kindergarten follow. Many can be addressed across the curriculum, that is, as a part of science, social studies, arts, and other subjects. ELA/literacy and content area instruction are mutually supportive, and to treat them as distinctly separate areas of instruction is to miss opportunities to enhance progress in both ELA/literacy and other subjects. The language arts complement and contribute to content instruction; they do not replace inquiry and other content approaches.

Teachers should carefully consider which learning experiences are given priority during synchronous instruction. Guidelines are presented in Chapter 10 and also addressed in the Overview of the Span in this chapter.

Some key standards are included in more than one theme, or critical area of instructional focus. For example, SL.K.1 is crucial in meaning making, language development, effective expression, and content knowledge. Thus, it is included in four theme charts that follow. In each case, the repeated standard is displayed with a pink background to make the repetition obvious. Likewise, RL/RI.K.10 appears in several charts, and so a different color (in this case, orange) is used to highlight the repetition. Presented first is a chart depicting the standards for kindergarten at a glance followed by detailed charts for each theme.

Critical Areas of Instructional Focus: At a Glance

Theme	Key Standards	Related Standards
Meaning Making	RL/RI.K.1,10; RF.K.4; W.K.1-3; SL.K.1,2 ELD.PI.K.1,5,6,10,11.Ex	*RL/RI.K.2,3,5,7,9; W.K.6; SL.K.3,4,6* *ELD.PII.K.1.Ex*
Language Development	RL/RI.K.4,10; SL.K.1; L.K.1f,6 ELD.PI.K.1,3,6,12b.Ex; PII.K.4,5.Ex	*RL.K.2;SL.K.4,6; L.K.4,5* *ELD.PI.K.7,8.Ex*
Effective Expression	RL/RI.K.10; W.K.1-3,5; SL.K.1 ELD.PI.K.1,3,7,10.Ex	*RL/RI.K.6;SL.K.3,4,6; L.K.1,2*

Theme	Key Standards	Related Standards
Content Knowledge	RL/RI.K.1,4,10; W.K.2,7; SL.K.1,2 ELD.PI.K.1,2,5,6,10,12b.Ex	*RI.K.8; W.K.8; SL.K.3,4,6*
Foundational Skills	RF.K.1d,2,3a,b,c,d ,4; W.K.1-3; L.K.2c,d ELD.PI.K.10.Ex	*RI.K.5; RF.K.1,2d,f,3d*

Critical Area of Instructional Focus: Meaning Making

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.K.1 With prompting and support, ask and answer questions about key details in a text. **SL.K.2** Confirm understanding of a text read-aloud or information presented orally or through other media by asking and answering questions about key details and requesting clarification if something is not understood. **ELD.PI.K.5.Ex** Demonstrate active listening to read-alouds and oral presentations by asking and answering questions, with oral sentence frames and occasional prompting and support.	• Text-dependent questions prompt children to attend closely to texts (*ELD.PI.K.6.Ex*). Questions are developed to support young listeners' understanding of characters, settings, and major events in stories (*RL.K.3,9*); the main topic, key ideas, events, ideas, and information in informational text (*RI.K.2,3,7*); and the contributions of both text and illustrations to meaning (*RL/RI.K.7*). Questions also guide children to compare and contrast adventures and experiences of characters in familiar stories and to identify basic similarities and differences between two texts on the same topic (*RL/RI.K.9*). • Children not only answer questions posed by the teacher, but they are also encouraged to ask questions about a text or information presented through other media. Comprehension monitoring is evident when they ask questions to clarify meaning; engagement is evident when they question a character's behavior, for example, or ask about information provided in a text or otherwise presented (*SL.K.3*). • All children participate in read-aloud experiences with increasingly complex texts (i.e., those in the grades 2–3 complexity band). Questions guide and build children's comprehension, preparing children for future independent reading of challenging texts. • Children engage with a variety of text types, including an equal balance of narrative and informational texts. Exposure to a wide range of texts contributes to children's literary, cultural, and domain knowledge as well as their familiarity with various text structures and features (*RL/RI.K.5; ELD.PII.K.1.Ex*)—all of which contribute to meaning making.

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.K.10 Actively engage in group reading activities with purpose and understanding. Activate relevant prior knowledge and use illustrations and context to make predictions. **ELD.PI.K.6.Ex** Describe ideas, phenomena, and text elements in greater detail based on understanding of a variety of grade-level texts and viewing of multimedia, with moderate support. **ELD.PI.K.11.Ex** Offer opinions and provide good reasons and some textual evidence or relevant background knowledge.	• All children have many opportunities to participate in group read-aloud activities with a range of texts, with special and increasing attention to complex texts (i.e., for kindergarteners, those in the grades 2–3 band or higher). • Activities may take many forms, such as retellings, discussion, writing, dramatic play, and drawing—all of which support and reveal children's understanding of text. (*RL/RI.K.2; SL.K.5*). • Teachers identify and talk about the roles of authors and illustrators of the books they share with children (*RL/RI.K.6*). • Teachers create opportunities for all children to select texts to read for study and enjoyment. • Teachers ensure that all children see themselves in texts. • Children have access to text in their home languages.
RF.K.4 Read emergent-reader texts with purpose and understanding.	• As they learn foundational skills and begin to engage with books as readers, children are prompted to read with purpose and understanding, not just focus on accurate pronunciation of words. Children understand that we read texts to gain meaning.
W.K.1-3 Use a combination of drawing, dictating, and writing to compose opinion pieces, informative/explanatory text, and narrative. **ELD.PI.K.10.Ex** Draw, dictate, and write to compose short literary texts and informational texts, collaboratively and with an adult, with peers, and with increasing independence.	• Students write to communicate meaning (opinions, information, narratives), not simply to copy text or practice printing. They learn that writing is a meaning making process as they work to express themselves using written language. • Writing is an authentic, daily activity and occurs in both virtual and in-class settings. Children are prompted to write about what they care about. At the same time, teachers provide a stimulating, content rich environment that expands children's interests and knowledge and exposes them to different purposes for writing (i.e., to communicate opinions, information, and stories). • Writing about texts deepens comprehension. Children also write in response to a range of learning activities across the curriculum. • Children are provided opportunities to explore and, with support, use a variety of digital tools to individually and collaboratively produce and publish writing (*W.K.6*).

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
SL.K.1 Participate in collaborative conversations with diverse partners about kindergarten topics and texts with peers and adults in small and larger groups. **ELD.PI.K.1.Ex** Contribute to class, group, and partner discussions.	● Children have multiple daily opportunities to engage in brief and extended conversations with a range of others in a range of contexts for a range of purposes in both virtual and in-class settings. Conversations include ones in which children share opinions, experiences, and information; respond to texts and learning activities; and listen to and ask questions of others. Children's understandings of topics and texts are enhanced through engagement with others. ● Teachers ensure a community culture in which all children feel comfortable contributing to conversations, are encouraged to do so, and feel heard and respected by others. Agreed-upon discussion norms are established (e.g., listening with care, valuing contributions, speaking one at a time, asking questions). Teachers ensure equitable opportunities for all learners to contribute to conversations. Teachers gently guide children to speak audibly, and to express their thoughts, feelings, and ideas clearly (*SL.K.6*), communicating that all children's contributions matter to the group. When appropriate, teachers prompt children to provide detail in descriptions of people, places, things, and events (*SL.K.4*).

Critical Area of Instructional Focus: Language Development

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.K.4 Ask and answer questions about unknown words in a text. **ELD.PI.K.12b** Use a growing number of general academic and domain-specific words.	● Teachers ask questions not to quiz children on their knowledge but to guide children in noticing words and their impact on meaning (*ELD.PI.K.7,8.Ex*) and to model and prompt an enthusiastic interest in learning and sharing new words. Teachers support children to use new words in novel contexts. They help children clarify the meaning of unknown and multiple-meaning words and support exploration of word relationships and nuances in meaning (*L.K.4,5*). ● Read-alouds especially can provide opportunities to expand children's vocabulary and are selected, in part, on the basis of the richness of the language. ● Multiple texts on the same topic (e.g., informational texts about sea turtles)—and talking about key words (e.g., *carapace*)—will maximize children's exposure to domain-specific vocabulary. ● When addressing multiple-meaning words, meaning making is crucial as it is the context in which a multiple-meaning word occurs that determines its meaning (e.g., to tie a *bow* on a gift vs. to tie a rope to the *bow* of the boat). ● Teachers leverage all children's experiences and EL students' native language where possible (e.g., highlighting cognates) to support vocabulary development.
RL/RI.K.10 Actively engage in group reading activities with purpose and understanding. **ELD.PI.K.6.Ex** Describe ideas, phenomena, and text elements in greater detail based on understanding of a variety of grade-level texts and viewing of multimedia, with moderate support.	● Texts are a key source of language and teachers share a wide variety of texts, particularly those that use rich vocabulary and complex sentence structures. Teachers ensure that all children engage with texts daily whether in virtual or in-class settings. ● Discussions related to texts provide many opportunities to talk about and use new vocabulary and sentence structures.

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
SL.K.1 Participate in collaborative conversations with diverse partners about kindergarten topics and texts with peers and adults in small and larger groups. **ELD.PI.K.1,3.Ex** Contribute to class, group, and partner discussions and offer opinions in conversations using an expanded set of learned phrases as well as open responses.	● Opportunities to use language contribute to language development. Children engage in brief and extended conversations daily with a range of others in a range of contexts for a range of purposes in both virtual and in-class settings. Conversations include ones in which children share opinions, experiences, and information; respond to texts and learning experiences throughout the curriculum; and listen to and ask questions of others. ● Teachers ensure a community culture in which all children feel comfortable contributing to conversations, are encouraged to do so, and feel heard and respected by others. Agreed-upon discussion norms are established (e.g., listening with care, valuing contributions, speaking one at a time, asking questions). Teachers ensure equitable opportunities for all learners to contribute to conversations. Teachers gently guide children to speak audibly, and to express their thoughts, feelings, and ideas clearly (*SL.K.6*), signaling that all children's contributions matter to the group.
L.K.1f Produce and expand complete sentences in shared language activities. **ELD.PII.K.4,5.Ex** Expand noun phrases in a growing number of ways and expand sentences with prepositional phrases in shared language activities guided by the teacher and with increasing independence.	● Teachers prompt children to provide detail and "say more," demonstrating sincere interest in what children say (*SL.K.4*). They encourage children to retell stories (*RL.K.2*) and share their opinions, experiences, and knowledge with others.
L.K.6 Use words and phrases acquired through conversations, reading and being read to, and responding to texts. **ELD.PI.K.12b** Use a growing number of general academic and domain-specific words.	● Teachers model, scaffold (planned and "just-in-time), and prompt the use of target words, especially those encountered in a text and discussions, in multiple contexts. Multiple daily opportunities to use language are crucial for language development.

Critical Area of Instructional Focus: Effective Expression

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.K.10 Actively engage in group reading activities with purpose and understanding. **ELD.PI.K.7.Ex** Describe the language an author uses to present an idea, with prompting and moderate support.	● Children listen to stories, poetry, and informational texts that are models of effective expression. Teachers guide children in identifying language or structures that evoke responses and emotions (e.g., laughter, surprise) or vivid mental images, provide clear explanations or interesting organization (e.g., use of a familiar pattern, such as days of the week, to develop a story or present information), or in some way capture readers' or listeners' attention (e.g., use of alliterations). Children become increasingly aware of the author's craft.
W.K.1-3 Use a combination of drawing, dictating, and writing to compose opinion pieces, informative/explanatory text, and to narrate. **ELD.PI.K.10.Ex** Draw, dictate, and write to compose short literary texts and informational texts, collaboratively with an adult, with peers, and with increasing independence.	● Teachers express interest and ask questions to prompt clear communication when taking children's dictation while also honoring children's ideas and language. Teachers encourage children to add details and to share with others and respond to suggestions (*W.K.5*). Teachers encourage children's interest in and enthusiasm for one another's written efforts. ● Writing is a daily activity (writing volume contributes to progress) and an authentic one. Children are prompted to write about what they care about. At the same time, teachers provide a stimulating, content rich environment that expands children's interests and prompts their use of different text types. ● Exemplar texts conveying opinions, information, and stories are used at times as models of excellent writing. Teachers draw explicit attention to different types of texts and provide guidance in group and individual writing projects. ● Teachers foster children's identities as authors, and they talk about the authors and illustrators of the books they share with children (*RL/RI.K.6*).
W.K.5 With guidance and support from adults, respond to questions and suggestions from peers and add details to strengthen writing as needed.	● Sharing writing with an audience contributes to children's understanding of the clarity and impact of their written communication. ● Teachers selectively focus on conventions (*L.K.1,2*).

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
SL.K.1 Participate in collaborative conversations with diverse partners about kindergarten topics and texts with peers and adults in small and larger groups. **ELD.PI.K.1,3.Ex** Contribute to class, group, and partner discussions; offer opinions in conversations using an expanded set of learned phrases as well as open responses.	● Children learn to listen carefully to others and to communicate their ideas clearly in order to continue a conversation through multiple exchanges. They learn—with teacher guidance—to stay on topic and to ask and answer clarifying questions or seek help or information (*SL.K.3*). ● Teachers ensure a community culture in which all children feel comfortable contributing to conversations, are encouraged to do so, and feel heard and respected by others. Agreed-upon discussion norms are established (e.g., listening with care, valuing contributions, speaking one at a time, asking questions). Teachers ensure equitable opportunities for all learners to contribute to conversations. Teachers gently guide children to speak audibly, and to express their thoughts, feelings, and ideas clearly (*SL.K.6*), communicating that all children's contributions matter to the group. When appropriate, teachers prompt children to provide detail in descriptions of people, places, things, and events (*SL.K.4*).

Critical Area of Instructional Focus: Content Knowledge

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.K.1 With prompting and support, ask and answer questions about key details in a text. **SL.K.2** Confirm understanding of a text read-aloud or information presented orally or through other media by asking and answering questions about key details and requesting clarification if something is not understood. **ELD.PI.K.5.Ex** Demonstrate active listening to read-alouds and oral presentations by asking and answering questions, with oral sentence frames and occasional prompting and support.	● Informational texts that build children's knowledge are a crucial component of literacy programs at every grade level, including kindergarten. Text sets on a given topic and volume of exposure to texts, in addition to information presented by orally or through other media, contribute to building knowledge. Children have access to informational text in their home languages to amplify domain knowledge and support meaning making. ● Book selections are based on grade-level content standards and learning experiences in different subjects (e.g., science, social studies), children's interests, and cultural experiences. ● Children not only answer questions posed by the teacher, but they are also encouraged to ask questions about the text. Expressions of interest and curiosity—when pursued—lead to more knowledge building. ● Teachers guide children to identify reasons an author gives to support points in a text (*RI.K.8; ELD.PI.K.7.Ex*). In doing so, they are laying the groundwork for children's ability to critically evaluate and build arguments from evidence in future grades.
RI.K.4 Ask and answer questions about unknown words in a text. **ELD.PI.K.12b** Use a growing number of general academic and domain-specific words.	● Many words in informational text, in particular, are domain-specific; as children learn this vocabulary, they build knowledge. Importantly, vocabulary is learned in a meaningful context, and children have opportunities to use newly acquired vocabulary as they engage in content-related activities and investigations.
RL/RI.K.10 Actively engage in group reading activities with purpose and understanding. **ELD.PI.K.6.Ex** Describe ideas, phenomena, and text elements in greater detail based on understanding of a variety of grade-level texts and viewing of multimedia, with moderate support.	● Group reading activities ensure that children are exposed to a high volume of wide-ranging content-rich texts. This expands their knowledge of the natural and social world and their vocabulary and, likely, broadens their interests. ● Instructional units are organized around conceptually-related topics so that knowledge and related vocabulary are built. ● Children have access to informational text in their home languages to amplify domain knowledge and support meaning making.

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
W.K.2 Use a combination of drawing, dictating, and writing to compose informative/explanatory texts in which they name what they are writing about and supply some information about the topic. **W.K.7** Participate in shared research and writing projects. **ELD.PI.K.2,10.Ex** Collaborate with the teacher and peers on joint composing projects of informational and literary texts; draw, dictate, and write to compose short literary texts and informational texts, collaboratively with an adult, with peers, and with increasing independence.	● Children have many opportunities to convey in written form what they are learning about topics of interest and topics under study in grade-level investigations across the curriculum (e.g., science, social studies, the arts).(*W.K.8*) ● Children pursue their interests and build content knowledge. Instruction also piques children's interest in new topics. Teachers ensure that children experience a coherent curriculum in science, social studies, the arts, and all content areas. ● Children are guided and supported to recall information from experiences or gather information from provided sources to answer a question (*W.K.8*). ● Children work cooperatively, in both virtual and in-class settings, to explore topics of common interest. They build knowledge and increasingly effective communication skills as they have many opportunities to share their ideas with one another.
SL.K.1 Participate in collaborative conversations with diverse partners about kindergarten topics and texts with peers and adults in small and larger groups. **ELD.PI.K.1.Ex** Contribute to class, group, and partner discussions.	● Conversations contribute to knowledge building. Children regularly share existing and new knowledge with one another in discussions before, during, and after engaging with texts and participating in investigations. ● Teachers ensure a community culture in which all children feel comfortable contributing to conversations, are encouraged to do so, and feel heard and respected by others. Agreed-upon discussion norms are established (e.g., listening with care, valuing contributions, speaking one at a time, asking questions). Teachers ensure equitable opportunities for all learners to contribute to conversations. Teachers gently guide children to speak audibly, and to express their thoughts, feelings, and ideas clearly (*SL.K.6*), communicating that all children's contributions matter to the group. When appropriate, teachers prompt children to provide detail in descriptions of people, places, things, and events (*SL.K.4*).

Critical Area of Instructional Focus: Foundational Skills

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RF.K.1d Recognize and name all upper- and lowercase letters of the alphabet.	● Each of the print concepts identified in RF.K.1 (e.g., directionality, print is used to convey language) as well as the ability to identify the front and back covers and the title page of a book (*RI.K.5*) are important, but priority attention is given to ensuring that children learn to recognize and name all upper- and lower-case letters of the alphabet. Attention is drawn to the use of these symbols in multiple meaningful contexts (e.g., in their names, on labels, in books). ● Instruction in English for EL students capitalizes on similarities between the native language and English and highlights differences between the languages.
RF.K.2 Demonstrate understanding of spoken words, syllables, and sounds (phonemes).	● Especially important is that children develop phonemic awareness, specifically that they can isolate and pronounce the initial, medial, and final sounds in three-phoneme (CVC) spoken words (*RF.K.2d*) and blend two to three phonemes into words (*RF.K.2f*). ● Instruction in English for EL students capitalizes on similarities between the native language and English and highlights differences between the languages. ● Pronunciation differences due to native language, dialect influences, or regional accent should not be misunderstood as decoding difficulties.
RF.K.3a,b Demonstrate basic knowledge of one-to-one letter-sound correspondences by producing the primary sounds or many of the most frequent sounds for each consonant and associate the long and short sounds with the common spellings (graphemes for the five major vowels. **L.K.2c** Write a letter or letters for most consonant and short-vowel sounds (phonemes.).	● Instruction in English for EL students capitalizes on similarities between the native language and English and highlights differences between the languages. ● Pronunciation differences due to native language, dialect influences, or regional accent should not be misunderstood as decoding difficulties.

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
L.K.2d Spell simple words phonetically, drawing on knowledge of sound-letter relationships. **RF.K.3d** Distinguish between similarly spelled words by identifying the sounds of the letters that differ.	● Children have many opportunities to use what they are learning about sound-letter relationships and the phonological structure of spoken language (especially phonemic awareness) to generate the spellings for simple words. ● Pronunciation differences due to native language, dialect influences, or regional accent may influence phonetic spelling. Teachers handle this respectfully, affirming children's matches between sounds and symbols while supporting recognition of differences.
RF.K.3c Read common high-frequency words by sight (e.g., *the, of, to, you, she, my, is, are, do, does*).	● In kindergarten regularly spelled words (e.g., *she, my*) may be taught as sight words. However, in subsequent grade-levels, only irregularly spelled words are taught as sight words. [Note: Here a "sight word" is a word that does not reflect common letter-sound or spelling-sound correspondences (e.g., *of*) and so must be learned by sight rather than through decoding.] ● It is important for future reading progress that more emphasis is placed on learning the logic of the code than memorizing long lists of words. However, learning some words by sight is important as this will open opportunities for children to engage with texts that contain words with patterns they have not yet learned.
RF.K.4 Read emergent-reader texts with purpose and understanding.	● Ample time to practice reading with books that reflect what children are learning about printed language (i.e., decodable books) is crucial for learning. However, children also are thoughtfully exposed to orthographic diversity—that is, the variation in letter-sound and spelling-sound correspondences (e.g., the letter "s" may be pronounced /s/ or /z/). In the years ahead, children are taught to try different reasonable pronunciations and determine which one results in a real word (e.g., the "ow" spelling in *row* and *cow*) or, if both pronunciations result in real words (e.g., to *bow* to the audience and to put a *bow* on a gift), determine which one makes sense in the context. ● Even when accuracy and fluency are the primary focus of a lesson or activity, teachers ensure meaning making and understanding of vocabulary. ● Pronunciation differences due to native language, dialect influences, or regional accent should not be misunderstood as decoding difficulties.

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
W.K.1-3 Use a combination of drawing, dictating, and writing to compose opinion pieces, informative/explanatory text, and to narrate. **ELD.PI.K.10.Ex** Draw, dictate, and write to compose short literary texts and informational texts, collaboratively with an adult, with peers, and with increasing independence.	● Children are encouraged to apply their emerging knowledge of the code to write on their own. Their efforts will contribute to their understanding of the alphabetic principle. An overemphasis on accuracy—whether by children or the teacher—may inhibit children's insights into the code and their willingness to compose. ● Some kindergarten children start to spell simple words phonetically, drawing on existing knowledge of sound-letter relationships (*L.K.2d*). This is modeled and encouraged but not demanded.

Class Spotlight

Erica Williams knows that phonemic awareness development plays a crucial role in literacy development, and she ensures regular practice and close monitoring of her kindergarteners' progress on this foundational skill. During a synchronous online learning session with a small group, she reminds the children that they have been focusing on individual sounds they hear in spoken words. As a warmup, she asks children to think about the sound at the beginning of their names and asks volunteers to share with the group. Jenny indicates that she will share. "My name starts like this: /j/!" "Yes, says Ms. Williams, 'Jenny begins with /j/.' Let's all move our mouths to make that sound--/j/." The children look into their cameras and shape their lips into the /j/ position, then they giggle at their silly faces. Berto speaks next, saying "/b/ for me!" "Yes! Berto begins with /b/." Again, the children move their mouths into position to make the /b/ sound. After each child shares, Ms. Williams reminds them that they have also worked on identifying all the sounds in some words, not just the initial sound. "*Cat* consists of the sounds /c/-/a/-/t/ and *ship* consists of the sounds /sh/-/i/-/p/." The children nod. Then, she shares her screen to display a Google Drawing of three Elkonin boxes side by side. Below the Elkonin boxes are several round disks. The children recognize the items and are ready to participate. "Listen and watch," Ms. Williams says. "My word is *man*. Say *man*." Then, she segments the word into its three sounds and moves a disk into a box as she says the sound: "/m/" (moving a disk into the far left box), "/a/" (moving a second disk into the middle box, "/n/," moving a third disk into the far right box). Then, she says the sounds blended into the word, "man!" She models several more words. Next, she asks children to click on the link to the Google Drawing she shared with the children so they can manipulate the disks. She asks Aubrie to take control and repeat the process with one of the words she modeled, *man*. Ms. Williams is mindful that speaking clearly is important when addressing phonemic awareness—especially in a distance context. She also ensures that she uses words that are in the children's speaking vocabulary, and when a word contains a sound that is not in the native language of some of her students, she gives the sound special emphasis, momentarily stopping from sharing her screen so the children can watch her mouth closely as she says the sound. She shares her screen again and continues the activity with several other three-phoneme words, giving different children the opportunity to move the disks. Once Ms. Williams is

confident that her students can do the task, she will give all children their own Google Drawing with the Elkonin boxes and disks and will post on the class site a set of familiar pictures (all three-phoneme words that they have reviewed and can name, such as *fan*, *rug*, *bug*, *mitt*, *pig*) so that they may practice on their own.

Prominent ELA/Literacy/ELD Theme: Foundational Skills

Associated Standards: RF.K.2d,f; ELD.PIII

Grade One

Remarkable advances in literacy, language, and content knowledge acquisition occur during this grade. Children continue to learn skills that enable them to read and write with increasing independence. Special attention is given to ensuring that they are phonemically aware, know letter-sound and common spelling-sound correspondences, can accurately decode (sound out) regularly-spelled one- and two-syllable printed words, and develop automaticity with the alphabetic system through ample practice of new learning in meaningful contexts. In addition to using their growing knowledge of the alphabetic system to read, children harness their understandings of the alphabetic code to share their own ideas and knowledge in writing. Initially, they spell words phonetically; as they progress, they employ common spelling patterns they are learning.

At the same time that foundational skills are being developed, meaning making is addressed; in fact, it undergirds all learning. Children engage with a range of high-quality texts as listeners and readers. They participate in thoughtful discussions about texts and topics, learning how to build on the comments of others and to ask questions to clear up confusion or gather additional information. Ample time is devoted to enriching children's language and supporting their ability to express themselves effectively. Vocabulary development is given considerable attention. Concurrently, children have extended—not superficial, single-lesson—experiences in the content areas that expand their language and their knowledge of the world as well as the range of human experiences and perspectives.

Standards and instructional considerations for grade one follow. Many can be addressed across the curriculum, that is, as a part of science, social studies, arts, and other subjects. ELA/literacy and content area instruction are mutually supportive, and to treat them as distinctly separate areas of instruction is to miss opportunities to enhance progress in both ELA/literacy and other subjects. The language arts complement and contribute to content instruction; they do not replace inquiry and other content approaches.

In distance learning settings, teachers should carefully consider which learning experiences are given priority during synchronous instruction. Guidelines are presented in Chapter 10 and also addressed in the Overview of the Span in this chapter.

Some key standards are included in more than one theme, or critical area of instructional focus. For example, W.1.1-3 appear as key standards in the following charts: Meaning Making (as children use writing to convey meaning), Effective Expression (as they begin to work toward using precise language and conventions to craft their thoughts in writing),

Content Knowledge (as they consolidate understandings of topics under exploration by writing about them), and Foundational Skills (as they apply and integrate their expanding knowledge of the code). In each case, W.1.1-3 is displayed with a purple background to make the repetition obvious. Likewise, SL.1.1 is crucial as teachers support children's meaning making, language development, effective expression, and content knowledge. Thus, it is included in four theme charts, with a different color (in this case, pink) used to highlight the repetition. Presented first is a chart depicting the standards for grade one at a glance followed by detailed charts for each theme.

Critical Areas of Instructional Focus: At a Glance

Theme	Key Standards	Related Standards
Meaning Making	RL/RI.1.1,10; RF.1.4; W.1.1-3; SL.1.1,2,3 ELD.PI.1.1,5,6,10,11.Ex	*RL/RI.1.2,3,5,7,9; RI.1.6; RF.1.1; W.2.10; SL.1.5* *ELD. PII.1.1.Ex*
Language Development	RL/RI.1.4,10; SL.1.1; L.1.1j,6 ELD.PI.1.1,3,6,12b.Ex; PII.1.4,5	*RL/RI.1.4; SL.1.6; L.1.4,5* *ELD.PI.1.7,8.Ex; PII.2.3-5.Ex*
Effective Expression	RL/RI.1.10; RF.1.4; W.1.1-3,5; SL.1.1 ELD.PI.1.1,3,7,8,10.Ex	*RL.1.4-6; RI.3.8; W.1.6; SL.1.3,4; L.1.1,2,6* *ELD.PII.1.1.Ex*
Content Knowledge	RL/RI.1.1,10; RI.1.4; W.1.2,7; SL.1.1,2,3 ELD.PI.1.1,5,6,10,12b.Ex	*RI.1.5,8; RF.1.1-4; W.1.8; SL.1.5* *ELD.PI.1.7.Ex; PII.1.1.Ex*
Foundational Skills	RF.1.2,3a,b,c,e,g,4; L.2.2d,e; W.1.1-3 ELD.PI.1.10.Ex	*RF.1.2d,f*

Critical Area of Instructional Focus: Meaning Making

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.1.1 Ask and answer questions about key details in a text. **SL.1.2** Ask and answer questions about key details in a text read-aloud or information presented orally or through other media. **SL.1.3** Ask and answer questions about what a speaker says in order to gather additional information or clarify something that is not understood. **ELD.PI.1.5.Ex** Demonstrate active listening to read-alouds and oral presentations by asking and answering questions, with oral sentence frames and occasional prompting and support.	● Text-dependent questions prompt children to attend closely to texts; questions are developed to support children's understanding of the central message, characters, settings, and major events in stories (*RL.1.2,3,7,9*) and the main topic, key ideas, events, ideas, and information in informational text (*RI.1.2,3,6,7*), including identifying basic similarities and differences between two texts on the same topic (*RI.1.9*). (*ELD.PI.1.6.Ex*). ● Children not only answer questions posed by the teacher, but they are also encouraged to ask questions about a text or information presented through other media. Comprehension monitoring is evident when they ask questions to clarify meaning; engagement is evident when they question a character's behavior or ask about information provided in a text or otherwise presented. ● All children participate in read-aloud experiences with increasingly complex texts (i.e., those in the grades 2–3 complexity band). Questions guide and build children's comprehension, preparing children for future independent reading of challenging texts. ● Children engage as listeners and readers with a variety of text types, including an equal balance of narrative and informational texts, as well as other sources of information. Exposure to a wide range of texts contributes to children's literary, cultural, and domain knowledge, as well as their familiarity with various text structures and features (*RL/RI.1.5; ELD.PII.1.1.Ex*)—all of which contribute to meaning making.

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.1.10 With prompting and support, read prose, poetry, and informational texts of appropriate complexity for grade 1. Activate relevant prior knowledge and confirm predictions made about what will happen next in a text. **ELD.PI.1.6.Ex** Describe ideas, phenomena, and text elements in greater detail based on understanding of a variety of grade-level texts and viewing of multimedia, with moderate support. **ELD.PI.1.11.Ex** Offer opinions and provide good reasons and some textual evidence or relevant background knowledge.	● Children read and discuss texts of different types, sometimes drawing to share or clarify their ideas, thoughts, and feelings (*SL.1.5*). Special attention given to books with appropriate complexity for grade one. Teachers ensure that all students read daily; volume of reading contributes to reading development. Children's awareness of the organization and basic features of print expands with instruction and exposure (*RF.1.1*). ● Teachers support children in meaning making, including by guiding them to draw on prior knowledge, make and confirm predictions about what happens next in a text, and distinguishing between information provided in illustrations and text (*RI.1.6*). ● Teachers create opportunities for all children to select texts to read for study and enjoyment. ● Teachers ensure that all children see themselves in texts.
RF.1.4 Read with sufficient accuracy and fluency to support comprehension.	● Attention is given to meaning making as the reason for developing the foundational skills. This is also the reason that children use context to confirm or self-correct word recognition and understanding, rereading as necessary. ● Teachers ensure that children become accurate decoders and that they build automaticity quickly so that decoding efforts are not so demanding that they prevent meaning making.
W.1.1-3 Write opinion pieces, informative/explanatory texts, and narratives. **ELD.PI.1.10.Ex** Write short literary texts and informational texts, collaboratively and with an adult, with peers, and with increasing independence.	● The understanding that meaning is conveyed through writing is crucial, and children learn that writing takes different forms depending on an author's purpose. Experiences listening to and reading different types of texts contribute to their understanding of differences among text types and progress in writing different text types (*RL.1.5; ELD.PII.1.1.Ex*). ● Writing is an authentic, daily activity and occurs in both virtual and in-class settings. Children are prompted to write about what they care about. At the same time, teachers provide a stimulating environment that expands children's interests. ● Writing about texts read or listened to can deepen comprehension. Children also write in response to learning activities across the curriculum.

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
SL.1.1 Participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and larger groups. **ELD.PI.1.1.Ex** Contribute to class, group, and partner discussions.	● Children have daily opportunities to engage in conversations with a range of others in a range of contexts for a range of purposes. Conversations include sharing opinions, experiences, and information; responding to texts and learning experiences; and listening to and asking questions of others. Children's understandings of topics and texts are enhanced through engagement with others. ● Teachers ensure a community culture in which all children feel comfortable contributing to conversations, are encouraged to do so, and feel heard and respected by others. Agreed-upon discussion norms are established (e.g., listening with care, valuing contributions, speaking one at a time, asking questions). Teachers ensure equitable opportunities for all learners to contribute to discussions.

Critical Area of Instructional Focus: Language Development

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.1.4 Ask and answer questions to help determine or clarify the meaning of words and phrases in a text. **ELD.PI.1.12b** Use a growing number of general academic and domain-specific words.	• Words are drawn from texts (or other media and contexts) with which the children are engaged rather than a list divorced from any context. • Teachers ask questions not to quiz children on their knowledge but to guide children in noticing words and their impact on meaning (*RL/RI.1.4; ELD.PI.1.7-8.Ex*) and to model and prompt an enthusiastic interest in learning and sharing new words. Teachers support children in using new words in novel contexts (*L.1.6*). • Read-alouds especially can provide opportunities to expand children's vocabulary and are selected, in part, on the basis of the richness of the language. Read-alouds include books in the grades 2-3 complexity band or higher. • Teachers guide children in understanding nuances in word meanings (*L.1.5; ELD.PI.1.8*). • When addressing multiple-meaning words (*L.1.4*), meaning making is crucial as it is the context in which a multiple-meaning word occurs that determines its meaning (e.g., to tie a *bow* on a gift vs. to tie a rope to the *bow* of the boat). • Children learn to use different strategies to determine word meanings, including sentence-level context and word parts, such as affixes and roots (*L.1.4*). • Teachers leverage all children's experiences and EL students' native language where possible (e.g., highlighting cognates) to support vocabulary development.
RL/RI.1.10 With prompting and support, read prose, poetry, and informational texts of appropriate complexity for grade 1. **ELD.PI.1.6.Ex** Describe ideas, phenomena, and text elements in greater detail based on understanding of a variety of grade-level texts and viewing of multimedia, with moderate support.	• Texts, including those read independently, by groups of children, and read-aloud by a teacher, are a key source of language. Teachers ensure that all children engage with language-rich texts daily, whether in virtual or in-class settings. • Discussions related to texts provide opportunities to talk about and use new vocabulary and sentence structures.

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
SL.1.1 Participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and larger groups. **ELD.PI.1.1,3.Ex** Contribute to class, group, and partner discussions and offer opinions and negotiate with others in conversations using an expanded set of learned phrases as well as open responses.	● Opportunities to use language contributes to language development. Children engage in brief and extended daily conversations with a range of others in a range of contexts for a range of purposes. Conversations include sharing opinions, experiences, and information; responding to texts and learning experiences; and listening to and asking questions of others. ● Teachers ensure a community culture in which all children feel comfortable contributing to conversations, are encouraged to do so, and feel heard and respected by others. Agreed-upon discussion norms are established (e.g., listening with care, valuing contributions, speaking one at a time, asking questions). Teachers ensure equitable opportunities for all learners to contribute to discussions.
L.1.1j Produce and expand complete simple and compound declarative, interrogative, imperative, and exclamatory sentences in response to prompts. **ELD.PII.1.4,5.Ex** Expand noun phrases in a growing number of ways, and expand sentences with prepositional phrases in shared language activities guided by the teacher and with increasing independence.	● Teachers guide students to produce complete sentences when appropriate to task and situation (*SL.1.6*). They selectively draw children's attention to complex sentences in texts, guiding children's reflections on the components of the sentences, and encouraging their use of increasingly complex sentences. They guide deconstruction and construction of complex sentences for understanding their structure and meaning making. ● Other substandards within L.1.1 support children's knowledge of the conventions of Standard English (e.g., matching nouns and verbs, using determiners) and although these conventions are addressed, more attention is given to expanding children's vocabulary and use of complex sentence structures.
L.1.6 Use words and phrases acquired through conversations, reading and being read to, and responding to texts, including using frequently occurring conjunctions to signal simple relationships (e.g., *because*). **ELD.PI.1.12b** Use a growing number of general academic and domain-specific words.	● Teachers model, scaffold (planned and "just-in-time"), and prompt the use of target words, especially those encountered in a text and discussions, in multiple contexts. Opportunities to use language are crucial for language development.

Critical Area of Instructional Focus: Effective Expression

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.1.10 With prompting and support, read prose, poetry, and informational texts of appropriate complexity for grade 1. **ELD.PI.1.7,8.**Ex Describe the language writers or speakers use to present or support an idea, with prompting and moderate support and distinguish how two different words with similar meaning produce shades of meaning and a different effect on the audience.	● Children read and are read stories, poetry, and informational texts that are models of effective expression. Teachers guide children in identifying language or structures that evoke responses and emotions (e.g., laughter, surprise) or vivid mental images, provide clear explanations or interesting organization (e.g., using a familiar pattern, such as days of the week, to develop a story or present information), or in some way capture readers' or listeners' attention (e.g., use of alliterations). Children also can identify who is telling the story at various points in the text and determine how an author provides this information (*RL.1.6*). Children become increasingly aware of the author's craft (*RL.1.4,5*).
RF.1.4 Read with sufficient accuracy and fluency to support comprehension.	● Teachers model reading aloud fluently a variety of text types. They vary their pace and use expression appropriate for the text. They also share other effective models of fluent reading using different media sources. ● Children have regular opportunities to read-aloud individually and chorally after rehearsal. Reading aloud is treated as a joyful, community-building process, as children share their own work or engage in a performance (e.g., readers theatre) for others in virtual or in-class settings (*SL.1.4*).

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
W.1.1 Write opinion pieces in which they introduce the topic or name the book they are writing about, state an opinion, supply a reason for the opinion, and provide some sense of closure. **W.1.2** Write informative/explanatory texts in which they name a topic, supply some facts about the topic, and provide some sense of closure. **W.1.3** Write narratives in which they recount two or more appropriately sequenced events, included some details regarding what happened, use temporal words to signal event order, and provide some sense of closure. **ELD.PI.1.10.Ex** Write short literary texts and informational texts, collaboratively and with an adult, with peers, and with increasing independence.	● Children use writing for different purposes: to convey their opinions, information, and narratives. ● Children write daily and are given explicit guidance on how to effectively construct and develop different types of texts (*ELD.PII.1.1.Ex*). Exemplar texts are shared as models. ● Sharing writing with an audience contributes to children's understanding of the clarity and impact of their written communication. Oral reading of their work provides children an authentic reason for rehearsal, which contributes to fluent presentation (*RF.1.4*). ● Motivation is crucial; children write about what interests them, and teachers create learning contexts that expand their interests. ● Children become more skilled at writing as volume and range of writing increase. ● Teachers prompt children to use new vocabulary they are acquiring to communicate their thoughts more effectively and with increasing precision (*L.1.6*). ● Children are provided opportunities to use a variety of digital tools to individually and collaboratively produce and publish writing (*W.1.6*).
W.1.5 With guidance and support from adults, focus on a topic, respond to questions and suggestions from peers, and add details to strengthen writing as needed.	● Children's writing receives regular feedback from an interested audience, so children become more effective at expressing their opinions, information, and narratives. ● Feedback is expressed in positive, encouraging ways to ensure motivation and enthusiasm for creating written work are maintained. Teachers engage students in self-assessment and goal setting. ● Teachers selectively focus on conventions as appropriate (*L.1.1,2*).

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
SL.1.1 Participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and larger groups. **ELD.PI.1.1,3.Ex** Contribute to class, group, and partner discussions; offer opinions and negotiate with others in conversations using an expanded set of learned phrases as well as open responses.	● Children learn to listen carefully to others and to communicate their ideas clearly. In asking and responding to questions focused on clarifying any confusion, children learn—with teacher guidance—that how they (and others) express themselves impacts communication (*SL.1.3*). ● Teachers ensure a community culture in which all children feel comfortable contributing to conversations, are encouraged to do so, and feel heard and respected by others. Agreed-upon discussion norms are established (e.g., listening with care, valuing contributions, speaking one at a time, asking questions). Teachers ensure equitable opportunities for all learners to contribute to discussions.

Critical Area of Instructional Focus: Content Knowledge

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.1.1 Ask and answer questions about key details in a text. **SL.1.2** Ask and answer questions about key details in a text read-aloud or information presented orally or through other media. **SL.1.3** Ask and answer questions about what a speaker says in order to gather additional information or clarify something that is not understood. **ELD.PI.1.5.Ex** Demonstrate active listening to read-alouds and oral presentations by asking and answering questions, with oral sentence frames and occasional prompting and support.	● Informational texts that build children's knowledge are a crucial component of literacy programs at every grade level, including the primary grades. Texts sets on a given topic and volume of reading contribute to building knowledge. Children have access to informational text in their home languages to amplify domain knowledge and support meaning making. ● Some books are selected on the basis of grade-level content standards and learning experiences in different subjects (e.g., science, social studies), and—importantly—children's interests, and cultural experiences. ● Teachers guide children to identify reasons an author gives to support points in a text (*RI.1.8; ELD.PI.1.7.Ex*). In doing so, they are laying the groundwork for children's ability to critically evaluate and build arguments from evidence in future grades. ● Children not only answer questions posed by the teacher, but they are also encouraged to ask questions about the text. Expressions of interest and curiosity—when pursued—lead to more knowledge building.

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RI.1.4 Ask and answer questions to help determine or clarify the meaning of words and phrases in a text. **ELD.PI.1.12b** Use a growing number of general academic and domain-specific words.	● Many words in informational text, in particular, are domain-specific; as children learn this vocabulary in context, they build knowledge. Importantly, vocabulary is learned in a meaningful context, and children have opportunities to use newly acquired vocabulary as they engage in content-related activities and investigations.
RL/RI.1.10 With prompting and support, read prose, poetry, and informational texts of appropriate complexity for grade 1. Activate relevant prior knowledge and confirm predictions made about what will happen next in a text. **ELD.PI.1.6.Ex** Describe ideas, phenomena, and text elements in greater detail based on understanding of a variety of grade-level texts and viewing of multimedia, with moderate support.	● Children independently and with others read and discuss texts of different types daily, including a high volume of content-rich texts. Importantly, independent engagement with texts is enabled by their progress in foundational skills (*RF.1.1-4*). ● At times, children create drawings or other visual displays to share their understandings and ideas (*SL.1.5*). This expands their knowledge of the natural and world, vocabulary, and familiarity with various text structures and features (*RI.1.5, ELD.PII.1.1.Ex*). ● Children have access to informational text in their home languages to amplify domain knowledge and support meaning making.
W.1.2 Write informative/explanatory texts in which they name a topic, supply some facts about the topic, and provide some sense of closure. **W.1.7** Participate in shared research and writing projects (e.g., explore a number of "how-to" books on a given topic and use them to write a sequence of instructions). **ELD.PI.1.10.Ex** Write short literary texts and informational texts, collaboratively and with an adult, with peers, and with increasing independence.	● Children have many opportunities to write about what they are learning as they pursue their interests and engage in grade-level investigations. ● Children are provided access to multiple sources of information on a topic (*W.1.8*). ● Children pursue their interests and build content knowledge. Instruction also piques children's interest in new topics. Teachers ensure that children experience a coherent curriculum in science, social studies, the arts, and all content areas. ● Children are guided and supported to recall information from experiences or gather information from provided sources to answer a question (*W.1.8*). ● Children work cooperatively, in both virtual and in-class settings, to explore topics of common interest. They build knowledge and increasingly effective communication skills as they have many opportunities to share their ideas with one another.

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
SL.1.1 Participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and larger groups. **ELD.PI.1.1.Ex** Contribute to class, group, and partner discussions.	● Conversations contribute to knowledge building. Children regularly share existing and new knowledge with one another in discussions before, during, and after engaging with texts and participating in investigations. ● Teachers ensure a community culture in which all children feel comfortable contributing to conversations, are encouraged to do so, and feel heard and respected by others. Agreed-upon discussion norms are established (e.g., listening with care, valuing contributions, speaking one at a time, asking questions). Teachers ensure equitable opportunities for all learners to contribute to discussions.

Critical Area of Instructional Focus: Foundational Skills

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RF.1.2 Demonstrate understanding of spoken words, syllables, and sounds (phonemes).	● Especially important is that children orally produce single-syllable words by blending sounds (phonemes, including consonant blends (*RF.1.2b*) and segment spoken single-syllable words into their complete sequence of individual sounds (phonemes) (*RF.1.2d*). ● Pronunciation differences due to native language, dialect influences, or regional accent should not be misunderstood as decoding difficulties.
RF.1.3a Know the spelling-sound correspondences for common consonant digraphs.	● Pronunciation differences due to native language, dialect influences, or regional accent should not be misunderstood as decoding difficulties.
RF.1.3b Decode regularly spelled one-syllable words. **L.1.2d** Use conventional spelling for words with common spelling patterns. **L.1.2e** Spell untaught words phonetically, drawing on phonemic awareness and spelling conventions.	● Children are guided to use what they are learning about letter-sound relationships and the phonological structure of spoken language (especially phonemic awareness) to read untaught words and to generate spellings of words that reflect the letter-sound and spelling-sound correspondences they have been taught. ● Children have many opportunities to practice regularly spelled one-syllable words in a variety of contexts. ● Instruction in English for EL students capitalizes on similarities between the native language and English and highlights differences between the languages. ● Pronunciation differences due to native language, dialect influences, or regional accent should not be misunderstood as decoding difficulties.

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RF.1.3c Know final -e and common vowel team conventions for representing long vowel sounds.	• Pronunciation differences due to native language, dialect influences, or regional accent should not be misunderstood as decoding difficulties.
RF.1.3e Decode two-syllable words following basic patterns by breaking the words in syllables.	• Children see many examples of what they learn in a variety of contexts. However, children also are thoughtfully exposed to orthographic diversity—that is, the variation in letter-sound and spelling-sound correspondences (e.g., the vowel combination “ea" may be pronounced as a long or short e sound as in *bead* and *bread*). Children are taught to try different pronunciations and determine which one makes sense in the context. • Instruction in English for EL students capitalizes on similarities between the native language and English and highlights differences between the languages. • A strong foundation in letter-sound, spelling-sound, and decoding regularly spelled one-syllable words is important. Children also learn to decode words with inflectional endings (*RF.1.3f*). • Children learn that every syllable has a vowel sound (*RF.1.3d*), and using their phonological awareness, they can identify the number of syllables in spoken words. • Word analysis skills are used to decode two-syllable words. Children develop automaticity with them after ample practice decoding them. (It is only irregularly spelled words that are taught as sight words from this grade forward.)
RF.1.3g Recognize and read grade-appropriate irregularly spelled words. **L.1.2d** Use conventional spelling for frequently occurring irregular words.	• Teachers help children identify the spellings in the words that are regular (e.g., “fr” and “m” in *from*) and those that are not (e.g., the “o” in *from*). Few words are entirely irregularly spelled; “of” is one of them. • Multiple exposures in a variety of contexts are needed for children to build rapid recognition of these words.
RF.1.4 Read with sufficient accuracy and fluency to support comprehension.	• Teachers model fluent reading, and children are given ample time to practice reading with attention to accuracy in order to develop automaticity with decoding. Volume of reading contributes significantly to progress. • Even when accuracy and fluency are the primary focus of a lesson or activity, teachers ensure meaning making and understanding of vocabulary. • Pronunciation differences due to native language, dialect influences, or regional accent should not be misunderstood as decoding difficulties.

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
W.1.1-3 Write opinion pieces, informative/explanatory texts, and narratives. **ELD.PI.1.10.Ex** Write short literary texts and informational texts, collaboratively and with increasing independence.	● Children are provided ample writing opportunities to use their developing knowledge of the code to convey their opinions, knowledge, and narratives. Children are prompted to use phonics and word analysis skills they have learned. However, children are not expected to accurately spell words containing sound-spelling patterns they have not yet been taught. Their best attempts, drawing on their phonemic awareness and their existing knowledge of the code, are encouraged.

Class Spotlight

As part of their asynchronous learning time, the students in Paul Lomelo's class read-aloud to their stuffed animals and pets, using decodable texts that have been sent home. The parents in Mr. Lomelo's class record their child reading once per week for about three or four minutes and share the videos with him. Mr. Lomelo uses these videos to analyze his students' fluency and accuracy in decoding. He uses this information to form small groups for needs-based instruction in foundational skills. In addition, Mr. Lomelo reads texts to his students during synchronous lessons. During these read-alouds, Mr. Lomelo asks text-dependent questions that require his students to use their listening comprehension skills. He knows that meaning making is another important instructional theme that should be given attention daily. After reading Eric Carle's *The Very Hungry Caterpillar* a second time, Mr. Lomelo asked students which foods made the caterpillar sick. The students used the hand-raise function to let him know that they wanted to share. Later, Mr. Lomelo asked the students if the caterpillar was telling the story or a narrator. He called on Cassie first to respond. She said, "It's a narrator." Mr. Lomelo asked how she knew, but she was not sure. Mr. Lomelo called on Adam next, who responded, "I think maybe because it says he?" Mr. Lomelo responded, "We are learning a lot about texts and if they are real or not. We can't always be sure, but sometimes there are good clues, right readers?" Jessie asked to talk next and said, "If it was the caterpillar it would say I, like he was talking." Mr. Lomelo said, "I think all of these clues help us know that it's not the caterpillar that is telling the story, right? But does that mean it is true or probably not true?" The students are all talking at once, saying that it's not true because caterpillars don't talk. To follow-up the discussion, Mr. Lomelo asks students to retell the information from the text on video and to load the video in their learning management system.

Prominent ELA/Literacy/ELD Themes: Foundational Skills, Meaning Making

Associated Standards: RL/RI.1.1,2,5,6; RF.1.3,4; ELD.PI.1.1,3,5,7.Ex

Chapter 13: English Language Arts/Literacy and English Language Development in Grades Two and Three

Overview of the Span

Grades two and three are exciting years as children become increasingly fluent with written language. They use their knowledge of the alphabetic code and of language in general to achieve their own goals as readers and writers. They engage with progressively more complex, high-quality literary and informational text, expand their knowledge in the content areas, and continue to develop as effective communicators.

The grades two and three span is a pivotal time for children as they acquire more sophisticated comprehension, language, and decoding skills and develop the fluency necessary to propel them into more advanced reading, including independently reading chapter books and grade-appropriate complex texts. Accuracy and automaticity in decoding are high priorities, and children are provided ample opportunities to employ their developing skills as readers and writers. Vocabulary development for meaning making, effective expression, and knowledge acquisition is a significant focus across the disciplines. Children participate in content area investigations, conduct research, and engage in extended academic conversations with diverse others daily.

Content and pedagogy in the grade span include the following:

Meaning Making: Teachers facilitate literal and inferential comprehension, and they teach students to closely read and reread increasingly complex text for different purposes. Children learn to refer explicitly to the text as the basis for answers to questions about the text. They ponder an author's purpose and characters' and authors' points of view. They also learn how images contribute to meaning. Children determine and recount main ideas and supporting details of a text read-aloud or information presented in diverse media and formats. They have many opportunities to convey meaning in writing, discussions, and presentations.

Language Development: Children continue to be exposed to rich language through teacher modeling and read-aloud texts and engage in purposeful use of language in meaningful, stimulating contexts. Systematic attention is given to vocabulary development. Children use glossaries and beginning dictionaries, both print and digital, to determine or clarify the meaning of words and phrases in all content areas; and they learn morphological units of words (e.g., prefixes). Children increase their awareness of language, describing how words and phrases supply rhythm and meaning in a story, poem, or song, and comparing formal and informal uses of English.

Effective Expression: Children build on previous learning to write more detailed and cohesive texts for a variety of purposes across the disciplines. They learn to use feedback to revise and edit their work. They become more skilled in expressing their ideas in discussions. Teachers ensure topics are sufficiently compelling to spark discussion, prepare higher-order questions that prompt deep thinking, ask follow-up

questions, and provide opportunities for children to lead discussions. Children plan and deliver presentations. They gain increasing command over oral and written language conventions.

Content Knowledge: All students have full access to science, history/social studies, the arts, and all other content instruction, which is integrated with literacy and language. Students also engage in wide group and independent reading, interact with high-quality and increasingly complex informational texts, and participate in research projects and content investigations, all of which contribute to their literary, cultural, and domain knowledge. They read several texts on the same topic or by the same author and compare and contrast the texts.

Foundational Skills: Foundational skills continue to be systematically taught during the grade span. Children learn to read multisyllabic words and words with complex spelling patterns. The number of high-frequency irregularly spelled words they can recognize effortlessly increases substantially. Fluency is a high priority, and children have many opportunities to engage reading. Teachers act on the knowledge that reading volume contributes to children's fluency, comprehension, language development, and knowledge acquisition, and they provide instruction to ensure all students can engage with grade-level text.

Students who are English learners engage in equally intellectually stimulating content through careful scaffolding (planned and "just-in-time") and guidance provided by the ELD standards. At the same time, they are learning English as an additional language and receiving instruction that attends to their steady progress along the ELD continuum. Oral language development continues to be a significant emphasis during this grade span, and children have many opportunities to use language for different purposes in varied, meaningful contexts and engage in extended conversations. Instruction capitalizes on the cultural and language resources each child brings to the classroom.

Synchronous and Asynchronous Instruction. Teachers should carefully consider which learning experiences are given priority during synchronous instruction. Teachers identify lessons that are best conducted when they can make "in-the-moment" decisions about next instructional moves based on children's performance as they engage in the lesson. For example, teachers provide real-time instruction on decoding two-syllable words. They teach, engage students in guided practice, observe their independent attempts at decoding, and reteach with scaffolding as needed. Teachers know that if instructional support is delayed, progress is slowed considerably, and misunderstandings may persist. Other activities can occur effectively without the teacher available in real-time. For example, some writing activities can occur asynchronously, such as when students provide feedback to the written work of their peers and then the authors make revisions in response to feedback. See the discussions of synchronous and asynchronous instruction in Chapters 10 and 11.

The following vignette features an interview with a third-grade teacher about her implementation of distance learning with her students. Discussions of standards and instructional considerations for each of grades two and three follow the vignette.

Voices from the Field: Lisa Chavez | Kingston Elementary School | Hesperia, CA

The shift to distance learning has pushed all educators to reimagine what teaching and learning might look like. For Lisa Chavez, this has meant coming up with inventive ways to use digital tools while adhering to pedagogical best practices.

Chavez is a 20-year veteran who currently teaches third grade at Kingston Elementary School in the Hesperia Unified School District. Here, she discusses the creative ways she uses technology to engage her young students—tapping into their interests and showing how the content they are learning is relevant to their everyday lives.

How are you using digital tools to enhance learning?

Developing students' content knowledge through research projects and content investigations is important. Therefore, we're working on a community-based project right now, and that is going well. For third grade social studies, students have to learn about their local community. So, I talked to our local museum curator, and he took me out to the local landmarks where I recorded short educational videos for the students on Flipgrid [video-based discussion software], which has just been the best tool for me this year. My students are now using it to leave video questions for the museum curator, and he's leaving video responses back for them. He and the students love the interaction, and it's getting them to appreciate the history of the town they live in.

Hesperia has been around since the 1880s, so this place has a lot of history. I think it's important the kids know it. We also made a young authors book about the town landmarks. The kids looked at old black and white pictures and then drew them and sent them to me on ClassDojo [school communications software]. Then, I compiled it all in Google Docs [collaborative online word processing software] and turned it into a class book.

Another program I love is Kami, a text annotation and editing tool that's integrated with Google Classroom [software for creating, distributing, and grading assignments]. I can share documents for students to read, and they can go through and highlight key passages and annotate main points or questions in text boxes. I love that the tool allows students to work independently to identify important passages. And they can look up any unfamiliar words themselves using the dictionary feature. I can also easily post feedback for them.

It's pretty amazing and also helpful for teachers when we have to share data with other teachers. For instance, just this last week, I was asked to send student work samples to our school leadership team. That was really easy to pull together for them.

I've also been using Jamboard, the digital whiteboard tool, as a way for students to talk to me and each other about their readings. For my more advanced readers, we've been doing this for "Charlotte's Web." I sent home actual copies of the book because I wanted to give them some time away from the screen. So, they're reading the physical book asynchronously. But to provide ample opportunities for students to express their

ideas through discussion, I use Jamboard during synchronous time to allow students to leave reflections and talk about the reading among themselves.

To facilitate inferential comprehension, kids read the text or look at the pictures in the book and leave notes on the virtual whiteboard about their interpretations of the evidence they see. They get really into it. Some even get creative with the kind of feedback and predictions they want to give, which I encourage because it shows they are engaging with the story.

How do you use technology to motivate students to engage with challenging reading materials or do independent reading across subject areas?

You have to really tune in to your kids' interests and the things that they love. That's how you reach all the learning standards and get them excited and motivated to drive their own learning. Like right now, my kids are all about Perseverance, the NASA rover that just landed on Mars. We're doing NASA's Mission to Mars Student Challenge, and they're going to flip when they see the certificates NASA just mailed us. But that's how you get kids interested in learning more and reading independently across different subject areas.

I find additional readings on Epic [online educator resource] and assign it to them. And they love it because they're interested in the topic. To promote students' content knowledge across subject areas, I try to find activities like this that can incorporate science, literacy, and social studies all together so they can find different ways to be engaged.

Another way to bolster engagement is to focus on student choice, but honestly, it's more difficult virtually because it's exponentially more work for teachers. And we all have limited time and resources right now. The important thing is to give them a choice in terms of how they want to express their learning, and they get to be creative in the process.

How do you choose the tools you use for your classes? Any advice for other teachers or parents seeking out appropriate education technology for their students?

It has to be easy for me but also easy enough for students to use. If they can't use the tool, it doesn't matter how cool the features are or how good I am at using it—it doesn't work. It's also important to have a variety of creative and interactive features so students can build skills and learn different ways to express themselves.

We, as teachers, are constantly learning, too. I love to see students and teachers empowered. One of the awesome things about what's happened this past year is seeing teachers—who felt they couldn't do technology before—learn new skills and now confidently teach other teachers how to use new programs and tools with their students.

Technology should be used as a way to express your creativity, be connected, and feel empowered. No one should ever feel intimidated about using it. It's just a tool. You take

a risk, and we'll all learn this together. If it doesn't work the first time, we'll try again and work together to figure it out.

What role does social and emotional learning play in your teaching? Can technology help there, too?

I feel like social and emotional learning should be its own subject area but also incorporated into our everyday lessons. For example, every morning, I start with a short check-in activity on Zoom [video conferencing software]. I created my own version of those "How are you feeling today?" graphics with 10 images of different faces and emotions. I put them in a Google Form [a survey tool], so students can click on the face that represents how they are doing each day. I also include questions like, "Is there something you want me to know?" This way, they can answer those questions privately, and I can check up on them.

Some days, I'll also play a short video. I got this idea from a teacher named Megan Venezia. She has these daily ClassDojo check-ins with the little Dojo monster talking about being scared or feeling intimidated and things like that. I'll play the little video, and that becomes a mini social and emotional learning lesson to start the day.

Grade Two

Teachers ensure that children in grade two engage in wide and independent reading and have access to high-quality literary and informational text on a range of topics. Texts that are shared with children are increasingly complex. Teachers model and discuss how to navigate challenging words, sentences, and passages to determine meaning. Children's knowledge, vocabulary, and syntax grow as they listen and discuss read-alouds and as they read text independently. Children begin to write well-organized, detailed texts of different genres, especially in response to texts and topics under investigation in different subject matter. They plan and deliver presentations to share stories and knowledge, with increasing attention to detail, sequence and language.

The important work of understanding and using the alphabetic code continues. Teachers give ample instructional time to ensure that children learn the remaining common spelling-sound correspondences and can accurately decode two-syllable words and words with common prefixes. They provide support and practice so children can decode nearly effortlessly.

Standards and instructional considerations for grade two follow. Many can be addressed across the curriculum, that is, as a part of science, social studies, arts, and other subjects. ELA/literacy and content area instruction are mutually supportive, and to treat them as distinctly separate areas of instruction is to miss opportunities to enhance progress in both ELA/literacy and other subjects. The language arts complement and contribute to content instruction; they do not replace inquiry and other content approaches.

In distance learning settings, teachers should carefully consider which learning experiences are given priority during synchronous instruction. Guidelines are presented in Chapter 10 and also addressed in the Overview of the Span in this chapter.

Some key standards are included in more than one theme, or critical area of instructional focus. For example, SL.2.1 is crucial in meaning making, language development, effective expression, and content knowledge. Thus, it is included in the first four charts that follow. In each case, the standard is displayed with a pink background to make the repetition obvious. Likewise, RL/RI.2.10 appears in several charts, and so a different color (in this case, orange) is used to highlight the repetition. Presented first is a chart depicting the standards for grade two at a glance followed by detailed charts for each theme.

Critical Areas of Instructional Focus: At a Glance

Theme	Key Standards	Related Standards
Meaning Making	RL/RI.2.1,10; RF.2.4; W.2.1-3; SL.2.1,3,4 ELD.PI.2.1,5,6,9,10.Ex	*RL/RI.2.2,3,5,7,9; W.2.10; L.2.4,5* *ELD.PI.2.7,8.Ex; PII.2.1.Ex*
Language Development	RL/RI.2.4,10; RF.2.4; SL.3.1,4; L.2.6 ELD.PI.2.1,3,6,12b.Ex; PII.2.3-5	*RF.3.3a,b; SL.3.3; L.2.4,5* *ELD.PI.2.7,8.Ex*
Effective Expression	RL/RI.2.10; RF.2.4; W.2.1-3,4,5; SL.1.1,4 ELD.PI.2.1,4,7-10.Ex	*RL.2.4-7; RI.2.8; W.2.4,6; SL.2.3,5; L.2.1-3,6* *ELD.PI.2.2,11.Ex; PII.2.1-7.Ex*
Content Knowledge	RL/RI.2.1,10; RI.2.4; W.2.2,7; SL.2.1,3;L.2.4,5 ELD.PI.2.1,5,6,10,12b.Ex	*RI.2.5,7-9; RF.2.3,4* *ELD.PI.2.7.Ex; PII.2.1.Ex*
Foundational Skills	RF.2.3a,b,c,d,e,f,4; L.2.2b,d; W.2.1-3 ELD.PI.2.10.Ex	*RL/RI.2.10; SL.2.5*

Critical Area of Instructional Focus: Meaning Making

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.2.1 Ask and answer such questions as *who, what, where, when, why,* and *how* to demonstrate understanding of key details in a text. **SL.2.3** Ask and answer questions about what a speaker says in order to clarify comprehension, gather additional information, or deepen understanding of a topic or issue. **ELD.PI.2.5.Ex** Demonstrate active listening to read-alouds and oral presentations by asking and answering questions, with oral sentence frames and occasional prompting and support.	● Every child regularly engages with grade-level text, with scaffolds (planned and "just-in-time") provided and adjusted in accordance with the strengths and the needs of the learner. ● Text-dependent questions prompt children to attend closely to texts. Questions are developed to support children's understanding of the central message, lesson, or moral and characters' responses to major events and challenges in stories (*RL.2.2,3,7,9*) and the main topic or purpose and connection between events, ideas or concepts, and steps in technical procedures in informational text (*RI.2.2,3,6,7*). Questions also guide children to compare and contrast two or more versions of the same story or on the same topic (*RL/RI.2.9*). (*ELD.PI.2.6.Ex*). ● Children not only answer questions posed by the teacher, but they are also encouraged to ask different types of questions about a text or information presented through other media. Comprehension monitoring is evident when they ask questions to clarify meaning; engagement is evident when they question a character's behavior or ask about information provided in a text or otherwise presented. ● All children participate in read-aloud experiences with increasingly complex texts (i.e., those in the grades 3-4 complexity band). Questions and instructions guide children to navigate the language and concepts of challenging text. ● Children engage as listeners, discussants, and readers with a range of text types. Exposure to a broad range of texts contributes to literary knowledge, cultural knowledge, domain knowledge, as well as familiarity with various text structures and features (*RL/RI.2.5; ELD.PII.2.1.Ex*)—all of which contribute to meaning making efforts.

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.2.10 By the end of the year, read and comprehend texts in the grades 2-3 text complexity band proficiently, with scaffolding as needed at the high end of the band. **ELD.PI.2.6.Ex** Describe ideas, phenomena, and text elements in greater detail based on understanding of a variety of grade-level texts and viewing of multimedia, with moderate support.	● Children read and discuss texts of different types, and they begin in this grade to read appropriately-leveled complex literary and informational texts with considerable support. Teachers ensure that all students participate and read daily. Volume of reading contributes to reading development. ● Teachers support children in meaning making, teaching children how to navigate unfamiliar concepts and vocabulary and complex language structures *(L.2.4,5; ELD.PI.2.7,8.Ex; ELD.PII.2.1,2*) and interpret images (*RI.2.7*). Children at times are prompted to reread a text for different purposes, such as to examine organization, word choice, sentence structures, or development of an idea. ● Teachers create opportunities for all children to select texts to read for study and enjoyment. ● Teachers ensure that all children see themselves in texts.
RF.2.4 Read with sufficient accuracy and fluency to support comprehension.	● Attention is given to meaning making as the reason for continuing to develop accurate word recognition and building fluency. This is also the reason that students use context to confirm or self-correct word recognition and understanding, rereading as necessary.
W.2.1-3 Write opinion pieces, informative/explanatory texts, and narratives. **ELD.PI.2.10.Ex** Write short literary texts and informational texts, collaboratively and with an adult, with peers, and with increasing independence.	● Children write routinely about a range of topics, particularly those they care about. They write in a variety of contexts, including in response to learning activities across the curriculum. Some pieces developed over an extended time period as children engage in research, reflection, and revision, and other pieces are written in a short time (*W.2.10*). The focus is on conveying meaning with a purpose and audience in mind. ● Writing about texts enhances reading comprehension. Children also write in response to learning activities across the curriculum.

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
SL.2.1,4 Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups; plan and deliver presentations. **ELD.PI.2.1,9.Ex** Contribute to class, group, and partner discussions; plan and deliver brief oral presentations.	● Children have multiple daily opportunities to engage in conversations with a range of others in a range of contexts for a range of purposes. Conversations include sharing opinions, experiences, and information; responding to texts and learning experiences; and listening to and asking questions of others. Children's understandings of topics and texts are enhanced through engagement with others. ● Teachers ensure a community culture in which all children feel comfortable contributing to conversations, are encouraged to do so, and feel heard and respected by others. Agreed-upon discussion norms are established (e.g., listening with care, valuing contributions, speaking one at a time, asking questions), and teachers ensure equitable opportunities for all learners to contribute to discussions.

Critical Area of Instructional Focus: Language Development

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RI.2.4 Determine the meaning of words and phrases in a text relevant to a grade 2 topic or subject area. **ELD.PI.2.12b** Use a growing number of general academic and domain-specific words.	• Words and phrases are drawn from texts (or other media) with which the children are engaged rather than a list divorced of any context. • Increasingly complex text (including read-alouds in the grades 3–4 complexity band) and rich content curriculum (e.g., science, social studies, the arts) provide opportunities to learn new words and phrases. • Teachers guide children to notice words and their impact on meaning (*ELD.PI.2.7,8.Ex*) and model and prompt an enthusiastic interest in learning and sharing new words. Teachers support children to use new words in novel contexts (*L.2.6; ELD.PII.2.3-5.Ex*). • Teachers guide children in understanding nuances in word meanings (*L.2.5; ELD.PI.2.8*). • When addressing multiple-meaning words (*L.2.4*), meaning making is crucial as it is the context in which a multiple-meaning word occurs that determines its meaning (e.g., to tie a *bow* on a gift vs. to tie a rope to the *bow* of the boat). • Children learn to use different strategies to determine word meanings, including sentence-level context and word parts, such as affixes and roots (*L.2.4*). • Teachers leverage all children's experiences and EL students' native language where possible (e.g., highlighting cognates) to support vocabulary development.
RL/RI.2.10 By the end of the year, read and comprehend texts in the grades 2-3 text complexity band proficiently, with scaffolding as needed at the high end of the band. **ELD.PI.2.6.Ex** Describe ideas, phenomena, and text elements in greater detail based on understanding of a variety of grade-level texts and viewing of multimedia, with moderate support.	• Texts, including those read independently, by groups of children, and read-aloud by a teacher, are a key source of language. Teachers ensure that all children engage with language-rich print or digital texts daily, whether in virtual or in-class settings. • Discussions related to texts provide opportunities to talk about and use new vocabulary and sentence structures.
RF.2.4 Read with sufficient accuracy and fluency to support comprehension.	• Text is a rich source of academic vocabulary and complex linguistic structures. Teachers should ensure that students have strong word analysis skills and sufficient fluency to support voluminous reading, which in turn contributes to students' language development.

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
SL.2.1,4 Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups; plan and deliver presentations. **ELD.PI.2.1,3.Ex** Contribute to class, group, and partner discussions, including sustained dialog, and offer opinions and negotiate with others in conversations using an expanded set of learned phrases as well as open responses.	● Opportunities to use language contribute to language development. Children engage in brief and extended conversations daily with a range of others in a range of contexts for a range of purposes. Conversations include sharing opinions, experiences, and information; responding to texts and learning experiences; and listening to and asking questions of others. ● Teachers ensure a community culture in which all children feel comfortable contributing to conversations, are encouraged to do so, and feel heard and respected by others. Agreed-upon discussion norms are established (e.g., listening with care, valuing contributions, speaking one at a time, asking questions), and teachers ensure equitable opportunities for all learners to contribute to discussions.
L.2.6 Use words and phrases acquired through conversations, reading and being read to, and responding to texts, including using adjectives and adverbs to describe. **ELD.PII.2.3-5.Ex** Use a growing number of verb types and tenses, noun phrases, and adverbials with increasing independence.	● Teachers provide language rich contexts to ensure students' exposure to and opportunities to use an increasingly broad vocabulary. They read-aloud books from the grades 4–5 complexity band, provide a wide choice of texts for students to read individually or in groups that will expand their language, and they engage students in coherent and stimulating subject area instruction that introduces them to new concepts and accompanying language. ● Teachers model, scaffold (planned and "just-in-time"), and prompt the use of target words and phrases in multiple contexts. Opportunities to use language are crucial for language development.

Critical Area of Instructional Focus: Effective Expression

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.2.10 By the end of the year, read and comprehend texts in the grades 2-3 text complexity band proficiently, with scaffolding as needed at the high end of the band. **ELD.PI.2.7,8.Ex** Describe the language writers or speakers use to present or support an idea, with prompting and moderate support; distinguish how two different words with similar meaning produce shades of meaning and different effects on the audience.	● Children read and are read stories, poetry, and informational texts that are models of effective expression. Teachers guide children in identifying language or structures that evoke responses and emotions (e.g., laughter, surprise) or vivid mental images, provide clear explanations or interesting organization, or in some way capture readers' or listeners' attention (e.g., use of alliterations). They become increasingly aware of the author's craft (*RL.2.4-7*).
RF.2.4 Read with sufficient accuracy and fluency to support comprehension.	● Teachers model reading aloud fluently a variety of text types. They vary their pace and use expression appropriate for the text. They also share other effective models of fluent reading using different media sources. ● Children have regular opportunities to read-aloud individually or chorally after rehearsal. Reading aloud is treated as a joyful process, as children share their own work or engage in a performance (e.g., readers theatre) for peers in the classroom or virtually. Children have opportunities to create audio recordings (*SL.2.5*).

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
W.2.1 Write opinion pieces in which they introduce the topic or book they are writing about, state an opinion, supply reasons that support the opinion, and provide a concluding statement or section. **W.2.2** Write informative/explanatory texts in which they introduce a topic, use facts and definitions to develop points, and provide a concluding statement or section. **W.2.3** Write narratives in which they recount a well-elaborated event or short sequence of events, included details, and provide a sense of closure. **ELD.PI.2.10.Ex** Write short literary texts and informational texts, collaboratively and with an adult, with peers, and with increasing independence.	● Students use writing for different purposes: to convey their opinions, information, and narratives. New to this grade are attention to details and use of linking words to connect ideas (*ELD.PI.2.11.Ex; PII.2.2.Ex*). As appropriate, they add drawings or other visual displays to their writing to clarify their ideas, thoughts, and feelings (*SL.2.5*). ● Students write daily and are given explicit guidance on how to effectively organize different types of text to suit their purpose (*W.2.4; ELD.PII.2.1.Ex*). Exemplar texts are shared as models. ● Sharing writing with an audience contributes to children's understanding of the clarity and impact of their written communication. ● Motivation is crucial; students write about what interests them, and teachers create learning contexts that expand their interests. ● Teachers prompt children to use new vocabulary they are acquiring to communicate their thoughts more effectively and with increasing precision (*L.2.6*). ● Children become more skilled at writing as volume and range of writing increase. ● Children use a variety of digital tools to produce and publish writing, including in collaboration with peers (*W.2.6*). ● Opportunities to orally read their work—or any text—to others provide an authentic reason for rehearsal, which supports fluent presentation (*RF.2.4*).
W.2.4,5 With guidance and support from adults, produce writing in which the development and organization are appropriate to the task and purpose; focus on a topic and strengthen writing as needed by revising and editing.	● Children's writing receives regular, specific feedback, so children become increasingly effective at expressing opinions, information, and narratives. Feedback focuses—as appropriate for the context and with consideration of the learner's purpose, skills, and English proficiency—on organization and topic development as well as word choice and conventions (*L.2.1-3; ELD.PII.2.1-7.Ex*). Children use feedback to evaluate and analyze language choices and revise writing products. ● Feedback is expressed in positive, encouraging ways to ensure motivation and enthusiasm for creating written work are maintained. Teachers engage students in self-assessment and goal setting.

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
SL.2.1,4 Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups; plan and deliver presentations. **ELD.PI.2.1,9.Ex** Contribute to class, group, and partner discussions; plan and deliver brief oral presentations. **ELD.PI.2.4.Ex** Adjust language choices according to the purpose, task, and audience, with moderate support.	● Children have multiple daily opportunities to engage in conversations with a range of others in a range of contexts for a range of purposes. Children follow agreed-upon rules for discussions and build on one another's comments. They ask for and provide clarification as needed, and teachers support them in producing complete sentences to ensure clarity and provide detail (*SL.2.3; L.2.6*). Children learn that how they (and others) express themselves impacts communication. ● Teachers ensure a community culture in which all children feel comfortable contributing to conversations, are encouraged to do so, and feel heard and respected by others. Agreed-upon discussion norms are established (e.g., listening with care, valuing contributions, speaking one at a time, asking questions). Teachers ensure equitable opportunities for all learners to contribute to discussions. ● Children plan and deliver presentations that include attention to relevant, descriptive details, reflects a logical sequence, and provides a conclusion. As appropriate, they add drawings or other visual displays to clarify their ideas, thoughts, and feelings and may create audio recordings of stories or poems (*SL.2.5*).

Critical Area of Instructional Focus: Content Knowledge

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.2.1 Ask and answer questions such as *who*, *what*, *where*, *when*, *why*, and *how* to demonstrate understanding of key details in a text (RI.1.1). **SL.2.3** Ask and answer questions about what a speaker says in order to clarify comprehension, gather additional information, or deepen understanding of a topic or issue. **ELD.PI.2.5.Ex** Demonstrate active listening to read-alouds and oral presentations by asking and answering questions, with oral sentence frames and occasional prompting and support.	● Texts and other sources of information that build children's knowledge are a crucial component of every grade level, including the primary grades. Texts sets on a given topic situated in coherent subject area instruction contribute to building knowledge. Moreover, text sets provide opportunities for children to compare and contrast important points presented in different texts on the same topic and describe how authors support specific points made in a text (*RI.2.8,9; ELD.PI.2.7.Ex*). ● Text-dependent questions guide children's comprehension of text as well as their understanding of specific images in the text and how they contribute to meaning (*RI.2.7*). They ensure that children attend to and learn how to interpret different types of images included in texts. ● Children not only answer questions posed by the teacher, but they are also encouraged to ask questions about the text. They also ask questions of speakers to gather more information or deepen understanding of a topic. Expressions of interest and curiosity—when encouraged and pursued—lead to more knowledge building. ● Reading volume contributes to knowledge; children read independently and in collaboration with peers and adults daily, including books of their own choosing.
RI.2.4 Determine the meaning of words and phrases in a text relevant to a grade 2 topic or subject area. **L.2.4,5** Determine the meaning of unknown and multiple-meaning words and phrases; demonstrate understanding of word relationships and nuances in word meanings. **ELD.PI.2.12b.Ex** Use a growing number of general academic and domain-specific words.	● Many words in informational text, in particular, are domain-specific; as children learn this vocabulary, they build knowledge. Importantly, vocabulary is learned in a meaningful context, and children have opportunities to use newly acquired vocabulary as they engage in content-related activities and investigations.

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.2.10 By the end of the year, read and comprehend literature and informational texts, including history/social studies, science, and technical texts, in the grades 2-3 text complexity band proficiently, with scaffolding as needed at the high end of the band. **ELD.PI.2.6.Ex** Describe ideas, phenomena, and text elements in greater detail based on understanding of a variety of grade-level texts and viewing of multimedia, with moderate support.	● Children independently and with others read and discuss texts of different types daily, including a high volume of content-rich texts. Importantly, independent engagement with texts is enabled by their progress in foundational skills (*RF.2.3,4*). Reading expands their knowledge of the natural and social world, language (especially vocabulary), and familiarity with various text structures and features (*RI.2.5; ELD.PII.2.1.Ex*). ● Children have access to informational text in their home languages to amplify domain knowledge and support meaning making.
W.2.2 Write informative/explanatory texts in which they introduce a topic, use facts and definitions to develop points, and provide a concluding statement or section. **W.2.7** Participate in shared research and writing projects (e.g., read a number of books on a single topic to produce a report; record science observations). **ELD.PI.2.10.Ex** Write short literary texts and informational texts, collaboratively and with an adult, with peers, and with increasing independence.	● Children have many opportunities to convey what they are learning about topics of their choosing and topics under study in grade-level investigations. ● Children pursue their interests and build content knowledge. Instruction also piques children's interest in new topics. Teachers ensure that children experience a coherent curriculum in science, social studies, the arts, and all content areas. ● Children are guided and supported to recall information from experiences or gather information from provided sources to answer a question (*W.2.8*). ● Children work cooperatively, in both virtual and in-class settings, to explore topics of common interest. They build knowledge and increasingly effective communication skills as they have many opportunities to share their ideas with one another.
SL.2.1 Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups. **ELD.PI.2.1.Ex** Contribute to class, group, and partner discussions.	● Conversations contribute to knowledge building. Children regularly share existing and new knowledge with one another in discussions before, during, and after engaging with texts and participating in investigations. ● Teachers ensure a community culture in which all children feel comfortable contributing to conversations, are encouraged to do so, and feel heard and respected by others. Agreed-upon discussion norms are established (e.g., listening with care, valuing contributions, speaking one at a time, asking questions), and teachers ensure equitable opportunities for all learners to contribute to discussions.

Critical Area of Instructional Focus: Foundational Skills

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RF.2.3a Distinguish long and short vowels when reading regularly spelled one-syllable words. **RF.2.3b** Know spelling-sound correspondences for additional common vowel teams. **L.2.2.d** Generalize learned spelling patterns when writing words.	● Children have many opportunities to use what they are learning to generate spellings of words. Decoding and encoding are reciprocal processes with progress in one supporting progress in the other. It is productive to teach them in tandem.
RF.2.3c Decode regularly spelled two-syllable words with long vowels.	● A strong foundation in spelling-sound correspondences and decoding regularly spelled one-syllable words is ensured. ● Children have many opportunities to use what they are learning in a variety of contexts. ● Instruction in English for EL students capitalizes on similarities between the native language and English and highlights differences between the languages. ● Pronunciation differences due to native language, dialect influences, or regional accent should not be misunderstood as decoding difficulties.
RF.2.3d Decode words with common prefixes and suffixes. **L.2.4b** Determine the meaning of the new word formed when a known prefix is added to a known word.	● Becoming aware of word parts contributes to decoding and meaning.
RF.2.3.e Identify words with inconsistent but common spelling-sound correspondences.	● Children become comfortable with orthographic diversity—that is, the variation in letter-sound and spelling-sound correspondences (e.g., the vowel combination “ea" may be pronounced as a long or short e sound as in *bead* and *bread*). Children are taught to try different pronunciations and determine which one makes sense in the context.
RF.2.3f Recognize and read grade-appropriate irregularly spelled words.	● Teachers help children identify the spellings in these words that are regular (e.g., “sh” and “d” in *should*) and those that are not (e.g., the “oul” in *should*). Few words are entirely irregularly spelled; “of” is one of them. ● Multiple exposures in a variety of contexts are needed for children to build rapid recognition of these words. ● Where possible, children learn the logic of the spellings of words that do not conform to conventional spellings (e.g., words of foreign origin).

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RF.2.4 Read with sufficient accuracy and fluency to support comprehension.	• Teachers model fluent reading, and children are given ample time to practice reading with attention to accuracy in order to develop automaticity with decoding (*RL/RI.2.10*). Teachers identify texts that children find worth reading, maintaining children's interest and motivation to read. Volume of reading contributes significantly to progress. • Even when accuracy and fluency are the primary focus of a lesson or activity, teachers ensure meaning making and understanding of vocabulary. • Children create audio recordings of stories or poems (*SL.2.5*), which provide an authentic reason to rehearse for accurate, expressive, and appropriately paced renderings of the text for an audience (e.g., peers, families, communities, themselves). Teachers ensure positive, motivating experiences. • Pronunciation differences due to native language, dialect influences, or regional accent should not be misunderstood as decoding difficulties.
W.2.1-3 Write opinion pieces, informative/explanatory texts, and narratives. **ELD.PI.2.10.Ex** Write longer literary and informational texts collaboratively and with increasing independence.	• Children are provided ample writing opportunities to use their developing knowledge of the code to convey their opinions, knowledge, and narratives. Writing volume contributes to skill development.

Class Spotlight

The students in Hector Alvarez's second grade class are working on building fluency, an important foundational skill. Mr. Alvarez knows that fluency includes accuracy, automaticity, and prosody. Although fluency is often assessed by determining a child's rate of reading, he knows that rate should vary with the text and reflect its meaning. He shares his screen to display a poem he had read aloud to students and discussed the prior day. His students had found it humorous. Today, he is going to focus on having the students read it. He selected the poem because he anticipated that his students would enjoy it and because it includes several words containing recently learned prefixes. He reads the poem aloud and asks his students to follow along. Then, he asks them to locate words that contain one of the new prefixes. "Does anyone see a word containing the prefix "mis" that we've been talking about?" Rudy signals that he has a response and is called on. "I see *misplace* and *mis- mis-misunderstand*." "Excellent, Rudy!" Mr. Alvarez replies, and he reviews the meaning of the prefix in this context. Mr. Alvarez knows that teaching prefixes supports both decoding and language development. He highlights those words on the screen and asks everyone to say the two words. At the same time, a few students have used their emerging keyboarding skills to type one or

both of the words into the chat box. Mr. Alvarez acknowledges this and says that next year keyboarding will start in earnest! He reads the poem aloud again using dramatic pauses and appropriate expression that reflects the message of the poem. Then, he invites students to read aloud along with him. Students turn on their microphones and a cacophony of voices are heard. Next, Mr. Alvarez places the students into small breakout rooms, giving each group access to the poem. Mr. Alvarez has carefully organized the groupings so that EL students are engaged with peers at more advanced levels of English proficiency. Their task is to practice reading the poem as a group. When they return to the full class, each group will give its choral rendition of the poem. He checks in on each group to see their progress, provides feedback, and encourages rehearsal. He knows that repeated readings for authentic reasons supports fluency development.

Prominent ELA/Literacy/ELD Themes: Foundational Skills, Language Development, Effective Expression

Associated Standards: RF.2.3,4; L.2.4b; ELD.PIII

Grade Three

Students in grade three engage in a high volume of reading, which solidifies their phonics and word analysis skills; expands their vocabulary, syntax, and knowledge; exposes them to effective language, visual information, and text structures. At the same time, volume of reading contributes to students finding personal value in text and a growing appreciation of a range of human experience.

Teachers ensure that all students engage meaningfully with complex text, and they provide instruction, model thinking, and develop questions and tasks that support students' progress. As readers and listeners, students in grade three learn to distinguish their own point of view from that of the author, narrator, or characters. They also distinguish shades of meaning and literal from nonliteral language, and they describe the logical connection between sentences and paragraphs in a text. They prepare for discussions, presentations, and writing, and they choose words and phrases for effect. Students begin to develop skill in keyboarding and cursive.

Instruction in phonics and word analysis continues. Prior learning is reinforced, and new learning includes identifying and knowing the meaning of common prefixes and derivational suffixes and decoding multisyllabic words, including those with Latin suffixes.

Standards and instructional considerations for grade three follow. Many can be addressed across the curriculum, that is, as a part of science, social studies, arts, and other subjects. ELA/literacy and content area instruction are mutually supportive, and to treat them as distinctly separate areas of instruction is to miss opportunities to enhance progress in both ELA/literacy and other subjects. The language arts complement and contribute to content instruction; they do not replace inquiry and other content approaches.

In distance learning settings, teachers should carefully consider which learning experiences are given priority during synchronous instruction. Guidelines are presented in Chapter 10 and also addressed in the Overview of the Span in this chapter.

Some key standards are included in more than one theme, or critical area of instructional focus. For example, SL.3.1 is crucial in meaning making, language development, effective expression, and content knowledge. Thus, it is included in the first four charts that follow. In each case, the standard is displayed with a pink background to make the repetition obvious. Likewise, RL/RI.3.10 appears in several charts, and so a different color (in this case, orange) is used to highlight the repetition. Presented first is a chart depicting the standards for grade three at a glance followed by detailed charts for each theme.

Critical Areas of Instructional Focus: At a Glance

Theme	Key Standards	Related Standards
Meaning Making	RL/RI.3. 1,10; RF.3.4; W.3.1-3; SL.3.1,3,4 ELD.PI.3.1,6,9,10a,11.Ex	*RL/RI.3.2,3,5,7,9; RI.3.6; W.3.10; SL.3.2,5; L.3.3-5* *ELD.PI.3.7,8; PII.3.1,2.Ex*
Language Development	RL/RI.3.4,10; RF.3.4; SL.3.1,4; L.3.4,5,6 ELD.PI.3.1,3,6,9,12.Ex	*RF.3.3a,b; SL.3.3; L.3.4,5* *ELD.PI.3.5,8.Ex; PII.3.3-5.Ex*
Effective Expression	RL/RI.3.10; RF.3.4; W.4.1-3,5; SL.4.1,4 ELD.PI.3.1,4,7-10.Ex	*RL3.4-7; RI.3.8; W.3.4,6; SL.3.5; L.3.1-6* *ELD.PI.3.8; PII.3.1-7.Ex*
Content Knowledge	RL/RI.3.1,10; RI.3.4; W.3.2,7,8,9; SL.3.1,3,4; L.3.4,5 ELD.PI.3.1,5,6,9,10,12.Ex	*RI.3.5,6,7,9; RF.3.3,4; W.3.7,8; SL.3.4a* *ELD.PII.3.1.Ex*
Foundational Skills	RF.3.3a,b,c,d,4; L.3.2f,3.4b; W.3.1-3 ELD.PI.3.10.Ex	*RL/RI.3.10; SL.3.5*

Critical Area of Instructional Focus: Meaning Making

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.3.1 Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers. **SL.3.3** Ask and answer questions about information from a speaker, offering appropriate elaboration and detail. **ELD.PI.3.11.Ex** Offer opinions and provide good reasons and some textual evidence or relevant background knowledge.	● Every student regularly engages with grade-level text, with scaffolds (planned and "just-in-time") provided and adjusted in accordance with the strengths and needs of the learner. Text-dependent questions prompt students to attend closely to texts of information shared by a speaker. Questions guide students' understanding of central message, lesson, or moral (*RL.3.2*), characters (*RL.3.3,7,9*) and the main idea (*RI.3.2; SL.3.2*) and connection between events, ideas, and steps in technical procedures in informational text (*RI.3.3,7,9*). New to this grade are students' explanations of their thinking and their explicit reference to the text as the basis for responses and attention to distinguishing their own point of view from that of the author of a text (*RI.3.6*). ● Children not only answer questions posed by the teacher, but they are also encouraged to ask questions about a text or information presented through other media. Comprehension monitoring is evident when they ask questions to clarify meaning; engagement is evident when they question a character's behavior or ask about information provided in a text or otherwise presented. ● All children participate in read-aloud experiences with increasingly complex texts (i.e., those in the grades 4-5 complexity band). Questions and instructions guide children to navigate the language and concepts of challenging text. ● Children engage as listeners, discussants, and readers with a range of text types, including an equal balance of narrative and informational texts, as well as other text types and media. Exposure to a broad range of texts contributes to literary knowledge, cultural knowledge, and domain knowledge as well as familiarity with various text structures and features (*RL/RI.3.5; ELD.PII.3.1.Ex*)—all of which contribute to meaning making efforts.

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.3.10 By the end of the year, read and comprehend literature and informational texts in the grades 2-3 text complexity band independently and proficiently. **ELD.PI.3.6.Ex** Describe ideas, phenomena, and text elements in greater detail based on understanding of a variety of grade-level texts and viewing of multimedia, with moderate support.	● Children read and discuss increasingly complex texts of different types regularly, with special attention given to books with appropriate complexity for grade three. Teachers ensure that all students read daily; volume of reading contributes to reading development. Teachers provide access to compelling works of literature that spark discussions worth having. ● Teachers support children in meaning making, teaching them how to navigate unfamiliar concepts and vocabulary and complex language structures *(L.3.4,5; ELD.PI.3.7,8.Ex*; *ELD.PII.3.1,2*) and interpret illustrations (*RI.3.7*). Teachers guide deconstruction of complex sentences and paragraphs for understanding their structures and meaning making. ● Teachers create opportunities for all children to select texts to read for study and enjoyment. ● Teachers ensure that all children see themselves in texts.
RF.3.4 Read with sufficient accuracy and fluency to support comprehension.	● Attention is given to meaning making as the reason for continuing to develop accurate word recognition and building fluency. This is also the reason that learners use context to confirm or self-correct word recognition and understanding, rereading as necessary.
W.3.1-3 Write opinion pieces, informative/explanatory texts, and narratives. **ELD.PI.3.10a.Ex** Write short literary texts and informational texts, collaboratively and with an adult, with peers, and with increasing independence.	● Children write routinely about a range of topics, particularly those they care about, with some pieces developed over an extended time period as children engage in research, reflection, and revision, and other pieces written in a short time. Children focus on conveying meaning with a purpose and audience in mind. (*W.3.10*) ● Writing about texts enhances reading comprehension. Children also write in response to learning activities across the curriculum.

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
SL.3.1,4 Engage effectively in a range of collaborative conversations with diverse partners about grade 3 topics and texts; plan and deliver presentations. **ELD.PI.3.1,9.Ex** Contribute to class, group, and partner discussions; plan and deliver brief oral presentations.	● Children have daily opportunities to engage in conversations with a range of others in a range of contexts for a range of purposes. Conversations include sharing opinions, experiences, and information; responding to texts and learning experiences; and listening to and asking questions of others for clarification or more detail. Children's understandings of topics and texts are enhanced through engagement with others. ● Teachers ensure a community culture in which all children feel comfortable contributing to conversations, are encouraged to do so, and feel heard and respected by others. Agreed-upon discussion norms are established (e.g., listening with care, valuing contributions, speaking one at a time, asking questions). Teachers ensure equitable opportunities for all learners to contribute to discussions. ● Children plan and deliver presentations with attention to conveying meaning to an audience. They consider organization, sequence, supporting details, and vocabulary to ensure effective communication. They add visual displays when appropriate to emphasize or enhance certain facts or details (*SL.3.5*).

Critical Area of Instructional Focus: Language Development

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.3.4 Determine the meaning of literal and nonliteral language and general academic and domain-specific words and phrases in a text. **L.3.4,5** Determine the meaning of unknown and multiple-meaning words and phrases; demonstrate understanding of word relationships and nuances in word meanings. **ELD.PI.3.12** Use a growing number of general academic and domain-specific words.	• Words and phrases are drawn from texts (or other media) with which the children are engaged rather than a list divorced from any context. • Increasingly complex text and rich content curriculum (e.g., science, social studies, the arts) provide opportunities to expand language. • Read-alouds especially can provide opportunities to broaden children's vocabulary and are selected, in part, on the basis of the richness of the language. Read-alouds include books in the grade 4–5 band or higher. • Teachers model an enthusiasm for words and prompt children's interest in words, as well as their use of new words in novel contexts (*L.3.6; ELD.PII.3.3-5*). • Teachers guide children in understanding nuances in word meanings (*L.3.5; ELD.PI.3.8*). • When addressing multiple-meaning words (*L.3.4*), meaning making is crucial as it is the context in which a multiple-meaning word occurs that determines its meaning (e.g., to tie a *bow* on a gift vs. to tie a rope to the *bow* of the boat). • Children learn to use different strategies to determine word meanings, including sentence-level context and word parts, such as affixes and roots, and they use resources to clarify precise meanings (*L.3.4; RF.3.3a,b*). • Teachers leverage all children's experiences and EL students' native language where possible (e.g., highlighting cognates) to support vocabulary development.
RL/RI.3.10 By the end of the year, read and comprehend literature and informational texts in the grades 2-3 text complexity band independently and proficiently. **ELD.PI.3.6.Ex** Describe ideas, phenomena, and text elements in greater detail based on understanding of a variety of grade-level texts and viewing of multimedia, with moderate support.	• Texts, including those read independently, by groups of children, and read-aloud by a teacher, are a key source of language. Teachers ensure that all children engage with language-rich print or digital texts daily, whether in virtual or in-class settings. • Discussions related to texts provide opportunities to talk about and use new vocabulary and sentence structures.

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RF.3.4 Read with sufficient accuracy and fluency to support comprehension.	● Text is a rich source of academic vocabulary and complex linguistic structures. Teachers should ensure that students have strong word analysis skills and sufficient fluency to support voluminous reading, which in turn contributes to students' language development.
SL.3.1,4 Engage effectively in a range of collaborative conversations with diverse partners about grade 3 topics and texts; plan and deliver presentations. **ELD.PI.3.1,3,9.Ex** Contribute to class, group, and partner discussions; offer opinions and negotiate with others in conversations using an expanded set of learned phrases as well as open responses; and plan and deliver brief oral presentations.	● Opportunities to use language contribute to language development. Children engage in brief and extended conversations daily with a range of others in a range of contexts for a range of purposes. Conversations include sharing opinions, experiences, and information; responding to texts and learning experiences; and listening to and asking questions of others. Children in this grade come to discussions prepared, and they become more skilled at staying on topic, asking relevant questions, gaining or holding the floor, and providing counterarguments. They offer elaboration and detail while asking and answering questions (*SL.3.3; ELD.PII.3.3-5.Ex*). ● Teachers ensure a community culture in which all children feel comfortable contributing to conversations, are encouraged to do so, feel heard and respected by others. Agreed-upon discussion norms are established (e.g., listening with care, valuing contributions, speaking one at a time, asking questions). Teachers ensure equitable opportunities for all learners to contribute to discussions. ● Children plan and deliver presentations with attention to descriptive details and clear and specific vocabulary.
L.3.6 Acquire and use accurately grade-appropriate conversational, general academic, and domain-specific words and phrases. **ELD.PI.3.12.Ex** Use a growing number of general academic and domain-specific words while speaking and writing.	● Teachers provide language rich contexts to ensure learners' exposure to and opportunities to use an increasingly broad vocabulary. They read-aloud books from the grades 4-5 complexity band or higher, provide a wide choice of texts for children to read individually or in groups that will expand their language, and engage children in coherent and stimulating subject area instruction that introduces them to new concepts and accompanying language. ● Teachers model, scaffold (planned and "just-in-time"), and prompt the use of target words and phrases in multiple contexts. Opportunities to use language are crucial for language development.

Critical Area of Instructional Focus: Effective Expression

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.3.10 By the end of the year, read and comprehend literature and informational texts in the grades 2-3 text complexity band independently and proficiently. **ELD.PI.3.7,8.Ex** Describe specific language writers or speakers use to present or support an idea, with prompting and moderate support; distinguish how different words with similar means produce shades of meaning and different effects on the audience.	● Children read and are read stories, poetry, and informational texts that are models of effective expression. Teachers guide children in identifying language or structures that evoke responses and emotions or vivid mental images, establish mood, provide clear explanations or interesting organization, or in some way capture readers' or listeners' attention (e.g., use of alliterations).They guide children to identify the logical connections between particular sentences and paragraphs in a text (*RI.3.8*). Children become increasingly aware of the author's craft (*RL.3.4-7*).
RF.3.4 Read with sufficient accuracy and fluency to support comprehension.	● Teachers model reading aloud fluently a variety of text types. They vary their pace and use expression appropriate for the text. They also share other effective models of fluent reading using different media sources. ● Children have regular opportunities to read-aloud individually and chorally after rehearsal. Reading aloud is treated as a joyful, community-building process, as children share their own work or engage in a performance (e.g., readers theatre) for others live in the classroom or virtually or shared as an audio recording (*SL.3.5*).

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
W.3.1 Write opinion pieces on topics or texts, supporting a point of view with reasons. **W.3.2** Write informative/explanatory texts to examine a topic and convey ideas and information clearly. **W.3.3** Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences. **ELD.PI.3.10.Ex** Write short literary texts and informational texts, collaboratively and with an adult, with peers, and with increasing independence.	● Children regularly use writing for different purposes: to convey their opinions, information, and narratives. They become more skilled at writing as volume and range of writing increase. ● Children are given explicit guidance on how to effectively organize different types of texts (*W.3.4; ELD.PII.3.1*) and choose words and phrases for effect (*L.3.3,4; ELD.PI.3.8*). Teachers share models of effective writing. ● Motivation is crucial; children write about what interests them, and teachers create learning contexts that expand their interests. ● Teachers prompt children to use new vocabulary they are acquiring to communicate their thoughts more effectively and with increasing precision (*L.3.6*). ● Opportunities for children to orally read their work—or any text—to others provide an authentic reason for rehearsal, which supports fluent presentation (*RF.3.4*). ● Children learn to use cursive to write as well as to use technology (with guidance) to produce and publish writing, including using keyboarding skills (*W.3.6*).
W.3.5 With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, and editing**.**	● Children's writing receives regular, specific feedback, so children become increasingly effective at expressing opinions, information, and narratives. Feedback focuses—as appropriate for the context and with consideration of the writer's motivation, skills, and English proficiency—on topic development, word choice and conventions (*L.3.1-3; ELD.PII.3.1-7*). Primary attention is given to communicating meaningfully. ● Feedback is expressed in positive, encouraging ways to ensure motivation and enthusiasm for creating written work are maintained. Teachers engage students in self-assessment and goal setting.

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
SL.3.1,4 Engage effectively in a range of collaborative conversations with diverse partners about grade 3 topics and texts; plan and deliver presentations. **ELD.PI.3.1,9.Ex** Contribute to class, group, and partner discussions; plan and deliver brief oral presentations. **ELD.PI.3.4.Ex** Adjust language choices according to the purpose, task, and audience, with moderate support.	● Children have daily opportunities to engage in conversations with a range of others in a range of contexts for a range of purposes. Conversations include sharing opinions, experiences, and information; responding to texts and learning experiences; and listening to and asking questions of others for clarification or more detail. ● Teachers ensure a community culture in which all children feel comfortable contributing to conversations, are encouraged to do so, and feel heard and respected by others. Agreed-upon discussion norms are established (e.g., listening with care, valuing contributions, speaking one at a time, asking questions). Teachers ensure equitable opportunities for all learners to contribute to discussions. ● Children plan and deliver presentations with attention to conveying meaning to an audience. They consider organization, sequence, supporting details, and vocabulary to ensure effective communication. They add visual displays when appropriate to emphasize or enhance certain facts or details (*SL.3.5*).

Critical Area of Instructional Focus: Content Knowledge

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.3.1 Ask and answer questions to demonstrate understanding of key details in a text, referring explicitly to the text as the basis for answers. **SL.3.3** Ask and answer questions about information from a speaker, offering appropriate elaboration and detail. **ELD.PI.3.5.Ex** Demonstrate active listening to read-alouds and oral presentations by asking and answering detailed questions, with occasional prompting and moderate support.	● Teachers ensure that all children have many opportunities to engage with information presented in texts and through other sources, which contribute to children's knowledge of the natural and social world. Text sets on a given topic situated in coherent subject area instruction contribute to building knowledge. Moreover, text sets provide opportunities for children to compare and contrast important points presented in different texts on the same topic. (*RI.3.9; ELD.PI.3.7.Ex*). ● Teachers pose text-dependent questions that prompt children's close attention to the text as the source for responses, including as they compare and contrast important points presented by different texts on the same topic and use information presented in illustrations (e.g., maps, photographs) (*RI.3.7,9*). Questions also guide students to distinguish their own point of view from that of the author of a text (*RI.3.6*). ● Children not only answer questions posed by the teacher, but they are also encouraged to ask questions about texts. They also ask questions of speakers to gather more information or deepen understanding of a topic. Expressions of interest and curiosity—when pursued—lead to more knowledge building. ● Reading volume contributes to knowledge; children read independently and in collaboration with others daily, including books of their own choosing.
RI.3.4 Determine the meaning of general academic and domain-specific words and phrases in a text. **L.3.4,5** Determine the meaning of unknown and multiple-meaning words and phrases; demonstrate understanding of word relationships and nuances in word meanings. **ELD.PI.3.12** Use a growing number of general academic and domain-specific words.	● Many words in informational text, in particular, are domain-specific; as students learn this vocabulary, they build knowledge. Importantly, vocabulary is learned in a meaningful context, and students have opportunities to use newly acquired vocabulary as they engage in content-related activities and investigations.

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.3.10 By the end of the year, read and comprehend literature and informational texts, including history/social studies, science, and technical texts, in the grades 2-3 text complexity band proficiently independently and proficiently. **ELD.PI.3.6.Ex** Describe ideas, phenomena, and text elements in greater detail based on understanding of a variety of grade-level texts and viewing of multimedia, with moderate support.	● Children independently and with others read and discuss texts daily, including a range of content-rich texts. Reading expands their knowledge of the natural and social world, language, and familiarity with various text structures and features (*RI.3.5; ELD.PII.3.1.Ex*). ● Reading volume contributes to knowledge; children read independently and in collaboration with others daily, including books of their own choosing. Importantly, independent engagement with texts is enabled by their continuing progress in foundational skills (*RF.3.3,4*). ● Children have access to informational text in their home languages to amplify domain knowledge and support meaning making.
W.3.2 Write informative/explanatory texts to examine a topic and convey ideas and information clearly. **W.3.7,8** Conduct short research projects that build knowledge about a topic; recall information from experiences or gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories. **ELD.PI.3.10.Ex** Write longer informational texts collaboratively and with increasing independence using appropriate text organization; paraphrase texts and recount experiences.	● Children have many opportunities to convey what they are learning about topics of their own choosing and topics under study in grade-level subject area investigations. ● Children pursue their interests, conducting research that builds knowledge about a topic. Instruction also piques children's interest in new topics. ● Children are provided guidance on gathering and organizing information on topics. Models of effective informational text are shared with students (*ELD.PII.3.1.Ex*). ● Children share what they have learned by planning and delivering a well-organized presentation on a topic.

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
SL.3.1,4 Engage effectively in a range of collaborative conversations with diverse partners about grade 3 topics and texts; plan and deliver presentations. **ELD.PI.3.1,9.Ex** Contribute to class, group, and partner discussions; plan and deliver brief oral presentations.	● Conversations contribute to knowledge building. Children regularly share existing and new knowledge with one another in discussions before, during, and after engaging with texts and participating in investigations. ● Teachers ensure a community culture in which all children feel comfortable contributing to conversations, are encouraged to do so, and feel heard and respected by others. Agreed-upon discussion norms are established (e.g., listening with care, valuing contributions, speaking one at a time, asking questions). Teachers ensure equitable opportunities for all learners to contribute to discussions. ● Children plan and deliver presentations to share knowledge with others, sometimes after gathering relevant information or engaging in research projects (*W.3.7,8*). They carefully consider organization, key ideas, and relevant details.

Critical Area of Instructional Focus: Foundational Skills

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RF.3.3a Identify and know the meaning of the most prefixes and derivational suffixes. **L.3.4b** Determine the meaning of the new word formed when a known affix is added to a known word. **RF.3.3b** Decode words with common Latin suffixes.	● Attention to word parts contributes to decoding and meaning.
RF.3.3c Decode multisyllable words. **L.3.2f** Use spelling patterns and generalizations (word families, position-based spellings, syllable patterns, ending rules, meaningful word parts) in writing words.	● A strong foundation in decoding regularly spelled one-syllable words is ensured. ● Decoding and encoding are reciprocal processes with progress in one supporting progress in the other. They are often taught in tandem. ● Children have many opportunities to use what they are learning in a variety of contexts. ● Instruction in English for EL students capitalizes on similarities between the native language and English and highlights differences between the languages. ● Pronunciation differences due to native language, dialect influences, or regional accent should not be misunderstood as decoding difficulties.

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RF.3.3d Read grade-appropriate irregularly spelled words.	● Teachers help children identify the spellings in the words that are regular. Few words are entirely irregularly spelled. ● Multiple exposures in a variety of contexts are needed for children to build rapid recognition of these words. ● Where possible, children learn the logic of the spellings of words that do not conform to conventional spellings (e.g., words of foreign origin).
RF.3.4 Read with sufficient accuracy and fluency to support comprehension.	● Time to practice reading is crucial for developing automaticity with decoding. All students must be provided opportunities to read grade-level texts; some will need more support than others (*RL/RI.3.10*). Teachers identify texts that children find worth reading, maintaining children's interest and motivation to read. Volume of reading contributes significantly to progress. ● Even when accuracy and fluency are the primary focus of a lesson or activity, teachers ensure meaning making and understanding of vocabulary. ● Students create audio recordings of stories or poems (*SL.3.5*), which provide an authentic reason to rehearse for accurate, expressive, and appropriately paced renderings of the text for an audience (e.g., peers, families, communities, themselves). Teachers ensure positive, motivating experiences for such performances. ● Pronunciation differences due to native language, dialect influences, or regional accent should not be misunderstood as decoding difficulties.
W.3.1-3 Write opinion pieces, informative/explanatory texts, and narratives. **ELD.PI.3.10.Ex** Write longer literary and informational texts collaboratively and with increasing independence.	● Children are provided ample writing opportunities to use their expanding knowledge of the code to convey their opinions, knowledge, and narratives. Writing volume contributes to skill development.

Class Spotlight

The students in Brandi Henry's third-grade class are in Web breakout rooms engaging in an activity that supports their language development and meaning making as well as builds their content knowledge. In preparation, Ms. Henry had posted on the class learning management system visuals and diagrams with labels of high utility, discipline-specific words the class generated previously. Before students moved into their breakout rooms, she reminded them of those resources. She also invited students to use their home language, adding that she expects someone in the group to write them

in English as well. Each breakout room has a topic, and the students have to read two different texts about that topic. For example, Nicole, Blanca, Adam, and Sergio are focused on earthquakes. They have accessed a Google slide that contains a Venn diagram. They are currently discussing how the two texts they read are similar, and they are recording information in the area that overlaps the two circles. They have written their names on the bottom of the slide and chosen a font color so that their teacher knows who added what to the diagram. They talk about many things that are the same in the two texts including the average number of earthquakes in the state, the way that earthquakes are measured, the person who developed the scale, and the use of words like fault, after-shock, tremor, and epicenter. The teacher makes comments on their slide as they work. For example, next to the note about the number of earthquakes she wrote, “Maybe you want to label these as key details versus important points.” Near their list of vocabulary, she wrote, “I appreciate your word detective skills. Want to define these on the bottom of the page if you have time?” The students keep working, now focused on the differences that they found. As Blanca said, “The first one was more about what happens to people. We should add notes about the problems with buildings in those places and what can happen to the water.” Their conversation continues as they explore the differences between the two texts. Their teacher arrives in the breakout room, and Adam greets her, saying “This is really fun. We give ourselves a rating of 5 because our group is taking turns, and everybody is sharing.” Ms. Henry asks if they need any clarification and reminds them that they have two minutes before they all come back into the main room to hear more of the instructions. As she says, “I know that you’ll all need more time, but I want us to check in as a class so that we can help each other and make sure we understand the next step.”

Prominent ELA/Literacy/ELD Themes: Content Knowledge, Language Development, Meaning Making

Associated Standards: RI.3.2,4,9; W.3.6,7,8; SL.3.1,2; ELD.PI.3.1,6,10b,12.Ex

Chapter 14: English Language Arts/Literacy and English Language Development in Grades Four and Five

Overview of the Span

Excellent instruction in the first years of schooling is imperative, but it does not guarantee success in the years ahead. Older students—those in grade four and above—must also be provided excellent instruction.

The grades four and five span is a critically important time as students consolidate their skills and apply them across content areas, in different settings, and for different purposes. Students engage in voluminous independent reading and rich subject matter. Attention is given to keeping motivation high, especially through student choice and peer collaboration, as students are challenged with increasingly complex text and tasks.

Content and pedagogy in the grade span include the following:

Meaning Making: Meaning making is the central focus of instruction. Students read exceptional literary and informational texts and share their understandings, insights, and responses with others. They draw evidence from texts to support analysis, reflection, and research; they identify the evidence a speaker or media source provides to support particular points. They engage deeply with content in all subject matter as readers, listeners, writers, researchers, and discussants—and through hands-on investigations.

Language Development: Language development is an ongoing focus of instruction. Special attention is given in this span to learning and purposefully using general and domain-specific academic language. Students use context and morphology as clues to the meaning of words, and they consult a variety of reference materials to clarify the precise meaning of key words and phrases and to identify alternate word choices. They expand, combine, and condense sentences for meaning, interest, and style. They use transitional words, phrases, and clauses to create cohesion.

Effective Expression: Students produce multiple-paragraph texts in which the development and organization are appropriate to the task, purpose, and audience. They plan, revise, and edit their work. They become increasingly fluent in keyboarding. Students give well-organized, detailed presentations using multimedia to enhance and enrich communication. They learn about register and adapt their speech as appropriate for the context.

Content Knowledge: All students have full access to content instruction, which is integrated with literacy and language. Students also engage in wide reading, interact with high-quality informational texts, participate in an organized independent reading program, and engage in research projects and content investigations, all of which contribute to their knowledge.

Foundational Skills: Students know and readily apply phonics and word analysis skills, including syllabication and morphological analysis, in decoding words. They

read with sufficient fluency to support comprehension. Teachers provide instructional support as needed for individual learners, and they provide plentiful opportunities for students to engage in independent reading.

Students who are English learners participate in intellectually stimulating instruction as they are learning English as an additional language. Planned and "just-in-time" scaffolding ensure progress. The path EL students take as they develop academic English requires risk-taking, and students will likely make approximations with word choice, grammar, and oral discourse practices as they gain new understandings. Steady advancement is best supported in a respectful setting that focuses on meaningful and extended interactions relevant to content under study. Feedback is strategically chosen, timely, and judicious.

Synchronous and Asynchronous Instruction. Teachers should carefully consider which learning experiences are given priority during synchronous instruction. Teachers identify lessons that are best conducted synchronously when they can make "in-the-moment" decisions about next instructional moves based on children's performance as they engage in the lesson. For example, teachers provide real-time instruction on deconstructing complex sentences in challenging texts. They teach, provide many examples from texts students are reading or will read, observe their independent attempts at sentence deconstruction, and reteach with scaffolding as needed. Teachers know that their instruction in the moment matters and that if students are left to themselves to grapple with complex texts, they may experience frustration, and little progress will be made, widening the gap between those who are successful with complex text and those who are not. Other activities can occur effectively without the teacher available in real-time. For example, teachers might provide asynchronous activities that contribute to students' familiarity with Greek and Latin roots.

Standards for each of grades four and five are provided in the next sections.

Grade Four

Students in grade four experience the shift from primary to upper elementary school. They take on more complex texts across all subject matter. They determine themes in literary text and the main ideas presented in informational text. They attend to details and text structures and features. They interpret information presented in different forms, such as diagrams and animations. A significant milestone is that students write clear and coherent multi-paragraph texts. They keyboard a minimum of one page in a single sitting. Their writing incorporates detail, precise language, and linking words and phrases. Vocabulary instruction focuses on the use of Greek and Latin affixes and roots as clues to the meaning of a word, as well as the use of context. Additionally, it is in grade four that students learn to differentiate between contexts that call for formal English and informal English.

By this grade, the foundational skills should be well developed. If not, teachers provide targeted, and likely intensive, instruction to ensure that all students can independently access and use printed language. They ensure that all students continue to develop as readers of complex text—avoiding simply reading aloud challenging grade-level text to students and summarizing the content for them. They do, however, continue to read-aloud from books above the grade band to expose students to continue to broaden their language and their knowledge as well as to have a shared class experience.

Standards and instructional considerations for grade four follow. Many can be addressed across the curriculum, that is, as a part of science, social studies, arts, and other subjects. ELA/literacy and content area instruction are mutually supportive, and to treat them as distinctly separate areas of instruction is to miss opportunities to enhance progress in both ELA/literacy and other subjects. The language arts complement and contribute to content instruction; they do not replace inquiry and other content approaches.

In distance learning settings, teachers should carefully consider which learning experiences are given priority during synchronous instruction. Guidelines are presented in Chapter 10 and also addressed in the Overview of the Span in this chapter.

Some key standards are included in more than one theme, or critical area of instructional focus. For example, SL.4.1 is crucial in meaning making, language development, effective expression, and content knowledge. Thus, it is included in the first four charts that follow. In each case, the standard is displayed with a pink background to make the repetition obvious. Likewise, RL/RI.4.10 appears in several charts, and so a different color (in this case, orange) is used to highlight the repetition. Presented first is a chart depicting the standards for grade four at a glance followed by detailed charts for each theme.

Critical Areas of Instructional Focus: At a Glance

Theme	Key Standards	Related Standards
Meaning Making	RL/RI.4. 1,10; RF.4.4; W.5.1-3,9; SL.4.1,3,4 ELD.PI.4.1,6a,9,10a,11a.Ex	*RL/RI.4.2,3,5,7,9; W.4.10; SL.4.2,5; L.4.4,5* *ELD.PII.4.1,2.Ex*
Language Development	RL/RI.4.4,10; RF.4.4; SL.4.1,4; L.4.4,5,6 ELD.PI.4.1,3,6,9,12a.Ex	*SL.4.6; L.4.3-5* *ELD. PII.4.3-5.Ex*
Effective Expression	RL/RI.4.10; RF.4.4; W.4.1-3,5; SL.4.1,4 ELD.PI.4.1,3,4,7-10.Ex	*RL/RI.4.5,6; RL.4.4-7, RI.4.8; W.4.4,6 SL.4.5,6; L.4.3a,c* *ELD.PII.4.1-7.Ex*
Content Knowledge	RL/RI.4.1,10; RI.4.4; W.4.2,7,8,9; SL.4.1,3,4; L.4.4,5 ELD.PI.4.1,6,9-11a.Ex	*RI.4.6-9; RF.4.3,4; W.4.7,8* *ELD.PI.4.6,7,12a.Ex; PII.4.1.Ex*
Foundational Skills	RF.4.3,4; L.4.4b; W.4.1-3 ELD.PI.4.6b,10.Ex	*RL/RI.4.10*

Critical Area of Instructional Focus: Meaning Making

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.4.1 Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from text. **W.4.9** Draw evidence from literary or informational texts to support analysis, reflection, and research. **SL.4.3** Identify the reasons and evidence a speaker or media source provides to support particular points. **ELD.PI.4.6a,11a.Ex** With moderate support describe ideas, phenomena, and text elements in greater detail based on close reading of a variety of grade-level texts; support opinions or persuade others by expressing appropriate/accurate reasons using some textual evidence or relevant background knowledge.	● Every student regularly engages with grade-level text, with scaffolds (planned and "just-in-time") provided and adjusted in accordance with the strengths and needs of the learner. ● Text-dependent questions prompt students to attend closely to written texts, speakers, or media sources and refer to details or specific information in a text, sometimes paraphrasing (*SL.4.2*), to determine a theme or main idea (*RL/RI.4.2*), describe in depth characters, settings, or events in stories or explain events, procedures, and ideas in an informational text (*RL/RI.4.3*), and compare the treatment of a topic, theme, or pattern of events across books from different cultures or integrate the information from two texts on the same topic (*RL/RI.4.9*). ● Students not only answer questions posed by the teacher, but they are also encouraged to ask questions about a text or information presented through other media. Comprehension monitoring is evident when they ask questions to clarify meaning; engagement is evident when they question a character's behavior or ask about information provided in a text or media source. ● All students participate in read-aloud experiences with increasingly complex texts (i.e., those in the grades 6-8 complexity band). Teachers guide students to navigate the language, concepts, and organization of challenging text. ● Students engage as listeners, readers, writers, and discussants with a range of text types, which contribute to literary, cultural, and domain knowledge, as well as familiarity with various genres and text structures and features (*RL/RI.4.5; ELD.PII.4.1.Ex*)—all of which influence meaning making. Teachers provide access to compelling works of literature that spark discussions worth having.

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.4.10 By the end of the year, read and comprehend literature and informational texts in the grades 4-5 text complexity band proficiently, with scaffolding as needed at the high end of the range. **ELD.PI.4.6a.Ex** Describe ideas, phenomena, and text elements in greater detail based on understanding of a variety of grade-level texts and viewing of multimedia, with moderate support.	● Students read and discuss increasingly complex texts of different types daily, with special attention given to books with appropriate complexity for grade four. Volume of reading contributes to reading development. ● Teachers support students in meaning making, teaching them how to navigate unfamiliar concepts and vocabulary and complex language structures *(L.4.4,5; ELD.PII.4.1,2*), and interpret illustrations and information presented visually, orally, or quantitatively (*RL/RI.4.7*). Teachers guide the deconstruction of complex sentences and paragraphs for understanding their structures and meaning making. ● Teachers create opportunities for all students to select texts to read for study and enjoyment. ● Teachers ensure that all students see themselves in texts.
RF.4.4 Read with sufficient accuracy and fluency to support comprehension.	● Attention is given to meaning making as the reason for continuing to develop accurate word recognition and build fluency. This is also the reason that students use context to confirm or self-correct word recognition and understanding, rereading as necessary.
W.4.1-3 Write opinion pieces, informative/explanatory texts, and narratives. **ELD.PI.4.10a.Ex** Write longer literary texts and informational texts collaboratively and with an adult or peers with increasing independence.	● Students write routinely about a range of topics, particularly those they care about, with some pieces developed over an extended time period as they engage in research, reflection, and revision, and others written in a short time. Students focus on conveying meaning with a purpose and audience in mind and for a range of discipline-specific tasks (*W.4.10*). ● Teachers guide the co-construction of increasingly effective text aligned to purpose and audience. ● Students write in response to texts, which supports and deepens comprehension. They also write in response to learning activities across the curriculum.

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
SL.4.1,4 Engage effectively in a range of collaborative conversations with diverse partners about grade 4 topics and texts; plan and deliver presentations. **ELD.PI.4.1,9.Ex** Contribute to class, group, and partner discussions; plan and deliver brief oral presentations.	● Students have daily opportunities to engage in extended conversations with a range of others in a range of contexts for a range of purposes. Conversations include sharing opinions, experiences, and information; responding to texts and learning experiences; and listening to and asking questions of others. Students' understandings of topics and texts are enhanced through engagement with others. ● Students become more skilled at staying on topic, asking relevant questions, gaining or holding the floor, and providing counterarguments. ● Students plan and deliver presentations with attention to conveying meaning to an audience. They consider organization, sequence, supporting details, and vocabulary to ensure clear and coherent communication. They provide a context and add audio recordings and visual displays when appropriate to enhance the development of ideas or themes (*SL.4.5*). ● Teachers ensure a community culture in which all students feel comfortable contributing to conversations, are encouraged to do so, and feel heard and respected by others. Agreed-upon discussion norms are established (e.g., listening with care, valuing contributions, speaking one at a time, asking questions). Teachers ensure equitable opportunities for all learners to contribute to discussions.

Critical Area of Instructional Focus: Language Development

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.4.4 Determine the meaning of words and phrases as they are used in a text, including allusions and general academic and domain-specific words and phrases. **L.4.4,5** Determine or clarify the meaning of unknown and multiple-meaning words and phrases; demonstrate understanding word relationships and nuances in word meanings. **ELD.PI.4.6b** Use knowledge of morphology, linguistic context, and reference materials to determine the meaning of unknown words on familiar topics.	● Words and phrases are drawn from texts (or subject area instruction) with which the students are engaged rather than a list divorced from any context. ● Increasingly complex literary and informational text as well as rich content curriculum (e.g., science, social studies, the arts) provide opportunities to learn new words and phrases. Students demonstrate an understanding of word relationships and nuances in meaning (*L.4.5*). ● Read-alouds especially can provide opportunities to expand students' vocabulary and are selected, in part, on the basis of the richness of the language. Read-alouds include books in the above the grade 4-5 complexity. ● Teachers model an enthusiasm for words and prompt students' interest in new words and their use of new words in novel contexts (*L.4.6; ELD.PII.4.3-5.Ex*). ● When addressing multiple-meaning words (*L.4.4*), meaning making is crucial as it is the context in which a multiple-meaning word occurs that determines its meaning (e.g., to tie a *bow* on a gift vs. to tie a rope to the *bow* of the boat). ● Students learn to use different strategies to determine word meanings, including sentence-level context and word parts, such as affixes and roots, and they use resources to clarify precise meanings. ● Teachers leverage all students' experiences and EL students' native language where possible (e.g., highlighting cognates) to support vocabulary development.
RL/RI.4.10 By the end of the year, read and comprehend literature and informational texts in the grades 4-5 text complexity band proficiently, with scaffolding as needed at the high end of the range. **ELD.PI.4.6a.Ex** Describe ideas, phenomena, and text elements in greater detail based on understanding of a variety of grade-level texts and viewing of multimedia, with moderate support.	● Reading volume contributes to language development. Students read books of their choice independently, and they also read with others. ● Teachers support students to read complex texts by teaching text vocabulary explicitly, providing rich and engaging, as well as repeated, experiences with new words (*L.5.5,6*). Teachers also model strategies for independent word learning.

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RF.4.4 Read with sufficient accuracy and fluency to support comprehension.	• Text is a rich source of academic vocabulary and complex linguistic structures. Teachers should ensure that students have strong word analysis skills and sufficient fluency to support voluminous reading, which in turn contributes to students' language development.
SL.4.1,4 Engage effectively in a range of collaborative conversations with diverse partners about grade 4 topics and texts; plan and deliver presentations. **ELD.PI.4.1,3,9.Ex** Contribute to class, group, and partner discussions; offer opinions and negotiate with or persuade others in conversations using an expanded set of learned phrases as well as open responses; plan and deliver brief oral presentations.	• Opportunities to use language contribute to language development. Students engage in brief and extended conversations daily with a range of others in a range of contexts for a range of purposes. Conversations include sharing opinions, experiences, and information; responding to texts and learning experiences; and listening to and asking questions of others. • Students become more skilled at staying on topic, asking relevant questions, gaining or holding the floor, and providing counterarguments. • Students plan and deliver presentations with the understanding that the context calls for more formal language use and is different from informal discourse; they choose words and phrases to convey ideas precisely (*SL.4.6; L.4.3*). • Teachers ensure a community culture in which all students feel comfortable contributing to conversations, are encouraged to do so, and feel heard and respected by others. Agreed-upon discussion norms are established (e.g., listening with care, valuing contributions, speaking one at a time, asking questions). Teachers ensure equitable opportunities for all learners to contribute to discussions.
L.4.6 Acquire and use accurately grade-appropriate conversational, general academic, and domain-specific words and phrases. **ELD.PI.4.12a.Ex** Use a growing number of general academic and domain-specific words while speaking and writing.	• Teachers provide language rich contexts to ensure students' exposure to and opportunities to use an increasingly broad vocabulary. They read-aloud books from the grades 6-8 complexity band, provide a wide choice of texts for students to read individually or in groups that will expand their language, and engage students in coherent and stimulating subject area instruction that introduces them to new concepts and accompanying language. Teachers have access to diverse types of text in their home languages. • Teachers model, scaffold (planned and "just-in-time"), and prompt the use of target words and phrases in multiple contexts. Opportunities to use language are crucial for language development.

Critical Area of Instructional Focus: Effective Expression

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.4.10 By the end of the year, read and comprehend literature and informational texts in the grades 4-5 text complexity band proficiently, with scaffolding as needed at the high end of the range. **ELD.PI.4.7,8.Ex** Describe how well writers or speakers use specific language resources to support an opinion or present an idea, with prompting and moderate support; distinguish how different words with similar means and figurative language produce shades of meaning and different effects on the audience.	● Teachers support students to read increasingly complex text and engage students in examining passages that represent samples of effective expression. Students and their teachers work to uncover what makes passages effective or complex, considering the choice of words and grammatical elements, clarity of structure, author's point of view or purpose, or other features (*RL.4.4-7*). ● Starting in this grade, students explain how an author supports particular points in a text by using reasons and evidence (*RI.4.8*). They also examine the differences between different accounts of the same topic or events (*RI.4.6*), and how visual and quantitative information contributes to a text (*RI.4.7*). Students become increasingly aware of the author's craft.
RF.4.4 Read with sufficient accuracy and fluency to support comprehension.	● Teachers model reading aloud fluently a variety of text types. They vary their pace and use expression appropriate for the text. They also share other effective models of fluent reading using different media sources. ● Students have regular opportunities to read-aloud individually or chorally after rehearsal. Reading aloud is treated as a joyful process as students share their own work or engage in a performance (e.g., readers theatre) live for others in class or virtual room or recorded (*SL.4.4,5*).

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
W.4.1 Write opinion pieces on topics or texts, supporting a point of view with reasons and information. **W.4.2** Write informative/ explanatory texts to examine a topic and convey ideas and information clearly. **W.4.3** Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences. **ELD.PI.4.10.Ex** Write longer literary and informational texts collaboratively and with increasing independence using appropriate text organization; write increasingly concise summaries of texts and experiences using complete sentences and key words.	● Students use writing for different purposes: to convey their opinions, information, and narratives. ● Students write daily and are given explicit guidance on how to effectively organize different types of texts (*W.4.4; ELD.PII.4.1.Ex*) and choose words and phrases for effect (*L.4.3a*). ● New to this grade is that students produce multi-paragraph texts, sometimes using technology to produce and publish writing as well as to interact and collaborate with others. Students gain sufficient command of keyboarding skills to type a minimum of one page in a single sitting (*W.4.6*). ● Motivation is crucial; students write about what interests them, and teachers create learning contexts that expand their interests. ● Opportunities for students to orally read their work—or any text—to others provide an authentic reason for rehearsal, which supports fluent presentation (*RF.4.4*).
W.4.5 With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, and editing.	● Students' writing receives regular, specific feedback so students become increasingly effective at producing clear and coherent writing (*W.4.4; ELD.PII.4.2.Ex*). Feedback focuses—as appropriate for the context and with consideration of the student's motivation, skills, and English proficiency—on topic development, word choice and conventions (*L.4.1-3; ELD.PII.4.1-7.Ex*). Primary attention is given to communicating meaningfully. ● Students evaluate feedback, make choices, and revise writing for coherence. ● Feedback is expressed in positive, encouraging ways to ensure motivation and enthusiasm for creating written work are maintained. Teachers engage students in self assessment and goal setting.

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
SL.4.1,4 Engage effectively in a range of collaborative discussions with diverse partners on grade 4 topics and texts; plan and deliver presentations. **ELD.PI.4.1,3,9.Ex** Contribute to class, group, and partner discussions; negotiate with others in conversations using an expanded set of learned phrases as well as open responses; and plan and deliver brief oral presentations. **ELD.PI.4.4.Ex** Adjust language choices according to the purpose, task, and audience, with moderate support.	● Students have daily opportunities to engage in conversations with a range of others in a range of contexts for a range of purposes. Conversations include sharing opinions, experiences, and information; responding to texts and learning experiences; and listening to and asking questions of others. ● Teachers ensure a community culture in which all students feel comfortable contributing to conversations, are encouraged to do so, and feel heard and respected by others. Agreed-upon discussion norms are established (e.g., listening with care, valuing contributions, speaking one at a time, asking questions). Teachers ensure equitable opportunities for all learners to contribute to discussions. ● Teachers consider the purpose of the task and the EL students' proficiency levels and group them heterogeneously with peers at more advanced levels of English proficiency for core tasks and consider homogeneous groups for identified language needs. ● Teachers assess conversations for their structure and language use and provide specific feedback aligned to academic language objectives. ● Students plan and deliver presentations with attention to communicating their ideas effectively to an audience. They are precise in language, consider appropriate pacing, and use formal English rather than informal discourse as appropriate to the task (*SL.4.6*; *L.4.3a,c*). They include audio recordings and visual displays as appropriate (*SL.4.5*).

Critical Area of Instructional Focus: Content Knowledge

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.4.1 Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from text. **W.4.9** Draw evidence from literary or informational texts to support analysis, reflection, and research. **SL.4.3** Identify the reasons and evidence a speaker or media source provides to support particular points. **ELD.PI.4.6a,11a.Ex** With moderate support describe ideas, phenomena, and text elements in greater detail based on close reading of a variety of grade-level texts; support opinions or persuade others by expressing appropriate/accurate reasons using some textual evidence or relevant background knowledge.	● Informational texts that build students' knowledge are a crucial component of every grade level. Students gain knowledge through reading in every content area, and they learn how text structures vary across disciplines. Book selections are based on grade-level content standards and learning experiences in different content areas (e.g., science, social studies), and students' interests, and cultural experiences. ● Students engage with multiple texts, speakers, and other media sources on a given topic, all of which contribute to building knowledge. Students look closely at sources, including information presented visually and quantitatively, to compare firsthand and secondhand accounts of the same event or topic, identify the evidence authors, speakers, and other sources provide for points made, and integrate information so they can speak or write knowledgeably about the subject. (*RI.4.6-9; ELD.PI.4.6,7.Ex*).
RI.4.4 Determine the meaning of general academic and domain-specific words and phrases. **L.4.4,5** Determine or clarify the meaning of unknown and multiple-meaning words and phrases; demonstrate understanding word relationships and nuances in word meanings**.** **ELD.PI.4.6b.Ex** Use knowledge of morphology, linguistic context, and reference materials to determine the meaning of unknown words on familiar topics.	● Many words in informational text, in particular, are domain-specific; as students learn this vocabulary, they build knowledge. Importantly, vocabulary is learned in a meaningful context, and students have opportunities to use newly acquired vocabulary as they engage in content-related activities and investigations (*ELD.PI.4.12a.Ex*).

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.4.10 By the end of the year, read and comprehend literature and informational texts in the grades 4-5 text complexity band proficiently, with scaffolding as needed at the high end of the range. **ELD.PI.4.6.Ex** Describe ideas, phenomena, and text elements in greater detail based on understanding of a variety of grade-level texts and viewing of multimedia, with moderate support.	● Students read and discuss texts daily, including a wide range of content-rich texts. This expands their knowledge of the natural and social world, general academic and domain-specific language, and familiarity with various text structures and features (*RI.4.5; ELA.PII.4.1.Ex*). ● Reading volume contributes to knowledge; students read independently and in collaboration with others daily, including books of their own choosing. Importantly, independent engagement with texts is enabled by their continuing progress in foundational skills (*RF.4.3,4*). ● Students have access to informational text in their home languages to amplify domain knowledge and support meaning making.
W.4.2 Write informative/explanatory texts to examine a topic and convey ideas and information clearly. **W.4.7,8** Conduct short research projects that build knowledge through investigation of different aspects of a topic; recall relevant information from experiences or gather relevant information from print and digital sources; take notes, paraphrase, and categorize information, and provide a list of sources. **ELD.PI.4.10.Ex** Write longer informational texts collaboratively and with increasing independence using appropriate text organization; write concise summaries of texts and experiences.	● Students have many opportunities to convey what they are learning about topics of their own choosing and topics under study in grade-level subject area investigations. As they write, students process and consolidate new content. ● Students are provided guidance on gathering and organizing information on topics. Models of effective informational text are shared with students (*ELD.PII.4.1.Ex*). ● Students pursue their interests, conducting research that builds knowledge about a topic. Instruction also piques students' interest in new topics.

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
SL.4.1,4 Engage effectively in a range of collaborative conversations with diverse partners about grade 4 topics and texts; plan and deliver presentations. **ELD.PI.4.1,9.Ex** Contribute to class, group, and partner discussions; plan and deliver brief oral presentations.	● Conversations contribute to knowledge building. Students regularly share existing and new knowledge with one another in discussions before, during, and after engaging with texts and participating in investigations. ● Students become more skilled at staying on topic, asking relevant questions, gaining or holding the floor, and providing counterarguments. ● Students plan and deliver presentations to share their experiences or knowledge with others, sometimes after gathering relevant information or engaging in research projects (*W.4.7,8*). They carefully consider organization, key ideas, and relevant details. ● Teachers ensure a community culture in which all students feel comfortable contributing to conversations, are encouraged to do so, and feel heard and respected by others. Agreed-upon discussion norms are established (e.g., listening with care, valuing contributions, speaking one at a time, asking questions). Teachers ensure equitable opportunities for all learners to contribute to discussions.

Critical Area of Instructional Focus: Foundational Skills

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RF.4.3 Use combined knowledge of all letter-sound correspondences, syllabication patterns, and morphology to read accurately unfamiliar multisyllabic words in context and out of context. **L.4.4b** Use common grade-appropriate Greek and Latin affixes and roots as clues to the meaning of a word. **ELA.PI.4.6b.Ex** Use knowledge of morphology to determine the meaning of unknown words on familiar topics.	● Students continue to develop and apply word analysis skills to read unfamiliar words. ● Instruction in English for EL students capitalizes on similarities between the native language and English and highlights differences between the languages, which supports deepening understandings of how English works. ● Pronunciation differences due to native language, dialect influences, or regional accent should not be misunderstood as decoding difficulties.

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RF.4.4 Read with sufficient accuracy and fluency to support comprehension.	• Time to practice reading is crucial for developing automaticity with print. All students have regular opportunities to read grade-level texts; some will need more support than others (*RL/RI.4.10*). Teachers identify texts that students find worth reading, ones that maintain their interest and motivation to read. Volume of reading contributes significantly to progress. • Teachers need to listen to students read-aloud at times, avoiding round robin and popcorn reading, in order to determine if and what support is needed. • Even when accuracy and fluency are the primary focus of a lesson or activity, teachers ensure meaning making and understanding of vocabulary. • Pronunciation differences due to native language, dialect influences, or regional accent should not be misunderstood as decoding difficulties.
W.4.1-3 Write opinion pieces, informative/explanatory texts, and narratives. **ELD.PI.4.10.Ex** Write longer literary and informational texts collaboratively and with increasing independence.	• Students are provided ample writing opportunities to use their deepening knowledge of the code to convey their opinions, knowledge, and narratives. Writing volume contributes to skill development.

Class Spotlight

Students in Ramal Setty's fourth-grade class are learning about California history and geography. As part of their unit on the influence of geography on the Indigenous peoples of the region, his students are learning the domain-specific vocabulary needed to understand these concepts. The students are building content knowledge and expanding their language concurrently, both of which contribute to students' meaning making. Terms such as *Coast Ranges, Central Valley, Mountains,* and *Desert Region* are utilized to describe the characteristics of each area and how it influenced human life. Mr. Setty explains that "each of these [terms] represent a deep body of knowledge about climate and terrain." However, he has also noted that his students are beginning to confuse the distinct characteristics of each. In order to facilitate meaning making as students are studying the different regions, he uses a list-group-label process to organize and consolidate their semantic knowledge. He uses a multimedia bulletin board tool (Padlet) so that he and his students can manipulate the information.

Mr. Setty begins by asking students to create digital cards that represent characteristics of the regions they have been studying. Students are invited to include terms in their home language as well and English. Students list terms such as "lots of rain," "hot and dry," "árido y seco," "rivers and fishing," and "redwood forests." After listing characteristics, he invites students to group them together into related terms. Students

examine the map of California they have in their textbook and begin to group them into subcategories. Some students use their linguistic resources to translate terms. Under the direction of students, he moves like terms together. Thus, *hot and dry/árido y seco* are grouped with *arid*, while *mountains* and *volcanoes* are similarly grouped.

"Now let's add labels to these categories," says the teacher. He adds digital cards for the four major regions they are studying and puts them horizontally at the top of the screen. "Look at the groups we made again," says the teacher. "Which groups might belong as descriptors for each of these regions?" Now the students are becoming more animated by the task. "*Cliffs* and *beaches* definitely go with *Coastal Region*," offers Samuel. As Mr. Setty moves the two digital cards under Coastal Region, he asks, "I'd like everyone to look at the map. Who can explain what your evidence is that cliffs and beaches would be characteristics of the Coastal Region?" Mr. Setty shares three conversation expanders from which students can choose to explain evidence, agree or disagree, or challenge. Later, the teacher says, "Learning vocabulary is much more than knowing definitions. It requires ongoing review to deepen knowledge and enrich their schema."

Prominent ELA/Literacy/ELD Themes: Content Knowledge, Language Development, Meaning Making

Associated Standards: RI.4.3,4,7,8; W.4.6,8,9; SL.4.2; L.4.6; ELD.PI.4.6,12a.Ex

Grade Five

Students in grade five approach text with greater purpose and critical stances. They voice their views in light of multiple perspectives and textual evidence. They begin to realize that they can interact with a text in ways that allow them to understand the text's meaning more deeply and also question its premises. Students use several sources when conducting research projects. Their language and knowledge continues to expand as they engage in voluminous reading and participate in rich content instruction and discussions. They learn about the varieties of English used in stories, dramas, or poems. They become skilled at keyboarding, typing a minimum of two pages in a single setting, and use technology and media to learn and to share their ideas.

By this grade, foundational skills are used effortlessly; reinforcement is provided as necessary to ensure fluency with print. Word analysis and vocabulary instruction overlap as students use morphology to both decode and determine the meaning of words. In cases where foundational skills are not yet well established, teachers provide targeted, and likely intensive, instruction to ensure that all students can independently access and use printed language.

Teachers support students as they continue to develop as readers of increasingly complex text; they avoid practices that separate students from challenging grade-level text, such as reading aloud or summarizing the content of a text. They do, however, continue to read-aloud from books above the grade band to expose students to text that broadens their language and their knowledge, and they read-aloud books for a shared class experience.

Standards and instructional considerations for grade five follow. Many can be addressed across the curriculum, that is, as a part of science, social studies, arts, and other subjects. ELA/literacy and content area instruction are mutually supportive, and to treat them as distinctly separate areas of instruction is to miss opportunities to enhance progress in both ELA/literacy and other subjects. The language arts complement and contribute to content instruction; they do not replace inquiry and other content approaches.

In distance learning settings, teachers should carefully consider which learning experiences are given priority during synchronous instruction. Guidelines are presented in Chapter 10 and also addressed in the Overview of the Span in this chapter.

Some key standards are included in more than one theme. For example, SL.5.1 is crucial in meaning making, language development, effective expression, and content knowledge. Thus, it is included in the first four charts that follow. In each case, the standard is displayed with a pink background to make the repetition obvious. Likewise, RL/RI.5.10 appears in several charts, and so a different color (in this case, orange) is used to highlight the repetition. Presented first is a chart depicting the standards for grade five at a glance followed by detailed charts for each theme.

Critical Areas of Instructional Focus: At a Glance

Theme	Key Standards	Related Standards
Meaning Making	RL/RI.5. 1,10; RF.5.4; W.5.1-3,9; SL.5.1,3,4 ELD.PI.5.1,6a,9,10a,11a.Ex	*RL/RI.5.2,3,5,7,9; RL.5.6; RI.5.8; W.5.10; SL.5.2,5,8; L.5.4,5* *ELD.PII.5.1,2.Ex*
Language Development	RL/RI.5.4,10; RF.5.4; SL.5.1,4; L.5.4,5,6 ELD.PI.5.1,3,6,9,12a.Ex	*L.5.4,5* *ELD.PI.5.4.Ex; PII.5.3-5.Ex*
Effective Expression	RL/RI.5.10; RF.5.4; W.5.1-3,5; SL.6.1,4; L.5.1 ELD.PI.5.1,3,4,7-10.Ex	*RL/RI.5.5,6; RL.5.4-7, RI.5.8; W.5.7,8; SL.5.5* *ELD.PI.5.2.Ex; PII.5.1-7.Ex*
Content Knowledge	RL/RI.5.1,10; RI.5.4; W.5.2,7,8,9; SL.5.1,3,4; L.5.4,5 ELD.PI.1,6,9-11a.Ex	*RI.5.5-9; RF.5.3,4; W.5.6; SL.5.5* *ELD.PI.5.6,7,12a.Ex; PII.5.1.Ex*
Foundational Skills	RF.5.3,4; L.5.4b; W.5.1-3 ELD.PI.5.6b,10.Ex	*RL/RI.5.10*

Critical Area of Instructional Focus: Meaning Making

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.5.1 Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from text. **W.5.9** Draw evidence from literary or informational texts to support analysis, reflection, and research. **SL.5.3** Summarize the points a speaker or media source makes and explain how each claim is supported by reasons and evidence, and identify and analyze any logical fallacies. **ELD.PI.5.6a,11a.Ex** With moderate support explain ideas, phenomena, processes and text relationships based on close reading of a variety of grade-level texts and viewing multimedia; support opinions or persuade others by expressing appropriate/accurate reasons using some textual evidence or relevant background knowledge.	● Every student regularly engages with grade-level text, with scaffolds (planned and "just-in-time") provided and adjusted in accordance with the strengths and needs of the learner. ● Text-dependent questions prompt students to attend closely to written texts, speakers, or media sources and refer to details or specific information in a text, at times quoting directly and at times summarizing (*SL.5.2*), to determine a theme or main idea (*RL/RI.5.2*); describe characters, settings, or events in stories or explain the relationships or interactions between two or more individuals, events, ideas, or concepts in an informational text (*RL/RI.5.3*); and compare the treatment of a topic, theme, or pattern of events across books in the same genre or integrate the information from several texts on the same topic (*RL/RI.5.9*). Teachers analyze texts to create text-dependent questions and engage students in developing their own questions based on the text. ● Students refer to the text or other sources to explain how an author, speaker, or media source uses reasons and evidence to support points (*RI.5.8*), and they draw evidence from different sources to support claims in their own writing. ● All students participate in read-aloud experiences with increasingly complex texts (i.e., those in the grades 6-8 complexity band). Teachers guide students to navigate the language, concepts, and organization of challenging text.

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.5.10 By the end of the year, read and comprehend literature and informational texts at the high end of the grades 4-5 text complexity band independently and proficiently. **ELD.PI.5.6a.Ex** Explain ideas, phenomena, processes, and text relationships based on close reading of a variety of grade-level texts and viewing of multimedia, with moderate support.	• Students read and discuss increasingly complex texts of different types daily, with special attention given to books with appropriate complexity for grade five. Volume of reading contributes to reading development. • Teachers support students in meaning making, teaching them how to navigate unfamiliar concepts and vocabulary and complex language structures (*L.5.4,5; ELD.PII.5.1,2*), analyze how visual and multimedia elements contribute to a text (*RL.5.7*), and draw on information from multiple print or digital sources to answer questions (*RI.5.7*). Teachers guide the deconstruction of complex sentences and paragraphs for understanding their structures and meaning making. • Students engage as listeners, readers, and discussants with a range of text types, which contributes to literary, cultural, and domain knowledge, as well as familiarity with various genres and text structures and features (*RL/RI.5.5; ELD.PII.5.1.Ex*)—all of which influence meaning making. Teachers provide access to compelling works of literature that spark discussions worth having. • Teachers create opportunities for all students to select texts to read for study and enjoyment. • Teachers ensure that all students see themselves in texts.
RF.5.4 Read with sufficient accuracy and fluency to support comprehension.	• Attention is given to meaning making as the reason for continuing to develop accurate word recognition and building fluency. This is also the reason that students use context to confirm or self-correct word recognition and understanding, rereading as necessary.
W.5.1-3 Write opinion pieces, informative/explanatory texts, and narratives. **ELD.PI.5.10a.Ex** Write longer literary texts and informational texts collaboratively and with increasing independence by using appropriate text organization.	• Students write routinely about a range of topics, particularly those they care about, with some pieces developed over an extended time period as they engage in research, reflection, and revision, and others written in a short time. Students focus on conveying meaning with a purpose and audience in mind and for a range of discipline-specific tasks (*W.5.10*). • Students write in response to texts, which supports and deepens comprehension. They also write in response to learning activities across the curriculum.

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
SL.5.1,4 Engage effectively in a range of collaborative discussions with diverse partners on grade 5 topics and texts; plan and deliver presentations. **ELD.PI.5.1,9.Ex** Contribute to class, group, and partner discussions; plan and deliver longer oral presentations.	● Students have multiple daily opportunities to engage in brief and extended discussions with a range of others in a range of contexts for a range of purposes. They share opinions, experiences, and information; respond to texts and learning experiences; and listen to and ask questions of others. Students' understandings of topics and texts are enhanced through engagement with others. ● Students come prepared to discussions and carry out assigned roles; they elaborate on the comments of others and draw conclusions in light of what they learn by engaging with others. ● Students plan and deliver presentations with attention to conveying meaning to an audience. They sequence ideas logically and use transition words to make clear links between opinions and evidence. They include multimedia components and visual displays to enhance development of main ideas and themes (*SL.5.5*). ● Teachers ensure a community culture in which all students feel comfortable contributing to conversations, are encouraged to do so, and feel heard and respected by others. Agreed-upon discussion norms are established (e.g., listening with care, valuing contributions, speaking one at a time, asking questions). Teachers ensure equitable opportunities for all learners to contribute to discussions.

Critical Area of Instructional Focus: Language Development

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RI.5.4 Determine the meaning of words and phrases as they are used in a text, including figurative language and general academic and domain-specific words and phrases. **L.5.4,5** Determine or clarify the meaning of unknown and multiple-meaning words and phrases; demonstrate understanding of word relationships and nuances in word meanings. **ELD.PI.5.6b.Ex** Use knowledge of morphology, linguistic context, and reference materials to determine the meaning of unknown words on familiar and new topics.	● Words and phrases are drawn from texts (or subject area instruction) with which the students are engaged rather than a list divorced from any context. ● Increasingly complex literary and informational text and rich content curriculum (e.g., science, social studies, the arts) provide opportunities to learn new words and phrases. Students demonstrate an understanding of word relationships and nuances in meaning (*L.5.5*). ● Read-alouds especially provide opportunities to expand students' vocabulary and are selected, in part, on the basis of the richness of the language. Read-alouds include books in the grades 6-8 complexity band. ● Teachers model enthusiasm for words and use strategies to promote students' interest in words and their use of new words in novel contexts (*L.5.6; ELD.PII.5.3-5*). ● When addressing multiple-meaning words (*L.5.4*), meaning making is crucial as it is the context in which a multiple-meaning word occurs that determines its meaning (e.g., to tie a bow on a gift vs. to tie a rope to the bow of the boat). ● Students learn to use different strategies to determine word meanings, including sentence-level context and word parts, such as affixes and roots, and they use resources to clarify precise meanings. ● Teachers leverage all students' experiences and EL students' native language where possible (e.g., highlighting cognates) to support vocabulary development.

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.5.10 By the end of the year, read and comprehend literature and informational texts at the high end of the grades 4-5 text complexity band independently and proficiently. **ELD.PI.5.6a.Ex** Explain ideas, phenomena, processes, and text relationships based on close reading of a variety of grade-level texts and viewing of multimedia, with moderate support.	● Reading volume contributes to language development. Students independently and collaboratively read, write, and discuss increasingly challenging text. ● Teachers support students to read complex texts by teaching text vocabulary explicitly, providing rich and engaging, as well as repeated, experiences with new words (*L.5.5,6*). They model strategies for independent word learning. Teachers also draw attention to and facilitate students' command of increasingly complex grammatical structures found in text. ● Writing about and discussing what they read provides students opportunities to use newly acquired language.
RF.5.4 Read with sufficient accuracy and fluency to support comprehension.	● Text is a rich source of academic vocabulary and complex sentence structures. Teachers should ensure that students have strong word analysis skills and sufficient fluency to support voluminous reading, which in turn contributes to their language development.
SL.5.1,4 Engage effectively in a range of collaborative discussions with diverse partners on grade 5 topics and texts; plan and deliver presentations. **ELD.PI.5.1,3,9.Ex** Contribute to class, group, and partner discussions; negotiate with others in conversations using an expanded set of learned phrases as well as open responses; and plan and deliver longer oral presentations.	● Opportunities to use language contribute to language development. Students engage in brief and extended discussions daily with a range of others in a range of contexts for a range of purposes. They share opinions, experiences, and information; respond to texts and learning experiences; and listen to and ask questions of others. ● Students come prepared to discussions and carry out assigned roles; they elaborate on the comments of others and draw conclusions in light of what they learn by engaging with others. ● Students plan and deliver presentations with the understanding that the context calls for more formal language use and is different from informal discourse (*ELD.PI.5.4.Ex*). ● Teachers ensure a community culture in which all students feel comfortable contributing to conversations, are encouraged to do so, and feel heard and respected by others. Agreed-upon discussion norms are established (e.g., listening with care, valuing contributions, speaking one at a time, asking questions). Teachers ensure equitable opportunities for all learners to contribute to discussions.

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
L.5.6 Acquire and use accurately grade-appropriate conversational, general academic, and domain-specific words and phrases. **ELD.PI.5.12a.Ex** Use a growing number of general academic and domain-specific words while speaking and writing.	● Teachers provide language rich contexts to ensure students' exposure to and opportunities to use an increasingly broad vocabulary. They read-aloud books in the grades 6-8 complexity band, provide a wide choice of texts for students to read individually or in groups that will expand their language, and engage students in coherent and stimulating subject area instruction that introduces them to new concepts and accompanying language. ● Teachers model, scaffold (planned and "just-in-time"), and prompt the use of target words and phrases in multiple contexts. Opportunities to use language are crucial for language development.

Critical Area of Instructional Focus: Effective Expression

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.5.10 By the end of the year, read and comprehend literature and informational texts at the high end of the grades 4-5 text complexity band independently and proficiently. **ELD.PI.5.7,8.Ex** Explain how well writers and speakers use language resources to support an opinion or present an idea, with moderate support; distinguish how different words with similar meanings produce shades of meaning and different effects on the audience.	● Teachers support students to read increasingly complex text and engage students in examining passages that represent samples of effective expression. Students and their teachers work to uncover what makes passages effective or complex, considering the choice of words and grammatical elements, clarity of structure, author's point of view or purpose, or other features (*RL.5.4-7*). They consider how a narrator's or speaker's point of view influences descriptions of events (*RL.5.6*). ● Students explain how an author supports particular points in a text by using reasons and evidence (*RI.5.8*). They also examine the differences between multiple accounts of the same topic or events (*RI.5.6*), and how visual and multimedia elements contribute to the meaning, tone, or beauty of a text (*RL.5.4*). Students become increasingly aware of the author's craft.
RF.5.4 Read with sufficient accuracy and fluency to support comprehension.	● Teachers model reading aloud fluently a variety of text types. They vary their pace and use expression appropriate for the text. They also share other effective models of fluent reading using different media sources. ● Students have regular opportunities to read-aloud individually or chorally after rehearsal. Reading aloud is treated as a joyful process as students share their own work or engage in a performance (e.g., readers theatre) live for others in class or virtual room or recorded (*SL.5.4,5*).

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
W.5.1 Write opinion pieces on topics or texts, supporting a point of view with reasons and information. **W.5.2** Write informative/explanatory texts to examine a topic and convey ideas and information clearly. **W.5.3** Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences. **ELD.PI.5.10.Ex** Write longer literary and informational texts collaboratively and with increasing independence and by using appropriate text organization; write increasingly concise summaries of texts and experiences using complete sentences and key words.	● Students write multiple-paragraph texts, varying the organization and use of language according to the task, purpose, and audience (*W.5.4*). They learn to expand, combine, and condense sentences for meaning, interest, and style (*L.5.3a; ELD.PII.5.6-7.Ex*). Teachers share mentor texts as examples and guide students in identifying effective organization and language (e.g., figurative language) and applying what they learn to their own writing (*RL.5.5; RI.5.8; L.5.5*). ● All students write daily in virtual and in-class settings—both independently and collaboratively (*W.5.10*). ● All students use technology to produce and publish writing and collaborate with others. They learn how visual and multimedia elements contribute to the meaning, tone, or beauty of a text *(W.5.6; RL.5.6; ELD.PI.5.2.Ex; ELD.PII.5.1.Ex)*. ● Motivation is crucial; students write about what interests them, and teachers create learning contexts that expand their interests. ● Opportunities for students to orally read their work—or any text—to others provide an authentic reason for rehearsal, which supports fluent presentation (*RF.5.4*).
W.5.5 With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.	● Students' writing receives regular, specific feedback so students become increasingly effective at expressing opinions, information, and narratives. Feedback focuses—as appropriate for the context and with consideration of the student's motivation, skills, and English proficiency—on topic development, organization, word choice and conventions (*L.5.1-3; ELD.P.II.5.1-7.Ex*). Primary attention is given to communicating meaningfully. ● Students evaluate feedback, make choices, and revise writing for effectiveness and coherence. ● Feedback is expressed in positive, encouraging ways to ensure motivation and enthusiasm for creating written work are maintained. Teachers engage students in self assessment and goal setting.

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
SL.5.1,4 Engage effectively in a range of collaborative discussions with diverse partners on grade 5 topics and texts; plan and deliver presentations. **ELD.PI.5.1,3,9.Ex** Contribute to class, group, and partner discussions; negotiate with others in conversations using an expanded set of learned phrases as well as open responses; and plan and deliver longer oral presentations. **ELD.PI.5.4.Ex** Adjust language choices according to the purpose, task, and audience, with moderate support.	● All students have daily opportunities to engage in discussions with a range of others in a range of contexts for a range of purposes, including sharing opinions, experiences, and information; responding to texts and learning experiences; and listening to and asking questions of others. A variety of discussion structures are used. ● Teachers ensure a community culture in which all students feel comfortable contributing to conversations, are encouraged to do so, and feel heard and respected by others. Agreed-upon discussion norms are established (e.g., listening with care, valuing contributions, speaking one at a time, asking questions). Teachers ensure equitable opportunities for all learners to contribute to discussions. ● Teachers consider the purpose of the task and the EL students' proficiency levels and group them heterogeneously with Peers at more advanced levels of English proficiency for core tasks and consider homogeneous groups for identified language needs. ● Students plan and deliver presentations with attention to communicating their ideas effectively to an audience. They are precise in language use and use formal English rather than informal discourse as appropriate to the task (*SL.5.6*; *L.5.3*). They include multimedia components and visual displays as appropriate (*SL.5.5*).
L.5.1 Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. **ELD.PI.5.4** Adjust language choices according to purpose, task, and audience, with moderate support.	● Teachers accept and value students' language varieties and establish an environment, both online and in class, that is respectful and safe for students to experiment with language. ● Teachers assess conversations for structure and language used and provide specific feedback aligned to academic language objectives. ● Students learn to adapt their use of informal and formal English according to the needs of the context, task, and audience (*SL.5.6*). ● Instruction is provided in meaningful contexts and students have authentic reasons to use what they are learning.

Critical Area of Instructional Focus: Content Knowledge

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.5.1 Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from text. **W.5.9** Draw evidence from literary or informational texts to support analysis, reflection, and research. **SL.5.3** Summarize the points a speaker or media source makes and explain how each claim is supported by reasons and evidence, and identify and analyze any logical fallacies. **ELD.PI.5.6a,11a.Ex** With moderate support explain ideas, phenomena, processes and text relationships based on close reading of a variety of grade-level texts and viewing multimedia; support opinions or persuade others by expressing appropriate/accurate reasons using some textual evidence or relevant background knowledge.	● Informational texts that build students' knowledge are a crucial component of every grade level. Students gain knowledge through reading in every content area, and they learn how text structures vary across disciplines. Book selections are based on grade-level content standards and learning experiences in different content areas (e.g., science, social studies), and students' interests, and cultural experiences. ● Students engage with multiple texts, speakers, and other media sources on a given topic, all of which contribute to building knowledge. They look closely at sources to analyze multiple accounts of the same event or topic, including noting the point of view represented; explaining how an author, speaker, or other source uses reasons and evidence to support particular points; and integrating information so they can speak or write knowledgeably about the subject. (*RI.5.6-9; ELD.PI.5.6,7.Ex*). ● Students cite specific text evidence for conclusions and inferences they make about the content and the intentions of an author.
RI.5.4 Determine the meaning of general academic and domain-specific words and phrases. **L.5.4,5** Determine or clarify the meaning of unknown and multiple-meaning words and phrases; demonstrate understanding of word relationships and nuances in word meanings. **ELD.PI.5.6b.Ex** Use knowledge of morphology, context, reference materials, and visual cues to determine the meaning of unknown and multiple-meaning words on familiar and new topics.	● Many words in informational text, in particular, are domain-specific; as students learn this vocabulary, they build knowledge. Importantly, vocabulary is learned in a meaningful context, and students have opportunities to use newly acquired vocabulary as they engage in content-related activities and investigations (*ELD.PI.5.12a.Ex*).

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.5.10 By the end of the year, read and comprehend literature and informational texts at the high end of the grades 4-5 text complexity band independently and proficiently. **ELD.PI.5.6a.Ex** Explain ideas, phenomena, processes, and text relationships based on close reading of a variety of grade-level texts and viewing of multimedia, with moderate support.	● Students read and discuss texts daily, including a wide range of content-rich texts. This expands their knowledge of the natural and social world, language, and familiarity with various text structures and features (*RI.5.5; ELD.PII.4.1.Ex*). ● Students increasingly become critical consumers of information and recognize different points of view represented in different texts on the same topic (*RI.5.6*). ● Reading volume contributes to knowledge; students read independently and in collaboration with others daily, including books of their own choosing. Importantly, independent engagement with texts is enabled by their continuing progress in foundational skills (*RF.5.3,4*). ● Students have access to informational text in their home languages to amplify domain knowledge and support meaning making.
W.5.2 Write informative/explanatory texts to examine a topic and convey ideas and information clearly. **W.5.7,8** Conduct short research projects using several sources to build knowledge through investigation of different aspects of a topic; recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase in notes and finished work, and provide a list of sources. **ELD.PI.5.10.Ex** Write longer informational texts collaboratively and independently using appropriate text organization; write increasingly concise summaries of texts and experiences using complete sentences and key words.	● Students pursue their interests, conducting research that builds knowledge about a topic. Instruction also piques students' interest in new topics. ● Students have many opportunities to convey what they are learning about topics of their own choosing and topics under study in grade-level subject area investigations. As they write, students process and consolidate new knowledge. ● Students use technology to collaborate and interact with others as well as to access and present information (*W.5.6; SL.5.5*). ● Students are provided guidance on gathering and organizing information on topics. Models of effective informational text are shared with students (*ELD.PII.5.1.Ex*).

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
SL.5.1,4 Engage effectively in a range of collaborative discussions with diverse partners on grade 5 topics and texts; plan and deliver presentations. **ELD.PI.5.1,9.Ex** Contribute to class, group, and partner discussions; plan and deliver longer oral presentations.	● Conversations contribute to knowledge building. Students regularly share existing and new knowledge with one another in discussions before, during, and after engaging with texts and participating in investigations. ● Students come prepared to discussions and carry out assigned roles; they elaborate on the comments of others and draw conclusions in light of what they learn by engaging with others. ● Students plan and deliver presentations to share their experiences or knowledge with others, sometimes after gathering relevant information or engaging in research projects that use several sources (*W.5.7,8*). They carefully consider organization, key ideas, and relevant details. ● Teachers ensure a community culture in which all students feel comfortable contributing to conversations, are encouraged to do so, and feel heard and respected by others. Agreed-upon discussion norms are established (e.g., listening with care, valuing contributions, speaking one at a time, asking questions). Teachers ensure equitable opportunities for all learners to contribute to discussions.

Critical Area of Instructional Focus: Foundational Skills

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RF.5.3 Use combined knowledge of all letter-sound correspondences, syllabication patterns, and morphology to read accurately unfamiliar multisyllabic words in context and out of context. **L.5.4b** Use common grade-appropriate Greek and Latin affixes and roots as clues to the meaning of a word. **ELA.PII.5.6b.Ex** Use knowledge of morphology, linguistic context, and reference materials to determine the meaning of unknown words on familiar and new topics.	● Students continue to develop and apply word analysis skills to read unfamiliar words. ● Instruction in English for EL students capitalizes on similarities between the native language and English and highlights differences between the languages, which deepens understanding of how English works. ● Pronunciation differences due to native language, dialect influences, or regional accent should not be misunderstood as decoding difficulties.

Key ELA/Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RF.5.4 Read with sufficient accuracy and fluency to support comprehension.	• Time to practice reading is crucial for developing automaticity with print. All students have regular opportunities to read grade-level texts; some will need more support than others (*RL/RI.5.10*). Teachers identify texts that students find worth reading, ones that maintain their interest and motivation to read. Volume of reading contributes significantly to progress in reading. • Teachers need to listen to students read-aloud at times, avoiding round robin and popcorn reading, in order to determine if and what support is needed. • Even when accuracy and fluency are the primary focus of a lesson or activity, teachers ensure meaning making and understanding of vocabulary. • Pronunciation differences due to native language, dialect influences, or regional accent should not be misunderstood as decoding difficulties. • Teachers provide EL students targeted instruction in foundational literacy skills based on students' spoken English proficiency, native language proficiency, prior schooling, and assessed needs.
W.5.1-3 Write opinion pieces, informative/explanatory texts, and narratives. **ELD.PI.5.10.Ex** Write longer literary and informational texts collaboratively and with increasing independence.	• Students are provided ample writing opportunities to use their deepening knowledge of the code to convey their opinions, knowledge, and narratives. Writing volume contributes to skill development.

Class Spotlight

Angee Jimenez has her students engaged in a project that focuses on several of the ELA/literacy/ELD themes, but most especially on content knowledge and effective expression. Her fifth graders are working on research projects in synchronous and asynchronous online learning. As a class, they have been learning about Westward expansion and the migration of Mexican settlers. She is working to build their content knowledge. She knows it is important for students to learn about our past so they can be wise participants in our democracy, and she recognizes the powerful role that students' knowledge plays in their literacy development. Her students have read history e-textbooks, viewed videos with interactive quiz questions, and engaged in a number of close readings of primary source documents during synchronous instruction. Now, their teacher has them conducting research on a question that they generated. Each student proposed a question and had it approved by their family and the teacher. For example, Martha wanted to know what California was like before it was a state, whereas Angel wanted to discover influential Mexican settlers. The students have virtual consultation

periods with the school librarian and access to a collection of videos developed by their teacher that describes each step in the process. They can watch these videos asynchronously when they are ready for the information, and they can watch them over again as needed.
Ms. Jimenez has checkpoints for her students so that they keep pace with their projects, and she can support them in expressing their new knowledge effectively. She invites students into virtual breakout rooms for peer response during which time a specific student shares their draft on a digital document and the peers provide targeted feedback. For example, one session focused on the introductions. To strengthen the peer response reviews, she deconstructed a powerful introductory paragraph at the sentence and phrase level to point out the language used to state topics and the vocabulary choices and phrasing used to entice the reader. The teacher selected key words and phrases and asked students to recommend changes and then facilitated discussion related to the impact of each change. Later, during the peer response session, students were asked to consider if the peer-author clearly stated the topic and made the topic interesting. Each listener was asked to identify key topics that they expected would be included in the paper based on the introduction and to include those in a shared document for the author to consider, and they recorded these using a collaborative note application for the peer-writer. The students worked on their short research projects asynchronously over the course of the week, and held synchronous daily check-ins with the teacher or peers. As they finished, they also created videos to explain their learnings to others.

Prominent ELA/Literacy/ELD Themes: Content Knowledge, Effective Expression

Associated Standards: RI.5.7,9; W.5.6,7,8,9; SL.5.4; ELD.PI.5.5,6,9,10.Ex; ELD.PII.5.1.Ex

Chapter 15: English Language Art, Literacy, and English Language Development in Middle School

Overview of the Span

Young adolescents' quest for autonomy, relevance, meaning, and competence begins in earnest during these years, and motivation and engagement are critical factors in students' school success. Importantly, as middle school students explore the various layers of their identities, the adults around them exude acceptance, understanding, and validation of who they are as individuals and as members of various cultural, linguistic, religious, and other groups.

The ELA/literacy standards at this grade span represent a big leap for students as they move from the elementary grades to the middle grades, and the expanding cognitive abilities of these young adolescents position them to make big strides in ELA/literacy. Moving beyond details and examples, students now are expected to cite textual evidence to support their analysis of what the text states explicitly and what they infer from it. Argument is introduced at grade six, and students are expected to go beyond stating reasons and evidence by tracing and evaluating arguments and claims in texts and writing their own arguments, rather than opinions, to support claims with clear reasons and relevant evidence. The ELD standards also introduce argument at grades six through eight, echoing the growing sophistication of the thinking expected at this level. These expectations exist across the many disciplines that students study—often within departmentalized settings. New to grades six through eight are specific Literacy Standards in History/Social Studies, Science, and Technical Subjects for the strands of reading and writing. Not only do students engage in careful analyses of texts in English language arts, they do so in history/social studies, science, mathematics, arts, world language, health, and physical education as well. Students write to argue, explain, and inform in all areas of the curriculum.

Content and pedagogy in the grade span include the following:

Meaning Making: In this grade span, significantly more rigorous concepts of evidence, argumentation, and integration and analysis of multiple sources and perspectives emerge in meaning making.

Language Development: All students continue to develop as learners of language throughout their academic careers, and indeed their lives. The development of academic English is critical for successful and equitable school participation in middle school and includes an intensive focus on vocabulary and grammatical understandings.

Effective Expression: Students become increasingly effective at expressing themselves through different genres of writing and build on previous learning to write more complex and cohesive texts of different types for various purposes. They continue to develop and organize their writing in a way that is appropriate to the

task, purpose, and audience. They increase their skill in discussing, presenting, and using language conventions successfully.

Content Knowledge: Students engage in a full program of ELA and content instruction regardless of language proficiency or special needs. They study a range and variety of important works of literature and informational texts in all disciplines and through independent reading and research. They participate in an organized independent reading program that contributes to their knowledge.

Foundational Skills: Ideally, students' knowledge of foundational skills is well established by the time they enter middle school, and they access and produce printed language efficiently. Teachers continue to support students' developing reading fluency to aid comprehension. Support for students who lag significantly behind in foundational reading skills is provided strategically and effectively to allow for accelerated progress and full participation in core instruction.

Students who are learning English engage in all of these academic activities at the same time they are learning English as an additional language, and some students may be simultaneously developing literacy and academic skills in languages other than English. The integration of ELD in ELA and all academic content courses necessitates collaboration among ELD and content area instructors. All teachers become teachers of the language needed to understand, engage with, and communicate about written texts, digital formats, and oral discourse in each discipline.

As the ELD standards intersect with and amplify the ELA/literacy standards, EL students at this grade span learn to explain ideas, phenomena, processes, and relationships based on close reading of texts in which they make inferences and draw conclusions. Critical for all students is the implementation of culturally responsive and sustaining pedagogy and the development of positive and respectful relationships in all classrooms.

Synchronous and Asynchronous Instruction. Teachers should carefully consider which learning experiences are given priority during synchronous instruction. Teachers identify lessons that are best conducted synchronously when teachers can make "in-the-moment" decisions about next instructional moves based on students' performance as they engage in the lesson. For example, teachers provide real-time instruction on deconstructing complex sentences in challenging texts. They teach and model by thinking aloud and providing examples from texts students are reading; they observe students' independent attempts at sentence deconstruction and reteach with scaffolding as needed. Teachers know that their instruction in the moment matters and that if students are left to themselves to grapple with complex texts, they may experience frustration and lose motivation to read on their own. Other activities can occur effectively without the teacher available in real-time. For example, teachers might provide asynchronous activities at times that engage students in reviewing a peer's writing by adding comments to a shared document or to time themselves as they practice their keyboarding skills.

The following vignette features an interview with a middle school teacher about her implementation of distance learning with her students. Discussions of standards and instructional considerations for ELA and literacy in grades six through eight follow the vignette.

Voices from the Field: Jennifer Scott | Compton Junior High School | Bakersfield, CA

Jennifer Scott is an English and history teacher at Compton Junior High School in the Bakersfield City School District, where she has taught for 20 years. She spoke with us about some of the ups and downs of distance learning. Keeping middle school students engaged in distance learning requires creativity, adaptability, and persistence. For Jennifer Scott, providing multiple pathways and opportunities for her students to succeed has gone a long way toward keeping them connected to school while remote learning.

Can you describe a few of the successes you and your students have experienced with distance learning?

My favorite days are what I call Creative Wednesdays. I give students a break from traditional academics and, instead, teach them art and graphic design. They learn digital and technology skills, design and communication, and how to express themselves using Google Sites [web page creation tools]—all skills that increase the quality of the presentations they create for other areas of class too. These activities reinforce important skills related to effective expression, specifically using media to present orally and in writing about what they have learned.

In my English and history classes, as we build independent reading and research skills, a huge thing has also been teaching students how to cite textual evidence from digital resources they find online. So many students think it's okay to use research results from the Google search page—not using Google search to find a website, but just using only the search page results to get their facts. We have to tell students not to do that and teach them how to find trusted sources online, why it's important to cite textual evidence, and how to link to sources in their projects.

How has instruction changed to adapt to the challenges of remote learning?

I schedule a Zoom [video conferencing software] call link to appear every morning with a check-in, and that's the first thing students see in their Google Classroom [software for creating, distributing and grading assignments] every day. I limit other assignments to one or two per day. No more than that because you need to keep it as simple as possible—the simpler, the better. You might have students who resist or complain that it is too much work, but when you keep it simple, you take away as many of those complaints as possible beforehand, and you can focus on learning.

In class, I don't require cameras to be on because I think it's very important to value students' privacy, but sometimes I don't think the students are actually in front of their computers, and that is an absolute challenge. One of the ways we combat that is with a

program that allows us to send messages to parents—it also translates for us, if the language spoken at home is other than English. I have a lot of families with different primary home languages, so we're getting along okay because we've been able to communicate well with parents. They've really been wonderful and supportive and grateful that we're working so hard with their kids. But it's also difficult because some of the kids who aren't participating in class aren't participating because they have family responsibilities, or sometimes there are too many kids in one area at home, so it's distracting. It's really just about working with every student to try to make a connection and help them keep learning through all this.

What sort of digital tools are you using to enhance, rather than duplicate, what can be done in a traditional classroom setting?

I am using Flipgrid [video-based discussion software] because it's engaging and easy for students to submit responses to assignments and participate in discussions. We did an assignment at the beginning of the year, for example, where we read and traced arguments that had to do with discrimination, prejudice, and racism. Flipgrid was really useful because it allowed each student to easily contribute their own reflections and respond to each other's comments as they analyzed multiple sources and perspectives.

We also use Flipgrid to practice reading aloud to support students' ongoing fluency development. Reading aloud also helps them develop confidence and an understanding of presence, articulation, and projection when speaking. They record themselves reading aloud articles I've assigned, and I send them audio feedback about what they did well and how they can improve.

Rosters to Slides by Alice Keeler is a Google Slides extension I absolutely love that also helps with student engagement and participation. Each student automatically gets 2 slides: a title page that is their name and a blank slide right after it where they can do their work. I use this all the time, like today, where we're discussing themes from the book we're reading together, "A Long Walk to Water." Students can see each other's progress as they go along, and I can view and offer encouragement and feedback on everyone's slides as they work, which is much more engaging, and you get more students actively working and reflecting on their work that way.

I also use Mote, a voice note and feedback Google Chrome extension, where I can give verbal feedback to my students, which is integrated with Google Classroom. I got to talk to one of the employees from Mote recently and learned that they're going to have even better features in the future, including transcription, which would be great because students won't even have to click on anything to hear feedback, they'll be able to just read it if they prefer. The best part is, you'll also be able to translate the feedback into the student's primary language if you work with a lot of students whose primary language is not English, like I do. These are the features I'm most looking forward to. In the meantime, I love it because my students can hear my voice, and I can hear theirs. That personal connection matters. I use those 30 seconds to show that I'm still here and invested in them and their education.

Grade Six: English Language Arts and English Language Development

Grade six is often the first year of middle school for students and represents a major transition in students' lives. Just entering adolescence, these students eagerly encounter new areas of study and new ways to express their growing literacy understandings. This grade also represents a significant step in both sets of standards: argument replaces opinion in reading, speaking, and writing; separate Literacy Standards in the content areas make clear the literacy practices important in different disciplines; and thesis statements are expected in writing informative/explanatory texts. All students engage in meaningful collaborations with peers, read and savor new and exciting literature, and deepen their knowledge of academic English within classroom and virtual settings. Students learning English have ample opportunities to engage in extended discussions with peers and adults. They receive rich instruction in all content areas and a comprehensive program of ELD.

Standards and instructional considerations for grade six follow. In distance learning settings, teachers should carefully consider which learning experiences are given priority during synchronous instruction. Guidelines are presented in Chapter 10 and also addressed in the Overview of the Span in this chapter.

Some key standards are included in more than one theme, or critical area of instructional focus. For example, SL.6.1 is crucial in meaning making, language development, effective expression, and content knowledge. Thus, it is included in the first four charts that follow. In each case, the repeated standard is displayed with a pink background to help make the repetition obvious. Likewise, RL/RI.6.10 appears in several charts, and so a different color (in this case, orange) is used to highlight the repetition. Presented first is a chart depicting the standards for grade six at a glance followed by detailed charts for each theme.

Critical Areas of Instructional Focus: At a Glance

Theme	Key Standards	Related Standards
Meaning Making	RL/RI.6.1,10; W.6.1-3,9; SL.6.1,3 ELD.PI.6.1,6b,10a,11a.Ex	*RL/RI.6.2-4,9; RI.6.7,8; W.6.4,10; SL.6.2,4,6; L.6.4-6* *ELD.PI.6.8,12.Ex; PII.6.1,2.Ex*
Language Development	RL/RI.6.4,10; W.6.1-3; SL.6.1; L.6.1,4 ELD.PI.6.1,6b,c,7.Ex	*SL.6.6; L.6.2,3,5,6* *ELD.PI.6.8,12a.Ex; PII.6.3-6.Ex*
Effective Expression	RL/RI.6. 10; W.6.1-3,5; SL.6.1,4; L.6.1 ELD.PI.6.1,3,4,6b,9,10a,b.Ex	*RL/RI.6.5,6; W.6.6,8-10; SL.6.6; L.6.2,3* *ELD.PI.6.5.Ex; PII.6.1-7.Ex*
Content Knowledge	RL/RI.6.1,4,10; W.6.1,2,9; SL.6.1,3; L.6.4 ELD.PI.6.1,6b,c,10a.Ex	*RL/RI.6.5,7; RI.6.8; W.6.6-8; SL.6.2,5,6; L.6.5,6* *ELD.PI.6.6a,11a.Ex; PII.6.1.Ex*
Foundational Skills	RF.5.4	N/A

Critical Area of Instructional Focus: Meaning Making

Key ELA & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.6.1 Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. **W.6.9** Draw evidence from literary or informational texts to support analysis, reflection, and research. **SL.6.3** Delineate a speaker's argument and specific claims, distinguishing claims that are supported by reasons and evidence from claims that are not. **ELD.PI.6.6b,11a.Ex** Express inferences and conclusions drawn based on close reading of grade-level texts and viewing of multimedia; justify opinions or persuade others by providing relevant textual evidence or relevant background knowledge, with moderate support.	● Using textual evidence to support analysis is new for students in grade six, as is tracing and evaluating the argument and claims in a text (*RI.6.8; SL.6.3*). English language arts teachers model and scaffold these processes with a range of text types and content areas. ● Every student regularly engages with grade-level text with scaffolds (planned and "just-in-time") provided and adjusted in accordance with the strengths and needs of the learner. ● Text-dependent questions help students comprehend text at increasing levels of depth, including determining a central idea or theme of a text based on details (*RL/RI.6.2*); providing a summary distinct from personal opinions (*RL/RI.6.2*); analyzing how ideas are introduced and elaborated (*RI.6.3*) and how plots unfold (*RL.6.3*); and comparing and contrasting genres (*RL.6.9*) and different authors' versions of events (*RI.6.9*). Teachers analyze texts to create text-dependent questions and engage students in developing their own questions based on the text. ● All students read a range of literary and informational texts both independently and collaboratively with their peers, and they discuss these texts with their peers and teachers. Teachers occasionally read-aloud from selected passages of texts the class is studying to illustrate key points or to introduce new genres or beautiful language. On a regular basis, teachers read-aloud for a brief time to create a shared classroom experience and to build reading enjoyment.

Key ELA & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.6.10 By the end of the year, read and comprehend texts in the grades 6-8 text complexity band proficiently, with scaffolding as needed at the high end of the range. **ELD.PI.6.6b.Ex** Express inferences and conclusions drawn based on close reading of grade-level texts.	● Students read and discuss increasingly complex texts of different types daily, with special attention given to books with appropriate complexity for grade six. Volume of reading contributes to reading development. ● Teachers support students in meaning making, teaching them how to navigate unfamiliar concepts and vocabulary and complex language structures (*RL/RI.6.4; L.6.4-6; ELD.PI.6.8,12.Ex; ELD.PII.6.1-2.Ex*). Teachers guide the deconstruction of complex sentences and paragraphs to deepen students' understanding of language structures and meaning making. ● Teachers support students as they learn to compare and contrast the experience of reading, viewing, or hearing literary works (*RL.6.7; SL.6.2*); and to interpret and integrate information presented in different media and formats (*RI.6.7; SL.6.2*). ● Teachers create opportunities for all students to select the texts they read for study and enjoyment to capitalize on students' increasing needs for autonomy and to build motivation.
W.6.1-3 Write arguments, informative/explanatory texts, and narratives. **ELD.PI.6.10a.Ex** Write longer literary and informational texts collaboratively and independently.	● All students write about the texts they read and view; writing helps students consolidate their thinking and arrive at new understandings of the text. Students write personal reactions, interpretations, analyses, summaries, notes, and answers to questions about the text (*RL/RI.6.1-3; RI.6.8; W.6.10*). ● Students focus on conveying meaning as they write and learn that the content and form of their writing varies according to their task, purpose, and audience (*W.6.4*). They write frequently and may combine argumentative, explanatory, or narrative forms according to their purpose, task, and audience (*W.6.10*). ● Teachers model and guide the co-construction of increasingly effective text aligned to purpose and audience.

Key ELA & ELD Standard(s)	Related Standards and Instructional Considerations
SL.6.1 Engage effectively in a range of collaborative discussions with diverse partners on grade 6 topics, texts, and issues, building on other's ideas and expressing their own clearly. **ELD.PI.6.1** Contribute to class, group, and partner discussions.	● Students prepare for discussions, drawing on evidence from the text (*SL.6.1a; RL/RI.6.9*), making the text the center of their extended conversations. Their engagement with others enhances their understanding of topics and texts. Students ask one another questions and demonstrate understanding of multiple perspectives in their comments and responses (*SL.6.1c,d*). ● Teachers create opportunities for students to work in pairs and small groups to engage in discussions in virtual and in-class settings. ● Students adapt their speech in discussions and presentations as needed to accomplish their purposes and convey meaning to their audience; they use formal English as appropriate to the task (*SL.6.4,6*). ● Teachers consider the purpose of the task and the EL students' proficiency levels and group them heterogeneously with Peers at more advanced levels of English proficiency for core tasks and consider homogeneous groups for identified language needs.

Critical Area of Instructional Focus: Language Development

Key ELA & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.6.4 Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings. **L.6.4** Determine or clarify the meaning of unknown and multiple-meaning words and phrases. **ELD.PI.6.6c.Ex** Use knowledge of morphology, context, reference materials, and visual cues to determine the meaning of unknown and multiple-meaning words on familiar and new topics.	● Determining connotative and technical meanings, as well as figurative meanings, is new for students in grade six. English language arts teachers model and scaffold (planned and "just-in-time") this process with a range of text types and content areas (*ELD.PI.6.8.Ex*). ● Teachers employ strategies to develop students' word consciousness and encourage students to be curious about new words and new meanings of known words that they encounter. They also encourage students to be curious about new grammatical and syntactical structures that they encounter in texts; teachers model their own processes for making sense of dense phrases and sentences (*L.6.4-6*). ● Teachers leverage all students' experiences and EL students' native language where possible (e.g., highlighting cognates) to support vocabulary development.

Key ELA & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.6.10 By the end of the year, read and comprehend texts in the grades 6-8 text complexity band proficiently, with scaffolding as needed at the high end of the range. **ELD.PI.6.6b.Ex** Express inferences and conclusions drawn based on close reading of grade-level texts and viewing of multimedia using a variety of verbs.	● Teachers support students to read complex texts by teaching text vocabulary explicitly, providing rich and engaging, as well as repeated, experiences with new words (*L.6.4-6*). Teachers select a limited number of words from the text that have high utility for text comprehension and use in other contexts. Teachers also model strategies for independent word learning.
W.6.1-3 Write arguments, informative/explanatory texts, and narratives. **ELD.PII.6.2b.Ex** Apply growing understanding of how ideas, events, or reasons are linked throughout a text using a variety of connecting words or phrases to comprehending and writing texts with increasing cohesion.	● All students in grade six use words and phrases in increasingly precise ways to express their meanings in writing (*W.6.1c,2d,3d; ELD.PI.6.12a.Ex*), and for the first time, students are expected to use words and phrases to clarify relationships among claim(s) and reasons (*W.6.1c*). Teachers model and scaffold (planned and "just-in-time) this process and support students as they practice.
SL.6.1 Engage effectively in a range of collaborative discussions with diverse partners on grade 6 topics, texts, and issues, building on other's ideas and expressing their own clearly. **ELD.PI.6.1.Ex** Contribute to class, group, and partner discussions.	● All students have regular opportunities to engage in brief and extended conversations with a range of others in a range of contexts for a range of purposes. These opportunities contribute to language development and are particularly important for EL students. Teachers encourage and support students in using target words in their discussions. ● Students distinguish between formal and informal discourse and use formal English as appropriate to the task (*SL.6.6*).

Key ELA & ELD Standard(s)	Related Standards and Instructional Considerations
L.6.1e Recognize variations from standard English in their own and others' writing and speaking, and identify and use strategies to improve expression in conventional language. **ELD.PI.6.7.Ex** Explain how well writers and speakers use specific language to present ideas or support arguments and provide detailed evidence with moderate support.	● Teachers support students in building their metacognitive awareness of their own and others' language use in speaking and writing. Teachers create an environment that encourages students to experiment with language without being overly concerned with correctness. ● Teachers model how they analyze complex sentences to understand their meanings, and they engage students in similar practices. Examining these language structures in the context of the texts the class is studying is more valuable than isolated grammar practice. It is helpful to all students, particularly EL students, to analyze or "unpack" complex sentences as examples of effective use of verb types and tenses, noun phrases, and adverbials to add and enrich details, and connect ideas (*L.6.1-3; ELD.PII.6.3-6.Ex*).

Critical Area of Instructional Focus: Effective Expression

Key ELA & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.6.10 By the end of the year, read and comprehend texts in the grades 6-8 text complexity band proficiently, with scaffolding as needed at the high end of the range. **ELD.PI.6.6b.Ex** Express inferences and conclusions drawn based on close reading of grade-level texts.	● All students read daily in virtual and in-class English language arts settings—both independently and collaboratively. ● Teachers support students to read increasingly complex text and engage students in examining passages that represent samples of effective expression. Students and their teachers work to uncover what makes passages effective or complex, considering the choice of words and grammatical elements, clarity of structure, author's point of view or purpose, effect on the reader, or other features (*RL/RI.6.5,6*).

Key ELA & ELD Standard(s)	Related Standards and Instructional Considerations
W.6.1 Write arguments to support claims with clear reasons and relevant evidence. **W.6.2** Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content. **W.6.3** Write narratives to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well-structured event sequences. **ELD.PI.6.10.Ex** Write longer literary and informational texts collaboratively and independently using appropriate text organization; write increasingly concise summaries of texts and experiences using complete sentences and key words.	● All students learn that the structure and use of language in their writing varies according to the task, purpose, and audience. Teachers engage students in the analysis of a variety of mentor texts representing effective examples of text organization and language use and help students apply similar strategies to their own writing (*ELD.PII.6.1-7.Ex*). ● All students organize their writing in increasingly effective ways. In grade six, students begin writing thesis statements and organize their ideas, concepts, and information using a variety of strategies (*W.6.2a*). ● All students write daily in virtual and in-class settings—both independently and collaboratively (*W.6.10*). ● All students use technology to produce and publish writing and collaborate with others. In grade six, students are expected to use their keyboarding skills to type at least three pages in a single sitting (up from two pages in grade five) (*W.6.6*). Students regularly practice their keyboarding skills and use them to complete assignments.
W.6.5 With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.	● Teachers help students plan their writing by connecting the products of their reading (e.g., annotations, discussion notes, summaries, reflections, outlines, maps, responses to questions) to the writing task. ● Students' writing receives regular, specific feedback, so students become increasingly effective at expressing arguments, information, and narratives (*W.6.8,9*). Teachers and peers provide feedback on longer assignments early in the process so that students can set goals for improvement and make revisions. Feedback is focused on effective communication and selected features that have been the subject of instruction and classroom discussion. Teachers, rather than peers, offer feedback on correctness and form during the editing process (*L.6.1-3)*. ● Feedback is expressed in positive, encouraging ways to ensure motivation and enthusiasm for creating written work are maintained. Teachers engage students in evaluating their own writing and identifying progress they have made toward their own goals.

Key ELA & ELD Standard(s)	Related Standards and Instructional Considerations
SL.6.1 Engage effectively in a range of collaborative discussions with diverse partners on grade 6 topics, texts, and issues, building on other's ideas and expressing their own clearly. **ELD.PI.6.1,3.Ex** Contribute to class, group, and partner discussions; negotiate with or persuade others in conversations using an expanded set of learned phrases, as well as open responses.	● Teachers establish a climate that fosters trust, safety, equitable participation, and respect for individuals and multiple perspectives in both in-class and virtual settings. ● Teachers engage students in using a variety of discussion structures and, together with students, develop norms of effective discussion and offer feedback on discussion processes (*SL.6.1b-c; ELD.PI.6.5.Ex*). ● Students collaborate as partners and in small groups to plan their writing and oral presentations. They review one another's writing or presentation plans at key points and provide feedback about its effectiveness. Teachers offer rubrics to focus feedback on important elements.
SL.6.4 Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details and nonverbal elements. **ELD.PI.6.9.Ex** Plan and deliver longer oral presentations on a variety of topics and content areas, using details and evidence to support ideas.	● Students use technology creatively (e.g., audio or video of reports, public service announcements, dramatic performances, spoken word) to present arguments, information, and narratives as individuals, partners, or small groups (*SL.6.5*). ● As students plan and deliver oral presentations, they focus on communicating their ideas effectively to their audience and adapting their speech, as appropriate, to the task (*SL.6.6*). ● Teachers provide mentor texts in the form of clips from podcasts, films, readings, or other performances to demonstrate powerful language and content, clear structure and formats, and effective presentation techniques (*SL.6.2,5*).
L.6.1 Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. **ELD.PI.6.4** Adjust language choices according to purpose, task, and audience.	● Teachers accept and value students' language varieties and establish an environment, both online and in class, that is respectful and safe for students to experiment with language. ● Just as students set goals for improving the content and structure of their writing and oral presentations, they are guided in setting goals to improve their use of language conventions (*L.6.1-3*). ● All students learn to adapt their use of informal and formal English according to the demands of the context, task, and audience (*SL.6.6; L.6.3; ELD.PI.6.4.Ex*).

Critical Area of Instructional Focus: Content Knowledge

Key ELA & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.6.1 Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. **W.6.9** Draw evidence from literary or informational texts to support analysis, reflection, and research. **SL.6.3** Delineate a speaker's argument and specific claims, distinguishing claims that are supported by reasons and evidence from claims that are not. **ELD.PI.6.6b.Ex** Express inferences and conclusions drawn based on close reading of grade-level texts and viewing of multimedia.	● Tracing and evaluating arguments and claims and distinguishing those supported by evidence are new in grade six, and English language arts teachers model and scaffold these processes and provide practice as needed (*RI.6.8; SL.6.3*). Students learn that arguments and claims may be structured or expressed differently in various content areas. They practice identifying, evaluating, and expressing arguments in various content areas (*W.6.1; SL.6.3; ELD.PI.6.6a,11a.Ex*). ● Informational, as well as literary, texts that build students' knowledge are a crucial component of every grade level. Students gain knowledge through reading in every content area, and they learn how text structures and evidence varies across disciplines. ● Teachers integrate language arts and other content areas using text sets on a given topic. In departmentalized settings, teachers look for opportunities to collaborate to integrate literacy across subject areas. ● Book selections are based on grade-level content standards in different content areas (e.g., science, social studies), and students′ interests, and cultural experiences. ● Students have access to informational text in their home languages to amplify content knowledge and support meaning making.
RL/RI.6.4 Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings. **L.6.4** Determine or clarify the meaning of unknown and multiple-meaning words and phrases. **ELD.PI.6.6c.Ex** Use knowledge of morphology, context, reference materials, and visual cues to determine the meaning of unknown and multiple-meaning words on familiar and new topics.	● Teachers help students examine vocabulary, language structures, organizational structures, and use of media in literary and informational texts for different content areas (*L.6.4-6; RL/RI.6.5,7; SL.6.2*). As students identify features unique to particular content areas and consider their impact on text meaning, they build content knowledge.

Key ELA & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.6.10 By the end of the year, read and comprehend texts in the grades 6-8 text complexity band proficiently, with scaffolding as needed at the high end of the range. **ELD.PI.6.6b.Ex** Express inferences and conclusions drawn based on close reading of grade-level texts.	● All students read broadly across content areas. Teachers model and scaffold (planned and "just-in-time") as needed to help students read grade-level texts across disciplines. ● All students read widely across genres of texts in classroom and virtual settings and at home. They read to gain knowledge, to become inspired, and for pleasure. Teachers organize independent reading programs that expose students to a variety of text types and capitalize on students' interests.
W.6.1,2 Write arguments and informative/explanatory texts. **ELD.PI.6.10a.Ex** Write longer informational texts collaboratively and independently.	● All students write frequently to process information they learn through reading, viewing, and listening and to communicate their understandings and perspectives on what they have learned. As they write, students consolidate their existing and new content knowledge. ● All students use technology to collaborate with classmates and to conduct short research projects on topics of interest that they present in writing or orally (*W.6.6,7; SL.6.5; ELD.PI.6b.Ex; ELD.PII.6.1.Ex*). ● Students assess the credibility of information from multiple print and digital sources, and they quote and paraphrase while avoiding plagiarism (*W.6.8; SL.6.3*). Both of these are new expectations for students in grade six, and teachers model and scaffold (planned and "just-in-time") these processes as needed. Teachers and school librarians collaborate to help students learn to evaluate sources and understand plagiarism.
SL.6.1 Engage effectively in a range of collaborative discussions with diverse partners on grade 6 topics, texts, and issues, building on other's ideas and expressing their own clearly. **ELD.PI.6.1.Ex** Contribute to class, group, and partner discussions.	● All students engage in discussions of what they have read and learned across content areas, contributing to their content knowledge. Students collaborate as partners or in small groups to conduct research and engage in other long-term projects based on their interests and subjects of study (*W.6.6,7*). ● As students share their knowledge with others in formal presentations, they focus on communicating effectively with their audience and adapting their speech, as appropriate, to the task and the discipline (*SL.6.5,6*).

Critical Area of Instructional Focus: Foundational Skills

Key ELA & ELD Standard(s)	Related Standards and Instructional Considerations
RF.5.4 Read with sufficient accuracy and fluency to support comprehension.	● Ideally, students' knowledge of foundational skills is well established by the time they enter grade six, and English language arts teachers continue to support students' developing reading fluency to aid comprehension. ● Teachers and specialists strategically provide support for students who lag significantly behind in foundational reading skills to allow for accelerated progress and full participation in core instruction. ● Teachers provide EL students targeted instruction in foundational literacy skills based on students' spoken English proficiency, native language proficiency, prior schooling, and assessed needs.

Class Spotlight

The students in Grecia Jimenez's sixth-grade English class are using collaborative digital documents to provide peer responses about their writing. Acknowledging the importance of feedback and revision in effective written expression, Ms. Jimenez explains, "Peer responses are something we work on continually. They learn how to become more reflective about their own writing in the process of doing so." They are currently utilizing two approaches. The first is color-coded feedback. They are currently reading *The Lions of Little Rock* (Levine, 2013) and writing their reflections in which they compare and contrast the two main characters' use of their social justice voices. To deepen their understanding of each character and support their meaning making, she has used a variety of scaffolds (e.g., reading with a focus, interviews of characters). After reading and discussing the first several chapters, students share their evolving essays with one another. Using a rubric, peer readers highlight in green evidence that their classmate is meeting the criteria. In places where they believe the writing needs to be strengthened, they highlight in yellow. The second approach they use is voice feedback. For each highlighted area, they record an audio comment to explain what they saw.

Students receive the peer response feedback and reflect on it. "They don't have to agree with what their peer offered, but they do need to explain their thinking about it," said Ms. Jimenez. Each writer records their own audio response on the same document and submits the draft to their teacher. Ms. Jimenez carefully organizes the peer review groupings so that EL students are engaged with peers at more advanced levels of English proficiency. "I actually spend my time reviewing their peer responses," said the teacher. "These are drafts and I want to build the habit that writers seek feedback from others about their writing during, not just at the end, of an essay. I also want them to see that feedback comes from lots of sources, like your peers, not just the teacher. Most important," said Ms. Jimenez, "it fosters their ability to critique their own work."

Prominent ELA/ELD Themes: Effective Expression, Meaning Making

Associated Standards: RL.6.1,10; W.6.2,4,5,6,9,10; ELD.PI.6.2,6a,7.Ex; ELD.PII.6.1.Ex

Grade Seven: English Language Arts and English Language Development

Seventh graders may be in their first year of junior high school or in their second year of a sixth- through eighth-grade middle school program; in either case, they are expected to continue advancing their skills as they engage with ideas, concepts, and knowledge in literature and informational text they read in school and independently. They strengthen their reading and writing skills not just in the language arts, but across the content areas of history/social studies, science, and technical subjects. Students entering school learning English, or who have been in U.S. schools since the elementary years but are still designated as EL students, need particular attention, as their English language and literacy abilities need to improve in an *accelerated time frame* for them to be prepared for the rigors of high school in two more years. Students learning English have ample opportunities to engage in extended discussions with peers and adults. They receive rich instruction in all content areas and a comprehensive program of ELD.

Standards and instructional considerations for grade seven follow. In distance learning settings, teachers should carefully consider which learning experiences are given priority during synchronous instruction. Guidelines are presented in Chapter 10 and also addressed in the Overview of the Span in this chapter.

Some key standards are included in more than one theme, or critical area of instructional focus. For example, SL.7.1 is crucial in meaning making, language development, effective expression, and content knowledge. Thus, it is included in the first four charts that follow. In each case, the repeated standard is displayed with a pink background to make the repetition obvious. Likewise, RL/RI.7.10 appears in several charts, and so a different color (in this case, orange) is used to highlight the repetition. Presented first is a chart depicting the standards for grade six at a glance followed by detailed charts for each theme.

Critical Areas of Instructional Focus: At A Glance

Theme	Key Standards	Related Standards
Meaning Making	RL/RI.7.1,10; W.7.1-3,9; SL.7.1,3 ELD.PI.7.1,6b,10a,11a.Ex	*RL/RI.7.2-4,7,9; RI.7.8; W.7.4,10; SL.7.2,4,6; L.7.4-6* *ELD.PI.7.8,12.Ex; PII.7.1,2.Ex*
Language Development	RL/RI.7.4,10; W.7.1-3; SL.7.1; L.6.1e; L.7.4 ELD.PI.7.1,6b,c,7.Ex; PII.7.2b.Ex	*SL.7.6; L.7.1-3,5,6* *ELD.PI.7.8,12a.Ex; PII.7.3-6.Ex*
Effective Expression	RL/RI.7. 10; W.7.1-3,5; SL.7.1,4; L.7.1 ELD.PI.7.1,3,4,6b,9,10a,b.Ex	*RL/RI.7.5,6; W.7.6,8-10; W.6.6; SL.7.6; L.7.2,3* *ELD.PI.7.5; PII.7.1-7.Ex*
Content Knowledge	RL/RI.7.1,4,10; W.7.1,2,9; SL.7.1,3; L.7.4 ELD.PI.7.1,6b,c,10a.Ex	*RL/RI.7.5,7; RI.7.8; W.7.6-8; SL.7.2,5,6; L.7.5,6* *ELD.PI.7.6a,11a.Ex; PII.7.1.Ex*

Theme	Key Standards	Related Standards
Foundational Skills	RF.5.4	N/A

Critical Area of Instructional Focus: Meaning Making

Key ELA & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.7.1 Cite several pieces of textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. **W.7.9** Draw evidence from literary or informational texts to support analysis, reflection, and research. **SL.7.3** Delineate a speaker's argument and specific claims, and attitude toward the subject, evaluating the soundness of the reasoning and the relevance and sufficiency of the evidence. **ELD.PI.7.6b,11a.Ex** Express inferences and conclusions drawn based on close reading of grade-level texts and viewing of multimedia; justify opinions or persuade others by providing relevant textual evidence or relevant background knowledge, with moderate support.	● Analyzing arguments becomes more complex in grade seven. English language arts students now identify several pieces of textual evidence to support analysis, and they assess whether reasoning is sound and the evidence is relevant and sufficient to support claims in a text (*RI.7.8; SL.7.3*). English language arts teachers model and scaffold these complex processes with a range of text types and content areas. ● Every student regularly engages with grade-level text with scaffolds (planned and "just-in-time") provided and adjusted in accordance with the strengths and needs of the learner. ● Text-dependent questions help students comprehend text at increasing levels of depth, including determining two or more central ideas or themes in a text and analyzing their development over the course of the text (*RL/RI.7.2*); providing an objective summary (*RL/RI.7.2*); analyzing how elements of a story or drama or how ideas, events, and individuals interact (*RL/RI.7.3*); comparing and contrasting fictional and historical accounts (*RL.7.9*) and two or more authors' interpretations of events (*RI.7.9*). Teachers analyze texts to create text-dependent questions and engage students in developing their own questions based on the text. ● All students read a range of literary and informational texts both independently and collaboratively with their peers, and they discuss these texts with their peers and teachers. Teachers occasionally read-aloud from selected passages of texts the class is studying to illustrate key points or to introduce new genres or beautiful language. On a regular basis, teachers read-aloud for a brief time to create a shared classroom experience and to build reading enjoyment.

Key ELA & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.7.10 By the end of the year, read and comprehend texts in the grades 6-8 text complexity band proficiently, with scaffolding as needed at the high end of the range. **ELD.PI.7.6b.Ex** Express inferences and conclusions drawn based on close reading of grade-level texts.	● Students read and discuss increasingly complex texts of different types daily, with special attention given to books with appropriate complexity for grade seven. Volume of reading contributes to reading development. ● Teachers support students in meaning making, teaching them how to navigate unfamiliar concepts and vocabulary and complex language structures (*RL/RI.7.4; L.7.4-6; ELD.PI.7.8,12.Ex; ELD.PII.7.1,2.Ex*). Teachers guide the deconstruction of complex sentences and paragraphs to deepen students' understanding of language structures, meaning making, and authors' choices. ● Teachers support students as they learn to compare and contrast written and audio, video, staged, and multimedia literary works or informational texts and their effects (*RL/RI.7.7; SL.7.2*). ● Teachers create opportunities for all students to select the texts they read for study and enjoyment to capitalize on students' increasing needs for autonomy and to build motivation.
W.7.1-3 Write arguments, informative/explanatory texts, and narratives. **ELD.PI.7.10a.Ex** Write longer literary and informational texts collaboratively and independently.	● All students write about the texts they read and view; writing helps students consolidate their thinking and arrive at new understandings of the text. Students write personal reactions, interpretations, analyses, summaries, notes, and answers to questions about the text (*RL/RI.7.1-3; RI.7.8; W.7.10*). ● Teachers model and guide the co-construction of increasingly effective text aligned to purpose and audience. ● Students focus on conveying meaning as they write and learn that the content and form of their writing varies according to their task, purpose, and audience (*W.7.4*). They write frequently and may combine argumentative, explanatory, or narrative forms according to their purpose, task, and audience (*W.7.10*).

Key ELA & ELD Standard(s)	Related Standards and Instructional Considerations
SL.7.1 Engage effectively in a range of collaborative discussions with diverse partners on grade 7 topics, texts, and issues, building on other's ideas and expressing their own clearly. **ELD.PI.7.1.Ex** Contribute to class, group, and partner discussions.	● Students prepare for discussions, drawing on evidence from the text (*SL.7.1a; RL/RI.7.9*), making the text the center of their extended conversations. Their engagement with others enhances their understanding of topics and texts. Students ask one another questions that elicit elaboration and acknowledge new information expressed by others and, when warranted, modify their own views (*SL.7.1c,d*). ● Teachers create opportunities for students to work in pairs and small groups to engage in discussions in virtual and in-class settings. ● Students adapt their speech in discussions and presentations as needed to accomplish their purposes and convey meaning to their audience; they use formal English as appropriate to the task (*SL.7.4,6*). ● Teachers consider the purpose of the task and the EL students' proficiency levels and group them heterogeneously with Peers at more advanced levels of English proficiency for core tasks and consider homogeneous groups for identified language needs.

Critical Area of Instructional Focus: Language Development

Key ELA & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.7.4 Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings. **L.7.4** Determine or clarify the meaning of unknown and multiple-meaning words and phrases. **ELD.PI.7.6c.Ex** Use knowledge of morphology, context, reference materials, and visual cues to determine the meaning of unknown and multiple-meaning words on familiar and new topics.	● English language arts students continue to develop their understanding of figurative, connotative, and technical meanings of words and phrases in grade seven; they focus increasingly on the impact of word choices in literary and informational texts (*ELD.PI.7.8.Ex*). English language arts teachers model and scaffold (planned and "just-in-time") this process with a range of text types and content areas. ● Teachers employ strategies to develop students' word consciousness and encourage students to be curious about new words and new meanings of known words that they encounter. They also encourage students to be curious about new grammatical and syntactical structures that they encounter in texts; teachers model their own processes for making sense of dense phrases and sentences (*L.7.4-6*). ● Teachers leverage all students' experiences and EL students' native language where possible (e.g., highlighting cognates) to support vocabulary development.

Key ELA & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.7.10 By the end of the year, read and comprehend texts in the grades 6-8 text complexity band proficiently, with scaffolding as needed at the high end of the range. **ELD.PI.7.6b.Ex** Express inferences and conclusions drawn based on close reading of grade-level texts and viewing of multimedia using a variety of verbs.	● Teachers support students to read complex texts by teaching text vocabulary explicitly, providing rich and engaging, as well as repeated, experiences with new words (*L.7.4-6*). Teachers select a limited number of words from the text that have high utility for text comprehension and use in other contexts. Teachers also model strategies for independent word learning.
W.7.1-3 Write arguments, informative/explanatory texts, and narratives. **ELD.PII.7.2b.Ex** Apply growing understanding of how ideas, events, or reasons are linked throughout a text using a variety of connecting words or phrases to comprehending and writing texts with increasing cohesion.	● All students in grade seven use words and phrases in increasingly precise ways to express their meanings in writing (*W.7.1c,2d,3d; ELD.PI.7.12a.Ex*). Students are now expected to use words and phrases to clarify relationships among claim(s), reasons, and evidence and to create cohesion (*W.7.1c*). Teachers model and scaffold (planned and "just-in-time") this process and support students as they practice.
SL.7.1 Engage effectively in a range of collaborative discussions with diverse partners on grade 7 topics, texts, and issues, building on other's ideas and expressing their own clearly. **ELD.PI.7.1.Ex** Contribute to class, group, and partner discussions.	● All students have regular opportunities to engage in brief and extended conversations with a range of others in a range of contexts for a range of purposes. These opportunities contribute to language development and are particularly important for EL students. Teachers encourage and support students in using target words in their discussions. ● Students distinguish between formal and informal discourse and use formal English as appropriate to the task (*SL.7.6*).

Key ELA & ELD Standard(s)	Related Standards and Instructional Considerations
L.6.1e Recognize variations from standard English in their own and others' writing and speaking, and identify and use strategies to improve expression in conventional language. (Grade 6 standard provided intentionally.) **ELD.PI.7.7.Ex** Explain how well writers and speakers use specific language to present ideas or support arguments and provide detailed evidence when provided with moderate support.	● Teachers support students in building their metacognitive awareness of their own and others' language use in speaking and writing. Teachers create an environment that encourages students to experiment with language without being overly concerned with correctness. ● Teachers model how they analyze complex sentences to understand their meanings, and they engage students in similar practices. Examining these language structures in the context of the texts the class is studying is more valuable than isolated grammar practice. It is helpful to all students, particularly EL students, to analyze or "unpack" complex sentences as examples of effective use of verb types and tenses, noun phrases, and adverbials to add and enrich details, and connect ideas (*L.7.1-3; ELD.PII.7.3-6.Ex*).

Critical Area of Instructional Focus: Effective Expression

Key ELA & ELD Standards	Related Standards and Instructional Considerations
RL/RI.7.10 By the end of the year, read and comprehend texts in the grades 6-8 text complexity band proficiently, with scaffolding as needed at the high end of the range. **ELD.PI.7.6b.Ex** Express inferences and conclusions drawn based on close reading of grade-level texts.	● All students read daily in virtual and in-class English language arts settings—both independently and collaboratively. ● Teachers support students to read increasingly complex text and engage students in examining passages that represent samples of effective expression. Students and their teachers work to uncover what makes passages effective or complex, considering the choice of words and grammatical elements, clarity of structure, author's point of view or purpose, effect on the reader, or other features (*RL/RI.7.5-6*).

Key ELA & ELD Standards	Related Standards and Instructional Considerations
W.7.1 Write arguments to support claims with clear reasons and relevant evidence. **W.7.2** Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content. **W.7.3** Write narratives to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well-structured event sequences. **ELD.PI.7.10.Ex** Write longer literary and informational texts collaboratively and independently using appropriate text organization; write increasingly concise summaries of texts and experiences using complete sentences and key words.	● All students learn that the structure and use of language in their writing varies according to the task, purpose, and audience. Teachers engage students in the analysis of a variety of mentor texts representing effective examples of text organization and language use and help students apply similar strategies to their own writing (*ELD.PII.7.1-7.Ex*). ● In grade seven, students are now expected to acknowledge and address alternate or opposing claims and support claims or counterarguments with logical reasoning in their writing (*W.7.1a,b*). Teachers model and scaffold (planned and "just-in-time") these processes and provide practice as needed. ● Building on what they learned in grade six, students organize their writing in increasingly effective ways. In grade seven, students introduce topics and thesis statements clearly and preview what is to follow (*W.7.2a*). ● All students write daily in virtual and in-class settings—both independently and collaboratively (*W.7.10*). ● Teachers model and guide the co-construction of increasingly effective text aligned to purpose and audience. ● All students use technology to produce and publish writing and collaborate with others; in grade seven, they are expected to link to and cite sources (*W.7.6*). Students regularly practice their keyboarding skills and use them to complete assignments; they maintain their capacity to type at least three pages in a single sitting that they achieved in grade six (*W.6.6*).

Key ELA & ELD Standards	Related Standards and Instructional Considerations
W.7.5 With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.	● Teachers help students plan their writing by connecting the products of their reading (e.g., annotations, discussion notes, summaries, reflections, outlines, maps, responses to questions) to the writing task. ● Students' writing receives regular, specific feedback, so students become increasingly effective at expressing arguments, information, and narratives (*W.7.8,9*). Teachers and peers provide feedback on longer assignments early in the process so that students can set goals for improvement and make revisions. Feedback is focused on effective communication and selected features that have been the subject of instruction and classroom discussion. Teachers, rather than peers, offer feedback on correctness and form during the editing process (*L.7.1-3*). ● Feedback is expressed in positive, encouraging ways to ensure motivation and enthusiasm for creating written work are maintained. Teachers engage students in evaluating their own writing and identifying progress they have made toward their own goals.
SL.7.1 Engage effectively in a range of collaborative discussions with diverse partners on grade 7 topics, texts, and issues, building on other's ideas and expressing their own clearly. **ELD.PI.7.1,3.Ex** Contribute to class, group, and partner discussions; negotiate with or persuade others in conversations using learned phrases and open responses.	● Teachers establish a climate that fosters trust, safety, equitable participation, and respect for individuals and multiple perspectives in both in-class and virtual settings. ● Teachers engage students in using a variety of discussion structures and, together with students, develop norms of effective discussion and offer feedback on discussion processes (*SL.7.1b,c; ELD.PI.7.5.Ex*). ● Students collaborate as partners and in small groups to plan their writing and oral presentations. They review one another's writing or presentation plans at key points and provide feedback about its effectiveness. Teachers offer rubrics to focus feedback on important elements. ● Teachers assess conversations for structure and language used and provide specific feedback aligned to academic language objectives.

Key ELA & ELD Standards	Related Standards and Instructional Considerations
SL.7.4 Present claims and findings, emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples and nonverbal elements. **ELD.PI.7.9.Ex** Plan and deliver longer oral presentations on a variety of topics, using details and evidence to support ideas.	● Students use technology creatively (e.g., audio or video of reports, public service announcements, dramatic performances, spoken word) to present arguments, information, and narratives as individuals, partners, or small groups (*SL.7.5*). ● As students plan and deliver oral presentations, they focus on communicating their ideas effectively to their audience and adapting their speech, as appropriate, to the task (*SL.7.6*). ● Teachers provide mentor texts in the form of clips from podcasts, films, readings, or other performances to demonstrate powerful language and content, clear structure, and effective presentation techniques (*SL.7.2,5*).
L.7.1 Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. **ELD.PI.7.4.Ex** Adjust language choices according to purpose, task, and audience.	● Teachers accept and value students' language varieties and establish an environment, both online and in class, that is respectful and safe for students to experiment with language. ● Just as students set goals for improving the content and structure of their writing and oral presentations, they are guided in setting goals to improve their use of language conventions (*L.7.1-3*). ● All students learn to adapt their use of informal and formal English according to the demands of the context, task, and audience (*SL.7.6; L.7.3; ELD.PI.7.4.Ex*).

Critical Area of Instructional Focus: Content Knowledge

Key ELA & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.7.1 Cite several pieces of textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. **W.7.9** Draw evidence from literary or informational texts to support analysis, reflection, and research. **SL.7.3** Delineate a speaker's argument and specific claims, and attitude toward the subject, evaluating the soundness of the reasoning and the relevance and sufficiency of the evidence. **ELD.PI.7.6b.Ex** Express inferences and conclusions drawn based on close reading of grade-level texts and viewing of multimedia.	● Students are expected not only to continue to trace and evaluate arguments in grade seven, but they are also now expected to assess whether reasoning is sound and the evidence is relevant and sufficient to support claims (*RI.7.8; SL.7.3*). English language arts teachers model and scaffold (planned and "just-in-time") these processes and provide practice as needed. Students learn that arguments and claims may be structured or expressed differently in various disciplines. They practice identifying, evaluating, and expressing arguments in various content areas (*W.7.1; SL.7.3; ELD.PI.7.6a,11a.Ex*). ● Informational, as well as literary, texts that build students' knowledge are a crucial component of every grade level in English language arts. Students gain knowledge through reading in every content area, and they learn how text structures and evidence varies across disciplines. ● Teachers integrate language arts and other content areas using text sets on a given topic. In departmentalized settings, teachers look for opportunities to collaborate to integrate literacy across subject areas. ● Book selections are based on grade-level content standards in different content areas (e.g., science, social studies), and students′ interests, and cultural experiences. ● Students have access to informational text in their home languages to amplify content knowledge and support meaning making.

Key ELA & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.7.4 Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings. **L.6.4** Determine or clarify the meaning of unknown and multiple-meaning words and phrases. **ELD.PI.7.6c.Ex** Use knowledge of morphology, context, reference materials, and visual cues to determine the meaning of unknown and multiple-meaning words on familiar and new topics.	● Teachers help students examine vocabulary, language structures, organizational structures, and use of media in literary and informational texts for different content areas (*L.7.4-6; RL/RI.7.5,7; SL.7.2*). As students identify features unique to particular content areas and consider their impact on text meaning, they build content knowledge.
RL/RI.7.10 By the end of the year, read and comprehend texts in the grades 6-8 text complexity band proficiently, with scaffolding as needed at the high end of the range. **ELD.PI.7.6b.Ex** Express inferences and conclusions drawn based on close reading of grade-level texts.	● All students read broadly across content areas. Teachers model and scaffold (planned and "just-in-time") as needed to help students read grade-level texts across disciplines. ● All students read widely across genres of texts in classroom and virtual settings and at home. They read to gain knowledge, to become inspired, and for pleasure. Teachers organize independent reading programs that expose students to a variety of text types and capitalize on students' interests.
W.7.1,2 Write arguments and informative/explanatory texts. **ELD.PI.7.10a.Ex** Write longer informational texts collaboratively and independently.	● All students write frequently to process information they learn through reading, viewing, and listening and to communicate their understandings and perspectives on what they have learned. As they write, students consolidate their existing and new content knowledge. ● All students use technology to collaborate with classmates and to conduct short research projects on topics of interest (*W.7.7; ELD.PI.7.6b.Ex; ELD.PII.7.1.Ex*). In grade seven, students generate additional research questions for further research and investigation (*W.7.7*). ● Students increase their capacity to assess the credibility of information from multiple print and digital sources and to quote and paraphrase while avoiding plagiarism. In addition, they are now expected in grade seven to follow a standard format for citation and to use search terms effectively (*W.7.8*). Teachers and school librarians collaborate to help students learn to use a citation format and understand and use search terms.

Key ELA & ELD Standard(s)	Related Standards and Instructional Considerations
SL.7.1 Engage effectively in a range of collaborative discussions with diverse partners on grade 7 topics, texts, and issues, building on other's ideas and expressing their own clearly. **ELD.PI.7.1.Ex** Contribute to class, group, and partner discussions.	● All students engage in discussions of what they have read and learned across content areas, contributing to their content knowledge. Students collaborate as partners or in small groups to conduct research and engage in other long-term projects based on their interests and areas of study (*W.7.6,7*). ● As students share their knowledge with others in formal presentations, they focus on communicating effectively with their audience and adapting their speech, as appropriate, to the task and the discipline (*SL.7.5,6*).

Critical Area of Instructional Focus: Foundational Skills

Key ELA & ELD Standard(s)	Related Standards and Instructional Considerations
RF.5.4 Read with sufficient accuracy and fluency to support comprehension.	● Ideally, students' knowledge of foundational skills is well established by the time they enter grade seven, and English language arts teachers continue to support students' developing reading fluency to aid comprehension. ● Support for students who lag significantly behind in foundational reading skills is provided strategically and effectively to allow for accelerated progress and full participation in core instruction. ● Teachers provide EL students targeted instruction in foundational literacy skills based on students' spoken English proficiency, native language proficiency, prior schooling, and assessed needs.

Class Spotlight

Learning to cite textual evidence is key to meaning making in grade seven, and students practice this in increasingly sophisticated ways. Omar Haji uses a close reading protocol during his whole class synchronous lessons to focus his students on textual evidence. He shares his screen, showing a printed text via a document camera. The students in his class picked up copies of the text during their monthly drive-through during which time supplies for all classes are distributed and teachers wave and celebrate students from a distance. This allows students to follow along and annotate on their own version of the text. Mr. Haji selects small sections of the text that are most complex for his modeling. Thinking aloud, he calls students' attention to sentences in these sections that indicate a character's perspective and identifies the pieces of evidence that lead him to his conclusions—some of which may be indirect. He unpacks sentences that are unclear and engages students in determining their meaning and the evidence they contain. He asks students to read other sections of the text on their own in preparation for their discussion groups. To support oral and written expression, he has created a digital interactive notebook for each student that has sections organized for each chapter. The notebooks include discussion questions and places to take

individual notes. Following each breakout room discussion, the students respond asynchronously to one of the questions (they are given choices) with textual evidence. Mr. Haji can easily review his students' work in the digital interactive notebook and provide feedback. After reviewing the class's work, he also identifies trends and revises his modeling when he notes that there are misconceptions or errors.

Prominent ELA/ELD Themes: Meaning Making, Effective Expression

Associated Standards: RL.7.1,10; W.7.10; SL.7.1; ELD.PI.7.1,6a,11a.Ex; ELD.PII.7.1.Ex

Grade Eight: English Language Arts and English Language Development

Generally, eighth grade students are in their last year of junior high school or middle school and need to be prepared during this year to meet the rigors of a high school program designed to help them meet the goals of ELA/literacy instruction in preparation for postsecondary education and careers. In grade eight, the level of rigor and text complexity continues to increase from earlier grades as students also increase in their ability to generate meaningful analysis and demonstrate understanding. Students now analyze and present relationships and connections among ideas and information in reading, writing, and speaking. All students, and especially EL students, receive particular attention to help them transition successfully to high school in the following year. Students learning English have ample opportunities to engage in extended discussions with peers and adults. They receive rich instruction in all content areas and a comprehensive program of ELD.

Standards and instructional considerations for grade eight follow. In distance learning settings, teachers should carefully consider which learning experiences are given priority during synchronous instruction. Guidelines are presented in Chapter 10 and also addressed in the Overview of the Span in this chapter.

Some key standards are included in more than one theme, or critical area of instructional focus. For example, SL.8.1 is crucial in meaning making, language development, effective expression, and content knowledge. Thus, it is included in the first four charts that follow. In each case, the repeated standard is displayed with a pink background to make the repetition obvious. Likewise, RL/RI.8.10 appears in several charts, and so a different color (in this case, orange) is used to highlight the repetition. Presented first is a chart depicting the standards for grade six at a glance followed by detailed charts for each theme.

Critical Areas of Instructional Focus: At a Glance

Theme	Key Standards	Related Standards
Meaning Making	RL/RI.8.1,10; W.8.1-3,9; SL.8.1,3 ELD.PI.8.1,6b,10a,11a.Ex	*RL/RI.8.2-4,7,9; RI.8.8; W.8.4,10; SL.8.2,4,6; L.8.4-6* *ELD.PI.8.12.Ex; PII.8.1,2.Ex*

Theme	Key Standards	Related Standards
Language Development	RL/RI.8.4,10; W.8.1-3; SL.8.1; L.6.1e; L.8.4 ELD.PI.8.1,6b,c,7.Ex; PII.8.2b.Ex	*SL.8.6; L.8.1-3,5,6* *ELD.PI.8.8,12a.Ex; PII.8.3-6.Ex*
Effective Expression	RL/RI.8. 10; W.8.1-3,5; SL.8.1,4; L.8.1 ELD.PI.8.1,3,4,6b,9,10a,b.Ex	*RL/RI.8.5-6; W.8.6,8-10; W.6.6; SL.8.6; L.8.2,3* *ELD.PI.8.5; PII.8.1-7.Ex*
Content Knowledge	RL/RI.8.1,4,10; W.8.1,2,9; SL.8.1,3; L.8.4 ELD.PI.8.1,6b,c,10a.Ex	*RL/RI.8.5,7; RI.8.8; W.8.6-8; SL.8.2,5,6; L.8.5,6* *ELD.PI.8.6a,11a.Ex; PII.8.1.Ex*
Foundational Skills	RF.5.4	N/A

Critical Area of Instructional Focus: Meaning Making

Key ELA & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.8.1 Cite the textual evidence that most strongly supports an analysis of what the text says explicitly as well as inferences drawn from the text. **W.8.9** Draw evidence from literary or informational texts to support analysis, reflection, and research. **SL.8.3** Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and the relevance and sufficiency of the evidence. **ELD.PI.8.6b,11a.Ex** Express inferences and conclusions drawn based on close reading of grade-level texts and viewing of multimedia; justify opinions or persuade others by providing relevant textual evidence or relevant background knowledge, with moderate support.	● Analyzing arguments in grade eight continues to become more complex. English language arts students now identify the textual evidence that most strongly supports analysis, and they recognize when irrelevant evidence is introduced (*RI.8.8; SL.8.3*). English language arts teachers model and scaffold these complex processes with a range of text types and content areas. ● Every student regularly engages with grade-level text with scaffolds (planned and "just-in-time") provided and adjusted in accordance with the strengths and needs of the learner. ● Text-dependent questions help students comprehend text at increasing levels of depth, including analyzing the relationship of a theme or central idea to characters, setting, and plot or to supporting ideas (*RL/RI.8.2*)*;* analyzing how lines of dialogue or incidents in a story or drama propel action, reveal character, or provoke decisions (*RL.8.3*)*;* analyzing how a text makes connections among and distinctions between individuals, ideas, or events (*RI.8.3*)*;* analyzing how modern fiction draws on elements from myths, traditional stories, or religious works (*RL.8.9*)*;* and analyzing when two or more texts provide conflicting information and identifying where texts disagree on matters of fact or interpretation (*RI.8.9*). Teachers analyze texts to create text-dependent questions and engage students in developing their own questions based on the text. ● All students read a range of literary and informational texts both independently and collaboratively with their peers, and they discuss these texts with their peers and teachers. Teachers occasionally read-aloud from selected passages of texts the class is studying to illustrate key points or to introduce new genres or beautiful language. On a regular basis, teachers read-aloud for a brief time to create a shared classroom experience and to build reading enjoyment.

Key ELA & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.8.10 By the end of the year, read and comprehend texts in the grades 6-8 text complexity band proficiently, with scaffolding as needed at the high end of the range. **ELD.PI.8.6b.Ex** Express inferences and conclusions drawn based on close reading of grade-level texts.	● Students read and discuss increasingly complex texts of different types daily, with special attention given to books with appropriate complexity for grade eight. Volume of reading contributes to reading development. ● Teachers support students in meaning making, teaching them how to navigate unfamiliar concepts and vocabulary and complex language structures (*RL/RI.8.4; L.8.4-6; ELD.PI.8.12.Ex; ELD.PII.8.1,2.Ex*). They guide the deconstruction of complex sentences and paragraphs to deepen students' understanding of language structures, meaning making, and authors' choices. ● Teachers support students as they learn how to analyze filmed or live productions evaluating choices made by directors or actors (*RL.8.7*); and to evaluate advantages and disadvantages of using different media to present an idea (*RI.8.7; SL8.2*). ● Teachers create opportunities for all students to select the texts they read for study and enjoyment to capitalize on students' increasing needs for autonomy and to build motivation.
W.8.1-3 Write arguments, informative/explanatory texts, and narratives. **ELD.PI.8.10a.Ex** Write longer literary and informational texts collaboratively and independently.	● All students write about the texts they read and view; writing helps students consolidate their thinking and arrive at new understandings of the text. Students write personal reactions, interpretations, analyses, summaries, notes, and answers to questions about the text (*RL/RI.8.1-3; RI.8.8; W.8.10*). ● Students focus on conveying meaning as they write and become more skilled in varying the content and form of their writing according to their task, purpose, and audience (*W.8.4*). They write frequently and may combine argumentative, explanatory, or narrative forms according to their purpose, task, and audience (*W.8.10*).

Key ELA & ELD Standard(s)	Related Standards and Instructional Considerations
SL.8.1 Engage effectively in a range of collaborative discussions with diverse partners on grade 8 topics, texts, and issues, building on other's ideas and expressing their own clearly. **ELD.PI.8.1.Ex** Contribute to class, group, and partner discussions.	● Discussions become increasingly sophisticated in grade eight, and students' engagement with others enhances their understanding of complex ideas. Students now refer to textual or research evidence from their preparation to probe and reflect on ideas (*SL.8.1a; RL/RI.8.9*). They ask one another questions that connect ideas, respond with relevant evidence, and acknowledge new information expressed by others and, when warranted, qualify or justify their views in light of evidence presented (*SL.8.1c,d*). ● Teachers create opportunities for students to work in pairs and small groups to engage in discussions in virtual and in-class settings. ● Students adapt their speech in discussions and presentations as needed to accomplish their purposes and convey meaning to their audience; they use formal English as appropriate to the task (*SL.8.4,6*). ● Teachers consider the purpose of the task and the EL students' proficiency levels and group them heterogeneously with Peers at more advanced levels of English proficiency for core tasks and consider homogeneous groups for identified language needs.

Critical Area of Instructional Focus: Language Development

Key ELA & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.8.4 Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings. **L.8.4** Determine or clarify the meaning of unknown and multiple-meaning words and phrases. **ELD.PI.8.6c.Ex** Use knowledge of morphology, context, reference materials, and visual cues to determine the meaning of unknown and multiple-meaning words on familiar and new topics.	● English language arts students continue to develop their understanding of figurative, connotative, and technical meanings of words and phrases in grade eight considering the impact of word choices in literary and informational texts (*ELD.PI.8.8.Ex*). English language arts teachers model and scaffold this process with a range of text types and content areas. ● Teachers employ strategies to develop students' word consciousness and encourage students to be curious about new words and new meanings of known words that they encounter. They also encourage students to be curious about new grammatical and syntactical structures that they encounter in texts; teachers model their own processes for making sense of dense phrases and sentences (*L.8.4-6*).

Key ELA & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.8.10 By the end of the year, read and comprehend texts in the grades 6-8 text complexity band proficiently, with scaffolding as needed at the high end of the range. **ELD.PI.8.6b.Ex** Express inferences and conclusions drawn based on close reading of grade-level texts and viewing multimedia using a variety of verbs.	● Teachers support students to read complex texts by teaching text vocabulary explicitly, providing rich and engaging, as well as repeated, experiences with new words (*L.8.4-6*). Teachers select a limited number of words from the text that have high utility for text comprehension and use in other contexts. Teachers also model strategies for independent word learning.
W.8.1-3 Write arguments, informative/explanatory texts, and narratives. **ELD.PII.8.2b.Ex** Apply growing understanding of how ideas, events, or reasons are linked throughout a text using a variety of connecting words or phrases to comprehending and writing texts with increasing cohesion.	● All students in grade eight continue to expand their precision in the use of words and phrases in writing (*W.8.1c,2d,3d; ELD.PI.8.12a.Ex*). In addition, using words and phrases to clarify claims, reasons, and evidence, students now address counterclaims (*W.8.1c*). Teachers model and scaffold (planned and "just-in-time") this process and support students as they practice.
SL.8.1 Engage effectively in a range of collaborative discussions with diverse partners on grade 8 topics, texts, and issues, building on other's ideas and expressing their own clearly. **ELD.PI.8.1.Ex** Contribute to class, group, and partner discussions.	● All students have regular opportunities to engage in brief and extended conversations with a range of others in a range of contexts for a range of purposes. These opportunities contribute to language development and are particularly important for EL students. Teachers encourage and support students in using target words in their discussions. ● Teachers assess conversations for structure and language used and provide specific feedback aligned to academic language objectives. ● Students distinguish between formal and informal discourse and use formal English as appropriate to the task (*SL.8.6*).

Key ELA & ELD Standard(s)	Related Standards and Instructional Considerations
L.6.1e Recognize variations from standard English in their own and others' writing and speaking, and identify and use strategies to improve expression in conventional language. (Grade 6 standard provided intentionally.) **ELD.PI.8.7.Ex** Explain how well writers and speakers use specific language to present ideas or support arguments and provide detailed evidence when provided with moderate support.	● Teachers support students in building their metacognitive awareness of their own and others' language use in speaking and writing. Teachers create an environment that encourages students to experiment with language without being overly concerned with correctness. ● Teachers model how they analyze complex sentences to understand their meanings, and they engage students in similar practices. Examining these language structures in the context of the texts the class is studying is more valuable than isolated grammar practice. It is helpful to all students, particularly EL students, to analyze or "unpack" complex sentences as examples of effective use of verb types and tenses, noun phrases, and adverbials to add and enrich details, and connect ideas (*L.8.1-3; ELD.PII.8.3-6.Ex*).

Critical Area of Instructional Focus: Effective Expression

Key ELA & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.8.10 By the end of the year, read and comprehend texts in the grades 6-8 text complexity band proficiently, with scaffolding as needed at the high end of the range. **ELD.PI.8.6b.Ex** Express inferences and conclusions drawn based on close reading of grade-level texts.	● All students read daily in virtual and in-class English language arts settings—both independently and collaboratively. ● Teachers support students to read increasingly complex text and engage students in examining passages that represent samples of effective expression. Students and their teachers work to uncover what makes passages effective or complex, considering the choice of words and grammatical elements, clarity of structure, author's point of view or purpose, effect on the reader, or other features (*RL/RI.8.5,6*).

Key ELA & ELD Standard(s)	Related Standards and Instructional Considerations
W.8.1 Write arguments to support claims with clear reasons and relevant evidence. **W.8.2** Write informative/explanatory texts, including career development documents, to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content. **W.8.3** Write narratives to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well-structured event sequences. **ELD.PI.8.10.Ex** Write longer literary and informational texts collaboratively and independently using appropriate text organization; write increasingly concise summaries of texts and experiences using complete sentences and key words.	● All students continue to learn how to structure their writing and use language to effectively address their task, purpose, and audience. Teachers engage students in the analysis of a variety of mentor texts representing effective examples of text organization and language use and help students apply similar strategies to their own writing (*ELD.PII.8.1-7.Ex*). ● In grade eight, students continue to acknowledge and address alternate or opposing claims and support claims or counterarguments with logical reasoning in their writing (*W.8.1a,b*). Teachers model and scaffold (planned and "just-in-time") these processes and provide practice as needed. ● Building on what they learned in grades six and seven, students organize their writing in increasingly effective ways. In grade eight, students now use broader categories to organize ideas, concepts, and information (*W.8.2a*). ● All students write daily in virtual and in-class settings—both independently and collaboratively (*W.8.10*). ● Teachers model and guide co-construction of increasingly effective text aligned to purpose and audience. ● All students use technology to produce and publish writing and collaborate with others. In grade eight, they are expected to present relationships between information and ideas efficiently (*W.8.6*). Students regularly practice their keyboarding skills and use them to complete assignments; they maintain their capacity to type at least three pages in a single sitting that they achieved in grade six (*W.6.6*).

Key ELA & ELD Standard(s)	Related Standards and Instructional Considerations
W.8.5 With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.	● Teachers help students plan their writing by connecting the products of their reading (e.g., annotations, discussion notes, summaries, reflections, outlines, maps, responses to questions) to the writing task. ● Students' writing receives regular, specific feedback, so students become increasingly effective at expressing arguments, information, and narratives (*W.8.8,9*). Teachers and peers provide feedback on longer assignments early in the process so that students can set goals for improvement and make revisions. Feedback is focused on effective communication and selected features that have been the subject of instruction and classroom discussion. Teachers, rather than peers, offer feedback on correctness and form during the editing process (*L.8.1-3*). ● Feedback is expressed in positive, encouraging ways to ensure motivation and enthusiasm for creating written work are maintained. Teachers engage students in evaluating their own writing and identifying progress they have made toward their own goals.
SL.8.1 Engage effectively in a range of collaborative discussions with diverse partners on grade 8 topics, texts, and issues, building on other's ideas and expressing their own clearly. **ELD.PI.8.1,3.Ex** Contribute to class, group, and partner discussions; negotiate with or persuade others in conversations using learned phrases and open responses.	● Teachers establish a climate that fosters trust, safety, equitable participation, and respect for individuals and multiple perspectives in both in-class and virtual settings. ● Teachers engage students in using a variety of discussion structures and, together with students, develop norms of effective discussion and offer feedback on discussion processes (*SL.8.1b,c; ELD.PI.8.5.Ex*). ● Students collaborate as partners and in small groups to plan their writing and oral presentations. They review one another's writing or presentation plans at key points and provide feedback about its effectiveness. Teachers offer rubrics to focus feedback on important elements. ● Teachers assess conversations for structure and language used and provide specific feedback aligned to academic language objectives.

Key ELA & ELD Standard(s)	Related Standards and Instructional Considerations
SL.8.4 Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant evidence, sound valid reasoning, and well-chosen details and nonverbal elements. **ELD.PI.8.9.Ex** Plan and deliver longer oral presentations on a variety of topics and content areas, using details and evidence to support ideas.	● Students use technology creatively (e.g., audio or video of reports, public service announcements, dramatic performances, spoken word) to present arguments, information, and narratives as individuals, partners, or small groups (*SL.8.5*). ● As students plan and deliver oral presentations, they focus on communicating their ideas effectively to their audience and adapting their speech, as appropriate, to the task (*SL.8.6*). ● Teachers provide mentor texts in the form of clips from podcasts, films, readings, or other performances to demonstrate powerful language and content, clear structure, and effective presentation techniques (*SL.8.2,5*).
L.8.1 Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. **ELD.PI.8.4.Ex** Adjust language choices according to purpose, task, and audience.	● Teachers accept and value students' language varieties and establish an environment, both online and in class, that is respectful and safe for students to experiment with language. ● Just as students set goals for improving the content and structure of their writing and oral presentations, they are guided in setting goals to improve their use of language conventions (*L.8.1-3*). ● All students continue to adapt their use of informal and formal English according to the demands of the context, task, and audience (*SL.8.6; L.8.3; ELD.PI.8.4.Ex*).

Critical Area of Instructional Focus: Content Knowledge

Key ELA & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.8.1 Cite the textual evidence that most strongly supports an analysis of what the text says explicitly as well as inferences drawn from the text. **W.8.9** Draw evidence from literary or informational texts to support analysis, reflection, and research. **SL.8.3** Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and the relevance and sufficiency of the evidence. **ELD.PI.8.6b.Ex** Express inferences and conclusions drawn based on close reading of grade-level texts and viewing of multimedia.	• Students are expected to delineate and evaluate arguments in grade eight and recognize when irrelevant evidence is introduced (*RI.8.8; SL.8.3*). English language arts teachers model and scaffold (planned and "just-in-time") these processes and provide practice as needed. Students learn that arguments and claims may be structured or expressed differently in various disciplines. They practice identifying, evaluating, and expressing arguments in various content areas (*W.8.1; SL.8.3; ELD.PI.8.6a,11a.Ex*). • Informational, as well as literary, texts that build students' knowledge are a crucial component of every grade level in English language arts. Students gain knowledge through reading in every content area, and they learn how text structures and evidence varies across disciplines. • Teachers integrate language arts and other content areas using text sets on a given topic. In departmentalized settings, teachers look for opportunities to collaborate to integrate literacy across subject areas. • Book selections are based on grade-level content standards in different content areas (e.g., science, social studies), and students' interests, and cultural experiences. • Students have access to informational text in their home languages to amplify content knowledge and support meaning making.
RL/RI.8.4 Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings. **L.8.4** Determine or clarify the meaning of unknown and multiple-meaning words and phrases. **ELD.PI.8.6c.Ex** Use knowledge of morphology, context, reference materials, and visual cues to determine the meaning of unknown and multiple-meaning words on familiar and new topics.	• Teachers help students examine vocabulary, language structures, organizational structures, and use of media in literary and informational texts for different content areas (*L.8.4-6; RL/RI.8.5,7; SL.8.2*). As students identify features unique to particular content areas and consider their impact on text meaning, they build content knowledge. They analyze these language features in increasing detail in grade eight.

Key ELA & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.8.10 By the end of the year, read and comprehend texts in the grades 6-8 text complexity band proficiently, with scaffolding as needed at the high end of the range. **ELD.PI.8.6b.Ex** Express inferences and conclusions drawn based on close reading of grade-level texts.	● All students read broadly across content areas. Teachers model and scaffold (planned and "just-in-time") as needed to help students read grade-level texts across disciplines. ● All students read widely across genres of texts in classroom and virtual settings and at home. They read to gain knowledge, to become inspired, and for pleasure. Teachers organize independent reading programs that expose students to a variety of text types and capitalize on students' interests.
W.8.1,2 Write arguments and informative/explanatory texts. **ELD.PI.8.10a.Ex** Write longer informational texts collaboratively and independently.	● All students write frequently to process information they learn through reading, viewing, and listening and to communicate their understandings and perspectives on what they have learned. As they write, students consolidate their existing and new content knowledge. ● All students use technology to collaborate with classmates and to conduct short research projects on topics of interest (*W.8.7; SL.8.5; ELD.PI.8.6b.Ex; ELD.PII.8.1.Ex*). In grade eight, students generate additional research questions that allow for multiple avenues of exploration (*W.8.7*). ● Students increase their capacity to assess the credibility of information from multiple print and digital sources and to quote and paraphrase while avoiding plagiarism (*SL.8.3*). They continue to develop their capacity to follow a standard format for citation and to use search terms effectively (*W.8.8*). Teachers and school librarians collaborate to help students use a citation format and search terms effectively.
SL.8.1 Engage effectively in a range of collaborative discussions with diverse partners on grade 8 topics, texts, and issues, building on other's ideas and expressing their own clearly. **ELD.PI.8.1.Ex** Contribute to class, group, and partner discussions.	● All students engage in extended discussions of what they have read and learned across content areas, contributing to their content knowledge. Students collaborate as partners or in small groups to conduct research and engage in other long-term projects based on their interests and areas of study (*W.8.6,7*). ● As students share their knowledge with others in formal presentations, they focus on communicating effectively with their audience and adapting their speech, as appropriate, to the task and the discipline (*SL.8.5,6*).

Critical Area of Instructional Focus: Foundational Skills

Key ELA & ELD Standard(s)	Related Standards and Instructional Considerations
RF.5.4 Read with sufficient accuracy and fluency to support comprehension.	● Ideally, students' knowledge of foundational skills is well established by the time they enter grade eight, and English language arts teachers continue to support students' developing reading fluency to aid comprehension. ● Support for students who lag significantly behind in foundational reading skills is provided strategically and effectively to allow for accelerated progress and full participation in core instruction. ● Teachers provide EL students targeted instruction in foundational literacy skills based on students' spoken English proficiency, native language proficiency, prior schooling, and assessed needs.

Class Spotlight

Modeling through think-alouds allows teachers to provide examples of the thinking behind appropriate use of sources and how to attribute those sources. To support students' effective expression, eighth-grade English teacher Tom Mitchell modeled paraphrasing for a research paper his students would be writing. As part of his modeling, he noted when he needed to reference and how he would include them. But his modeling was not limited to quotations and attributions. He also modeled his research and composing processes using a think-aloud method and recorded it for his students to view anytime. "I make these short recordings of my modeling and put them on a playlist on my learning management system," said Mr. Mitchell. "That way students can go back to these short asynchronous lessons anytime." His think aloud with a piece of text highlighted for his students how to paraphrase without plagiarizing:

> So I've figured out that I want to paraphrase [Anna] Quindlen's discussion of tolerance in "A Quilt for a Country" in my paper. But I see that I don't need a direct quotation because it would be really long and I'm sure I can make the same point in my own words. So I'm going to highlight and number the ideas she had in this paragraph and list them in my notes. But I'm also going to be careful not to write down her exact words because I'm paraphrasing.

As he lists the phrases using his document camera, he explains his reasoning for selecting each one. By including his thoughts, Mr. Mitchell is going beyond demonstration, in which cognitive processes are hidden, to a true think aloud. He also supports students' language development by highlighting how he can combine ideas into one condensed sentence. Mr. Mitchell says:

> She says that *"Tolerance is a word used most often when this kind of coexistence exists; but tolerance is a vanilla-pudding word, standing for little more than the allowance of letting others live unremarked and unmolested."* She

has three ideas here: One is that the word *tolerance* gets used more often when diverse people live in close proximity. The second is that it's too bland for her liking. The third is connected to the second. She says tolerance is just a thin disguise for giving permission and little more for someone to be. So, I'll put those three ideas together: "In Quindlen's (2001) view, the word *tolerance* is a bland and thinly disguised term that allows people to be, but little more than that."

As a follow-up to the asynchronous lesson, Mr. Mitchell selects a new paragraph and invites his students to co-construct with him a paraphrase without plagiarizing. To support the students, he offers a few guiding questions focused on meaning making. He writes the first phrase and invites students to complete the paraphrase.

Prominent ELA/ELD Themes: Effective Expression, Language Development, Meaning Making

Associated Standards: W.8.2,7,8,10; L.8.5; ELD.PI.8.7.Ex; ELD.PII.8.2a.Ex

Grades Six Through Eight: Literacy in History/Social Studies and English Language Development

In addition to the standards for English language arts, the California ELA/Literacy Standards at grades six through eight include Literacy Standards in History/Social Studies, Science, and Technical Subjects. Specifically, the Literacy Standards include the following:

- Reading Standards for Literacy in History/Social Studies
- Reading Standards for Literacy in Science and Technical Subjects
- Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects

These standards are based on the premise that instruction in reading, writing, speaking, listening, and language is a shared responsibility within a school. Just as students learn to read, write, speak, listen, and use language effectively in ELA, so too they learn the literacy skills and understandings required for college and career readiness in multiple disciplines. Literacy standards for grades six through eight are based on the expectation that teachers of ELA, history/social studies, science, and technical subjects use their expertise to help students meet the particular challenges of reading, writing, speaking, listening, and language in their respective fields. It is important to note that the Literacy Standards in History/Social Studies, Science, and Technical Subjects are not meant to replace content standards in those areas but rather to supplement them.

Standards and instructional considerations for literacy in history/social studies at grades six through eight follow. They are organized by the five crosscutting themes of the *ELA/ELD Framework*—meaning making, language development, effective expression, content knowledge, and foundational skills. For each theme, key literacy standards and

key ELD standards at the Expanding proficiency level are indicated in the left column. Related Standards and Instructional Considerations for each theme are noted in the right column. See *Identification and Organization of the Standards* at the beginning of this document for more specific information on the format and content of the standards.

In distance learning settings, teachers should carefully consider which learning experiences are given priority during synchronous instruction. Guidelines are presented in Chapter 10 and also addressed in the Overview of the Span in this chapter.

Some key standards are included in more than one theme, or critical area of instructional focus. For example, RH.6-8.10 is crucial in meaning making, language development, effective expression, and content knowledge. Thus, it is included in the first four charts that follow. In each case, the repeated standard is displayed with a pink background to make the repetition obvious. Likewise, WHST.6-8.2 appears in several charts, and so a different color (in this case, orange) is used to highlight the repetition. Presented first is a chart depicting the standards for grades six through eight at a glance followed by detailed charts for each theme.

Critical Areas of Instructional Focus: At a Glance

Theme	Key Standards	Related Standards
Meaning Making	RH.6-8.1,10; WHST.6-8.1,2,9 ELD.PI.6-8.6b,10a,11a.Ex	*RH.6-8.2-9; WHST.6-8.4,10* *ELD.PI.6-8.1,8,12.Ex; PII.6-8.1,2.Ex*
Language Development	RH.6-8.4,10; WHST.6-8.1,2 ELD.PI.6-8.6b,c.Ex; PII.6-8.2b.Ex	*ELD.PI.6-8.1,8,12a.Ex; PII.6-8.3-6.Ex*
Effective Expression	RH.6-8. 10; WHST.6-8.1,2,5 ELD.PI.6-8.6b,10.Ex	*RH.6-8.5,6; WHST.6-8.6,9,10* *PII.6-8.1-7.Ex*
Content Knowledge	RH.6-8.1,4,10; WHST.6-8.1,2,9 ELD.PI.6-8.6b,c,10a.Ex	*RH.6-8.5,7,8; WHST.6-8.6-8* *ELD.PI.6-8.1,6a,11a.Ex; PII.6-8.1.Ex*
Foundational Skills	RF.5.4	N/A

Critical Area of Instructional Focus: Meaning Making

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RH.6-8.1 Cite specific textual evidence to support analysis of primary and secondary sources. **WHST.6-8.9** Draw evidence from informational texts to support analysis, reflection, and research. **ELD.PI.6-8.6b,11a.Ex** Express inferences and conclusions drawn based on close reading of grade-level texts and viewing of multimedia; justify opinions or persuade others by providing relevant textual evidence or relevant background knowledge, with moderate support.	● Using textual evidence to support analysis is new for students beginning in grade six. History/social studies teachers model and scaffold doing so with primary and secondary sources. ● Every student regularly engages with grade-level text with scaffolds (planned and "just-in-time") provided and adjusted in accordance with the strengths and needs of the learner. ● Text-dependent questions help students comprehend text at increasing levels of depth, including determining the central idea or information in primary and secondary sources (*RH.6-8.2*), providing a summary distinct from personal opinions (*RH.6-8.2*), and analyzing key steps in a text's description of a process related to history/social studies (*RH.6-8.3*). Thoughtfully prepared questions also guide students to identify evidence in a text that reveals an author's point of view or purpose (*RH.6-8.6*), distinguish among fact, opinion, and reasoned judgement (*RH.6-8.8*), and analyze the relationship between primary and secondary sources on the same topic (*RH.6-8.9*). Teachers analyze texts to create text-dependent questions and engage students in developing their own questions based on the text. ● All students read a range of primary and secondary sources both independently and collaboratively with their peers, and they discuss these texts with their peers and teachers. Teachers occasionally read-aloud from selected passages of texts the class is studying to illustrate key points or to introduce new genres or powerful language. ● Teachers consider the purpose of the task and the EL students' proficiency levels and group them heterogeneously with Peers at more advanced levels of English proficiency for core tasks and consider homogeneous groups for identified language needs.

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RH.6-8.10 By the end of grade 8, read and comprehend history/social studies texts in the grades 6-8 text complexity band independently and proficiently. **ELD.PI.6-8.6b.Ex** Express inferences and conclusions drawn based on close reading of grade-level texts.	● Students read increasingly complex texts in the discipline daily, with special attention given to text with appropriate complexity for grades six through eight, depending upon the grade level. Volume of reading contributes to reading development. ● Teachers support students in meaning making, teaching them how to navigate unfamiliar concepts and vocabulary and complex language structures (*RH.6-8.4; ELD.PI.6-8.8,12.Ex; ELD.PII.6-8.1,2.Ex*). Teachers guide the deconstruction of complex sentences and paragraphs to deepen students' understanding of language structures, meaning making, and authors' choices. ● Teachers support students as they learn to describe how a text presents information (*RH.6-8.5*); and to integrate visual information with other information in print and digital texts (*RH.6-8.7*). ● Teachers create opportunities for all students to select some texts they read for study based on their interests to capitalize on students' increasing needs for autonomy and to build motivation. ● Students have many opportunities to discuss texts with peers in virtual and in-class settings (*ELD.PI.6-8.1.Ex*). Their engagement with others enhances their understanding of the discipline. Students prepare for discussions, drawing on the text and keeping it at the center of their conversations. They ask one another questions and demonstrate understanding of and respect for multiple perspectives. Opportunities for extended discussions are especially important for EL students.
WHST.6-8.1,2 Write arguments and informative/explanatory texts focused on discipline-specific content. **ELD.PI.6-8.10a.Ex** Write longer literary and informational texts collaboratively and independently.	● All students write about the texts they read; writing helps students consolidate their thinking and arrive at new understandings of the text. Students write personal reactions, interpretations, analyses, summaries, notes, and answers to questions about the text. ● Students focus on conveying meaning as they write and learn that the content and form of their writing varies according to their task, purpose, and audience (*WHST.6-8.4*). They write frequently and may combine argumentative, explanatory, or narrative forms according to their purpose, task, and audience (*WHST.6-8.10*).

Critical Area of Instructional Focus: Language Development

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RH.6-8.4 Determine the meaning of words and phrases as they are used in a text, including vocabulary specific to domains related to history/social studies. **ELD.PI.6-8.6c.Ex** Use knowledge of morphology, context, reference materials, and visual cues to determine the meaning of unknown and multiple-meaning words on familiar and new topics.	● Teachers support students to read complex disciplinary texts by teaching text vocabulary explicitly, providing rich and engaging, as well as repeated, experiences with new words (*RH.6-8.4*). Teachers select a limited number of words from the text that have high utility for text comprehension and use in other contexts (e.g., in several primary sources on the topic). Teachers also model strategies for independent word learning (*ELD.PI.6-8.8,12.Ex*). ● Determining connotative and technical meanings is new for students beginning in grade six. History/social studies teachers model and scaffold (planned and "just-in-time") this process with texts in the discipline (*ELD.PI.6-8.8.Ex*). ● Teachers employ strategies to develop students' word consciousness and encourage students to be curious about new words and new meanings of known words that they encounter. They also encourage students to be curious about new syntactical structures common to the discipline that they encounter in texts; teachers model their own processes for making sense of dense phrases and sentences. ● All students have regular opportunities to engage in brief and extended conversations about texts with a range of others in a range of contexts for a range of purposes. These opportunities contribute to language development and are particularly important for EL students. Teachers encourage and support students in using target words and phrases in their discussions. ● Teachers leverage all students' experiences and EL students' native language where possible (e.g., highlighting cognates) to support vocabulary development.

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RH.6-8.10 By the end of the year, read and comprehend history/social studies texts in the grades 6-8 text complexity band independently and proficiently. **ELD.PI.6-8.6b.Ex** Express inferences and conclusions drawn based on close reading of grade-level texts and viewing of multimedia using a variety of verbs.	● All students have regular opportunities to read and discuss history/social studies texts. Increasingly complex text and rich content curriculum provide opportunities to learn new words and phrases, thereby deepening students' language development. ● Teachers model how they analyze complex sentences to understand their meanings, and they engage students in similar practices. Examining these language structures in the context of the texts the class is studying is more valuable than isolated grammar practice conducted in an ELA classroom. It is helpful to all students, particularly EL students, to analyze or "unpack" complex sentences as examples of effective use of verb types and tenses, noun phrases, and adverbials to add and enrich details, and connect ideas (*ELD.PII.6-8.3-6.Ex*).
WHST.6-8.1,2 Write arguments and informative/explanatory texts. **ELD.PII.6-8.2b.Ex** Apply growing understanding of how ideas, events, or reasons are linked throughout a text using a variety of connecting words or phrases to comprehending and writing texts with increasing cohesion.	● All students in grades six through eight use words and phrases in increasingly precise ways to express their meanings in writing (*ELD.PI.6-8.12a.Ex*), and students are expected to use words and phrases to clarify relationships among claim(s) and reasons. Teachers model and scaffold (planned and "just-in-time") this process and support students as they practice.

Critical Area of Instructional Focus: Effective Expression

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RH.6-8.10 By the end of the year, read and comprehend history/social studies texts in the grades 6-8 text complexity band independently and proficiently. **ELD.PI.6-8.6b.Ex** Express inferences and conclusions drawn based on close reading of grade-level texts.	● All students read texts in the discipline regularly in virtual and in-class history/social studies settings—both independently and collaboratively. They discuss texts with one another, articulating their ideas clearly, and drawing on evidence from the text (*WHST.6-8.9*). ● Teachers establish a climate that fosters trust, safety, equitable participation, and respect for individuals and multiple perspectives in both in-class and virtual settings. ● Teachers support students to read increasingly complex text and engage students in examining passages that represent samples of effective expression. Students and their teachers work to uncover what makes passages effective or complex, considering the choice of words and grammatical elements, clarity of structure, author's point of view or purpose, effect on the reader, or other features (*RH.6-8.5-6*). ● Students use technology creatively (e.g., audio or video of reports, public service announcements, dramatic performances, spoken word) to present arguments, information, and narratives as individuals, partners, or small groups. ● Teachers provide mentor texts in the form of clips from podcasts, films, readings, or other performances to demonstrate powerful language and content, clear structure, and effective presentation techniques.

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
WHST.6-8.1 Write arguments focused on discipline-specific content. **WHST.6-8.2** Write informative/explanatory texts, including the narration of historical events. **ELD.PI.6-8.10.Ex** Write longer literary and informational texts collaboratively and independently using appropriate text organization; write increasingly concise summaries of texts and experiences using complete sentences and key words.	● All students learn that the structure and use of language in their writing varies according to the task, purpose, and audience. Teachers engage students in the analysis of a variety of mentor texts representing effective examples of text organization and language use and help students apply similar strategies to their own writing (*ELD.PII.6-8.1-7.Ex*). ● Teachers model and guide co-construction of increasingly effective text aligned to purpose and audience. ● All students organize their writing in increasingly effective ways. In grade six, students begin writing thesis statements and organize their ideas, concepts, and information using a variety of strategies. ● All students write daily in virtual and in-class settings—both independently and collaboratively (*WHST.6-8.10*). They use technology to produce and publish writing and collaborate with others (*WHST.6-8.6*). ● Teachers support students in building their metacognitive awareness of their own and others' language use in writing (and speaking). Teachers create an environment that encourages students to experiment with language without being overly concerned with correctness. ● Teachers accept and value students' language varieties and establish an environment, both online and in class, that is respectful and safe for students to experiment with language.
WHST.6-8.5 With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.	● Teachers help students plan their writing by connecting the products of their reading (e.g., annotations, discussion notes, summaries, reflections, outlines, maps, responses to questions) to the writing task. ● Students' writing receives regular, specific feedback, so students become increasingly effective at expressing arguments, information, and narratives. Teachers and peers provide feedback on longer assignments early in the process so that students can set goals for improvement and make revisions. Feedback is focused on effective communication in the discipline and selected features that have been the subject of instruction and classroom discussion. Teachers, rather than peers, offer feedback on correctness and form during the editing process. ● Feedback is expressed in positive, encouraging ways to ensure motivation and enthusiasm for creating written work are maintained. Teachers engage students in evaluating their own writing and identifying progress they have made toward their own goals.

Critical Area of Instructional Focus: Content Knowledge

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RH.6-8.1 Cite specific textual evidence to support analysis of primary and secondary sources. **WHST.6-8.9** Draw evidence from informational texts to support analysis, reflection, and research. **ELD.PI.6-8.6b.Ex** Express inferences and conclusions drawn based on close reading of grade-level texts and viewing of multimedia.	● Students distinguish among fact, opinion, and reasoned judgment in a text, and history/social studies teachers model and scaffold (planned and "just-in-time") these processes and provide practice as needed (*RH.6-8.8*). Students practice identifying, evaluating, and expressing arguments in history/social studies (*ELD.PI.6-8.6a,11a.Ex*). ● Teachers integrate language arts and history/social studies using text sets on a given topic. In departmentalized settings, teachers look for opportunities to collaborate to integrate literacy across subject areas.
RH.6-8.4 Determine the meaning of words and phrases as they are used in a text, including vocabulary specific to domains related to history/social studies. **ELD.PI.6-8.6c.Ex** Use knowledge of morphology, context, reference materials, and visual cues to determine the meaning of unknown and multiple-meaning words on familiar and new topics.	● Teachers help students examine vocabulary, language structures, organizational structures, and use of media in informational texts for history/social studies. Students identify features unique to the discipline and consider their impact on text meaning (*RH.6-8.5,7*).
RH.6-8.10 By the end of the grade 8, read and comprehend history/social studies texts in the grades 6-8 text complexity band independently and proficiently. **ELD.PI.6-8.6b.Ex** Express inferences and conclusions drawn based on close reading of grade-level texts.	● All students read broadly in the discipline. Teachers model and scaffold (planned and "just-in-time") as needed to help students read grade-level texts, including primary source documents. The use of text complements and contributes to content instruction; it does not replace inquiry and other content approaches. ● All students read widely in classroom and virtual settings and at home. They read to gain knowledge, to become inspired, and for pleasure. ● All students have frequent opportunities to discuss the content of the texts they read (ELD.PI.6-8.1.Ex); these discussions enhance students' content knowledge. ● Students have access to informational text in their home languages to amplify content knowledge and support meaning making.

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
WHST.6-8.1,2 Write arguments and informative/explanatory texts. **ELD.PI.6-8.10a.Ex** Write longer informational texts collaboratively and independently.	● All students write frequently in history/social studies to process information they learn through reading, viewing, and listening and to communicate their understandings and perspectives on what they have learned. As they write, students consolidate their existing and new content knowledge. ● All students use technology to collaborate with classmates, produce and publish writing, and gather information (*WHST.6-8.6,8*). ● All students conduct short research projects on topics of interest and to answer a question, drawing on several sources (*WHST.6-8.7; ELD.PI.6-8.6b.Ex; ELD.PII.6-8.1.Ex*). ● Students gather relevant information, using search terms effectively; assess the credibility and accuracy of each print and digital source, and they quote and paraphrase the data and conclusions of others while avoiding plagiarism (*WHST.6-8.8*). These are new expectations for students at these grades, and teachers model and scaffold (planned and "just-in-time") these processes as needed. Teachers and school librarians collaborate to help students learn to evaluate sources and understand plagiarism.

Critical Area of Instructional Focus: Foundational Skills

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RF.5.4 Read with sufficient accuracy and fluency to support comprehension.	● Ideally, students' knowledge of foundational skills is well established by the time they enter grades six through eight, and history/social studies teachers continue to support students' developing reading fluency to aid comprehension. ● Support for students who lag significantly behind in foundational reading skills is provided strategically and effectively to allow for accelerated progress and full participation in core instruction. ● Teachers provide EL students targeted instruction in foundational literacy skills based on students' spoken English proficiency, native language proficiency, prior schooling, and assessed needs.

Class Spotlight

Glen Shepard's eighth-grade social sciences students are examining issues of racism, sexism, anti-Semitism, and prejudice in colonial America. Mr. Shepard wants to deepen the students' knowledge of history and challenge their critical thinking by having them

analyze artifacts for the different perspectives they represent. He knows that this era can be obscured by a veneer of positive perceptions about the seeds of societal and cultural conflict. “I want my students to understand that the Civil War, the suffragette movement, and the progressivism of the early twentieth century can be traced back to the earliest times when Europeans came to this country.” For one lesson, he sets up breakout room “stations” for students to examine artifacts using the document analysis process developed for educators by the National Archives. Using a clear protocol for the analysis supports his students’ meaning making. In addition, Mr. Shepard carefully organizes the small groupings so that EL students are engaged with peers at more advanced levels of English proficiency and are encouraged to use their linguistic resources. Students in small groups rotate through each breakout room, where they examine a cartoon or artwork, a newspaper article or other reading, and a diary or personal recounting of the time. Some or the materials have been translated. Each breakout room focuses on a specific marginalized group: Indigenous peoples, women, non-Protestant religious groups, and free and enslaved Blacks. The students work together to analyze the source and the audience and then summarize a description of each. Next, they discuss what information they learned from the item that they did not know. Finally, they identify whose perspective was not represented in the items. After working through the four stations, the students meet as a whole group with Mr. Shepard to discuss their findings. Summarizing and discussing their findings in small groups and as a class helps the students consolidate their understandings and supports their oral and written expression. “As young historians, they are developing the tools they need to read critically, to source texts, and to corroborate texts,” said the teacher. “This is at the core of what we explore in every unit.”

Prominent Literacy/ELD Themes: Content Knowledge, Meaning Making, Effective Expression

Associated Standards: RH.6-8.1,6,7; WHST.6-8.8,10; ELD.PI.6-8.1,6b,7,10b.Ex; ELD.PII.6-8.1.Ex

Grades Six Through Eight: Literacy in Science and Technical Subjects and English Language Development

In addition to the standards for English language arts, the California ELA/Literacy Standards at grades six through eight include Literacy Standards in History/Social Studies, Science, and Technical Subjects. Specifically, the Literacy Standards include the following:

- Reading Standards for Literacy in History/Social Studies
- Reading Standards for Science and Technical Subjects
- Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects

These standards are based on the premise that instruction in reading, writing, speaking, listening, and language is a shared responsibility within a school. Just as students learn to read, write, speak, listen, and use language effectively in ELA, so too do they learn the literacy skills and understandings required for college and career readiness in multiple disciplines. Literacy standards for grades six through eight are based on the expectation that teachers of ELA, history/social studies, science, and technical subjects use their expertise to help students meet the particular challenges of reading, writing, speaking, listening, and language in their respective fields. It is important to note that the Literacy Standards in History/Social Studies, Science, and Technical Subjects are not meant to replace content standards in those areas but rather to supplement them.

Standards and instructional considerations for literacy in science and technical subjects at grades six through eight follow. They are organized by the five crosscutting themes of the *ELA/ELD Framework*—meaning making, language development, effective expression, content knowledge, and foundational skills. For each theme, key Literacy Standards and key ELD Standards at the Expanding proficiency level are indicated in the left column. Related Standards and Instructional Considerations for each theme are noted in the right column. See *Identification and Organization of the Standards* at the beginning of this document for more specific information on the format and content of the standards.

In distance learning settings, teachers should carefully consider which learning experiences are given priority during synchronous instruction. Guidelines are presented in Chapter 10 and also addressed in the Overview of the Span in this chapter.

Some key standards are included in more than one theme, or critical area of instructional focus. For example, RST.6-8.10 is crucial in meaning making, language development, effective expression, and content knowledge. Thus, it is included in the first four charts that follow. In each case, the standard is displayed with a pink background to make the repetition obvious. Likewise, WHST.6-8.2 appears in several charts, and so a different color (in this case, orange) is used to highlight the repetition. Presented first is a chart depicting the standards for grades six through eight at a glance followed by detailed charts for each theme.

Critical Areas of Instructional Focus: At a Glance

Theme	Key Standards	Related Standards
Meaning Making	RST.6-8.1,10; WHST.6-8.1,2,9 ELD.PI.6-8.6b,10a,11a.Ex	*RST.6-8.2-9; WHST.6-8.4,10* *ELD.PI.6-8.1,8,12.Ex; PII.6-8.1,2.Ex*
Language Development	RH.6-8.4,10; WHST.6-8.1,2 ELD.PI.6-8.6b,c.Ex; PII.6-8.2b.Ex	*ELD.PI.6-8.1,8,12a.Ex; PII.6-8.3-6.Ex*
Effective Expression	RH.6-8. 10; WHST.6-8.1,2,5 ELD.PI.6-8.6b,10.Ex	*RST.6-8.5,6; WHST.6-8.6,9,10* *ELD.PII.6-8.1-7.Ex*

Theme	Key Standards	Related Standards
Content Knowledge	RH.6-8.1,4,10; WHST.6-8.1,2,9 ELD.PI.6-8.6b,c,10.Ex	*RST.6-8.5,7,8; WHST.6-8.6-8* *ELD.PI.6-8.1,6a,11a.Ex; PII.6-8.1.Ex*
Foundational Skills	RF.5.4	N/A

Critical Area of Instructional Focus: Meaning Making

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RST.6-8.1 Cite specific textual evidence to support analysis of science and technical texts. **WHST.6-8.9** Draw evidence from informational texts to support analysis, reflection, and research. **ELD.PI.6-8.6b,11a.Ex** Express inferences and conclusions drawn based on close reading of grade-level texts and viewing of multimedia; justify opinions or persuade others by providing relevant textual evidence or relevant background knowledge, with moderate support.	• Using textual evidence to support analysis is new for students beginning in grade six. Science and technical subjects teachers model and scaffold (planned and "just-in-time") doing so with science and technical texts. • Every student regularly engages with grade-level text with scaffolds (planned and "just-in-time") provided and adjusted in accordance with the strengths and needs of the learner. • Text-dependent questions help students draw on the text to comprehend at increasing levels of depth, including determining the central ideas or conclusions of a text and providing a summary distinct from prior knowledge or opinions (*RST.6-8.2*). Thoughtfully prepared questions also guide students to analyze the author's purpose (*RST.6-8.6*), distinguish among facts, reasoned judgement, and speculation (*RST.6-8.8*), and compare and contrast information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic (*RST.6-8.9*). Teachers analyze texts to create text-dependent questions and engage students in developing their own questions based on the text. • All students read a range of science and technical texts both independently and collaboratively with their peers, and they discuss these texts with their peers and teachers. Teachers occasionally read-aloud from selected passages of texts the class is studying to illustrate key points or to introduce new genres or specialized language. • Teachers consider the purpose of the task and the EL students' proficiency levels and group them heterogeneously with Peers at more advanced levels of English proficiency for core tasks and consider homogeneous groups for identified language needs.

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RST.6-8.10 By the end of grade 8, read and comprehend science/technical texts in the grades 6-8 text complexity band independently and proficiently. **ELD.PI.6-8.6b.Ex** Express inferences and conclusions drawn based on close reading of grade-level texts.	● Students read and discuss increasingly complex texts in the discipline regularly, with special attention given to text with appropriate complexity for grades six through eight, depending upon the grade level. Volume of reading contributes to literacy development in the content area. ● Teachers support students in meaning making with text, teaching them how to follow precisely a multistep procedure (*RST.6-8.3*) and to navigate unfamiliar concepts, language, and symbols (*RST.6-8.4; ELD.PI.6-8.8,12.Ex; ELD.PII.6-8.1,2.Ex*). Teachers guide the deconstruction of complex sentences and paragraphs to deepen students' understanding of language structures, meaning making, and authors' choices. ● Teachers support students as they learn to analyze the structure an author uses to organize a text (*RST.6-8.5*); and to integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (*RST.6-8.7*). ● Teachers create opportunities for all students to select the texts they read for study based on their interests to capitalize on students' increasing needs for autonomy and to build motivation. ● Students have many opportunities to discuss texts with peers in virtual and in-class settings (*ELD.PI.6-8.1.Ex*). Their engagement with others enhances their understanding of the discipline. Students prepare for discussions, drawing on the text as well as other sources of information. They ask one another questions and demonstrate understanding of and respect for others' expression of growing knowledge. Opportunities for extended discussions are especially important for EL students.

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
WHST.6-8.1,2 Write arguments and informative/explanatory texts focused on discipline-specific content. **ELD.PI.6-8.10a.Ex** Write longer informational texts collaboratively and independently.	● All students write about the texts they read and the investigations in which they participate; writing helps students consolidate their thinking and arrive at new understandings of the content. Students write personal reactions, interpretations, analyses, summaries, notes, and answers to questions about the text *RH.6-8.1-3,8*; *WHST.6-8.10*). ● Students focus on conveying meaning as they write and learn that the content and form of their writing varies according to the task, purpose, and audience (*WHST.6-8.4*). They write frequently and may combine argumentative, explanatory, or narrative forms according to their purpose, task, and audience (*WHST.6-8.10*).

Critical Area of Instructional Focus: Language Development

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RST.6-8.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a scientific or technical context relevant to grades 6-8 texts and topics. **ELD.PI.6-8.6c.Ex** Use knowledge of morphology, context, reference materials, and visual cues to determine the meaning of unknown and multiple-meaning words on familiar and new topics.	● Teachers support students to read complex disciplinary texts by teaching text vocabulary explicitly, providing rich and engaging, as well as repeated, experiences with new words. Teachers select a limited number of words from the text that have high utility for text comprehension and use in other contexts (e.g., in several scientific and technical texts). Teachers also model strategies for independent word learning (*ELD.PI.6-8.8,12.Ex*). ● Determining connotative and technical meanings is new for students beginning in grade six. Science and technical subjects teachers model and scaffold (planned and "just-in-time") this process with texts in the discipline (*ELD.PI.6-8.8.Ex*). ● Teachers employ strategies to develop students' word consciousness and encourage students to be curious about new words and new meanings of known words that they encounter. They also encourage students to be curious about new syntactical structures common to the discipline that they encounter in texts; teachers model their own processes for making sense of dense phrases and sentences. ● All students have multiple opportunities to engage in brief and extended conversations about texts with a range of others in a range of contexts for a range of purposes. These opportunities contribute to language development and are particularly important for EL students. Teachers encourage and support students in using target words and phrases in their discussions. ● Teachers leverage all students' experiences and EL students' native language where possible (e.g., highlighting cognates) to support vocabulary development.

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RST.6-8.10 By the end of grade 8, read and comprehend science/technical texts in the grades 6-8 text complexity band independently and proficiently. **ELD.PI.6-8.6b.Ex** Express inferences and conclusions drawn based on close reading of grade-level texts and viewing of multimedia using a variety of verbs.	● All students have regular opportunities to read and discuss scientific and technical texts and learning experiences. Increasingly complex text and rich content curriculum provide opportunities to learn new words and phrases, thereby deepening students' language development. ● Teachers model how they analyze complex sentences to understand their meanings, and they engage students in similar practices. Examining these language structures in the context of the texts the class is studying is more valuable than isolated grammar practice. It is helpful to all students, particularly EL students, to analyze or "unpack" complex sentences as examples of effective use of verb types and tenses, noun phrases, and adverbials to add and enrich details, and connect ideas (*ELD.PII.6-8.3-6.Ex*).
WHST.6-8.1,2 Write arguments and informative/explanatory texts. **ELD.PII.6-8.2b.Ex** Apply growing understanding of how ideas, events, or reasons are linked throughout a text using a variety of connecting words or phrases to comprehending and writing texts with increasing cohesion.	● All students in grades six through eight learn to use words and phrases in increasingly precise ways to express their meanings in writing (*ELD.PI.6-8.12a.Ex*), and students are expected to use words and phrases to clarify relationships among claim(s) and reasons. Teachers model and scaffold (planned and "just-in-time") this process and support students as they practice.

Critical Area of Instructional Focus: Effective Expression

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RST.6-8.10 By the end of grade 8, read and comprehend science/technical texts in the grades 6-8 text complexity band independently and proficiently. **ELD.PI.6-8.6b.Ex** Express inferences and conclusions drawn based on close reading of grade-level texts.	● All students read texts in the discipline regularly in virtual and in-class science and technical subjects settings—both independently and collaboratively. They discuss texts with one another frequently, articulating their ideas clearly, and drawing on evidence from the text (*WHST.6-8.9*). ● Teachers establish a climate that fosters trust, safety, equitable participation, and respect for individuals and multiple perspectives in both in-class and virtual settings. ● Teachers support students to read increasingly complex text and engage students in examining passages that represent samples of effective expression. Students and their teachers work to uncover what makes passages effective or complex, considering the choice of words and grammatical elements, clarity of structure, author's purpose, or other features (*RST.6-8.5,6*). ● Students use technology creatively (e.g., audio or video of reports, public service announcements, dramatic performances, spoken word) to present arguments, information, and narratives as individuals, partners, or small groups (*WHST.6-8.6*). ● Teachers provide mentor texts in the form of clips from podcasts, films, readings, panel discussions, or other presentations to demonstrate specialized language and content, clear structure, and effective presentation techniques.

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
WHST.6-8.1 Write arguments focused on discipline-specific content. **WHST.6-8.2** Write informative/explanatory texts, including the narration of historical events. **ELD.PI.6-8.10**.Ex Write longer informational texts collaboratively and independently using appropriate text organization; write increasingly concise summaries of texts and experiences using complete sentences and key words.	● All students learn that the structure and use of language in their writing varies according to the task, purpose, and audience. Teachers engage students in the analysis of a variety of mentor texts representing effective examples of text organization and language use and help students apply similar strategies to their own writing (*ELD.PII.6-8.1-7.Ex*). ● Teachers model and guide co-construction of increasingly effective text aligned to purpose and audience. ● All students organize their writing in increasingly effective ways. Students introduce claims about a topic or issue; support claims with logical reasoning and accurate data and evidence; and provide a concluding statement that follows from and supports the argument or information (*WHST.6-8.1,2*). ● All students write regularly in virtual and in-class settings—both independently and collaboratively (*WHST.6-8.10*). They use technology to produce and publish writing and collaborate with others (*WHST.6-8.6*). ● Teachers support students in building their metacognitive awareness of their own and others' language use in writing (and speaking). Teachers create an environment that encourages students to experiment with language without being overly concerned with correctness. ● Teachers accept and value students' language varieties and establish an environment, both online and in class, that is respectful and safe for students to experiment with language.

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
WHST.6-8.5 With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.	● Teachers help students plan their writing by connecting the products of their reading (e.g., annotations, discussion notes, summaries, reflections, outlines, maps, responses to questions) to the writing task. ● Students' writing receives regular, specific feedback, so students become increasingly effective at expressing arguments, information, and narratives. Teachers and peers provide feedback on longer assignments early in the process so that students can set goals for improvement and make revisions. Feedback is focused on effective communication in the discipline and selected features that have been the subject of instruction and classroom discussion. Teachers, rather than peers, offer feedback on correctness and form during the editing process. ● Feedback is expressed in positive, encouraging ways to ensure motivation and enthusiasm for creating written work are maintained. Teachers engage students in evaluating their own writing and identifying progress they have made toward their own goals.

Critical Area of Instructional Focus: Content Knowledge

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RST.6-8.1 Cite specific textual evidence to support analysis of science and technical texts. **WHST.6-8.9** Draw evidence from informational texts to support analysis, reflection, and research. **ELD.PI.6-8.6b.Ex** Express inferences and conclusions drawn based on close reading of grade-level texts and viewing of multimedia.	● Students distinguish among facts, reasoned judgment, and speculation in a text, and science and technical subjects teachers model and scaffold (planned and "just-in-time") these processes and provide practice as needed (*RST.6-8.8*). Students practice identifying, evaluating, and expressing arguments in science and technical subjects (*ELD.PI.6-8.6a,11a.Ex*). ● Teachers integrate science/technical subjects and literacy using text sets on a given topic. In departmentalized settings, teachers look for opportunities to collaborate to integrate literacy across subject areas.

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RST.6-8.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a scientific or technical context relevant to grades 6-8 texts and topics. **ELD.PI.6-8.6c.Ex** Use knowledge of morphology, context, reference materials, and visual cues to determine the meaning of unknown and multiple-meaning words on familiar and new topics.	● Teachers help students examine vocabulary, language structures, organizational structures, and use of media in informational texts for history/social studies. Students identify features unique to the discipline, including quantitative and technical information expressed visually and consider their impact on text meaning (*RST.6-8.5,7*).
RST.6-8.10 By the end of the grade 8, read and comprehend science/technical texts in the grades 6-8 text complexity band independently and proficiently. **ELD.PI.6-8.6b.Ex** Express inferences and conclusions drawn based on close reading of grade-level texts.	● All students read broadly in the discipline. Teachers model and scaffold (planned and "just-in-time") as needed to help students read grade-level texts, including accounts of experiments and technical processes. The use of text complements and contributes to content instruction; it does not replace inquiry and other content approaches. ● All students read widely in classroom and virtual settings and at home. They read to gain knowledge, to become inspired, and for pleasure. ● All students have frequent opportunities to discuss the content of the texts they read (*ELD.PI.6-8.1.Ex*); these discussions enhance students' content knowledge. ● Students have access to informational text in their home languages to amplify content knowledge and support meaning making.

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
WHST.6-8.1,2 Write arguments and informative/explanatory texts. **ELD.PI.6-8.10a.Ex** Write longer informational texts collaboratively and independently.	● All students write frequently in science and technical subjects to process information they learn through reading, viewing, and listening and to communicate their understandings and perspectives on what they have learned. As they write, students consolidate their existing and new content knowledge. ● All students use technology to collaborate with classmates, produce and publish writing, and gather information (*WHST.6-8.6,8*). ● All students conduct short research projects on topics of interest and to answer a question, drawing on several sources (*WHST.6-8.7; ELD.PI.6-8.6b.Ex; ELD.PII.6-8.1.Ex*). ● Students gather relevant information, using search terms effectively; assess the credibility and accuracy of each print and digital source, and they quote and paraphrase the data and conclusions of others while avoiding plagiarism (*WHST.6-8.8*). These are new expectations for students at these grades, and teachers model and scaffold (planned and "just-in-time") these processes as needed. Teachers and school librarians collaborate to help students learn to locate and evaluate sources and understand plagiarism.

Critical Area of Instructional Focus: Foundational Skills

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RF.5.4 Read with sufficient accuracy and fluency to support comprehension.	● Ideally, students' knowledge of foundational skills is well established by the time they enter grades six through eight, and science and technical subjects teachers continue to support students' developing reading fluency to aid comprehension. ● Support for students who lag significantly behind in foundational reading skills is provided strategically and effectively to allow for accelerated progress and full participation in core instruction.

Class Spotlight

Valerie Sanchez's sixth-grade science students are learning about how environmental factors affect the growth of organisms. "They actually see this every day," said Ms. Sanchez. "We're here in the Central Valley and see the positive and negative effects of these factors on plant life." As part of this unit, students are viewing interactive videos that show the impact that fertilizer, light, space, and water can have on plants. Her students also deepen their content knowledge by reading informational passages from their textbook and other sources about what happens when too little or too much of

these are present. Over the course of this unit, her students build comparison charts in their digital interactive notebooks to summarize the consequences of each. “These comparison charts are more than graphic organizers. They support students’ ability to make scientific meaning from their observations and reading,” she explains. “The students must cite where they located the evidence. For example, they read several passages about the causes and effects of drought on crops. The comparison charts are organized so that they must include the source.” The teacher is able to monitor their developing comparison charts and provide feedback using the digital commenting feature. In support of effective expression, Ms. Sanchez has selected and deconstructed some informational passages online to help students understand the structure and language features of informational text. She has co-constructed with students an informational essay using a similar topic. She usually has sixth graders work in pairs to write their first informational essay. “Their culminating writing is going to be about an element of their choice,” she explains. “They’ll write an informational essay in their digital interactive notebook about the element they have selected and use evidence from the readings we’re doing to support their information.”

Prominent Literacy/ELD Themes: Content Knowledge, Meaning Making, Effective Expression

Associated Standards: RST.6-8.1,7; WHST.6-8.2,9; ELD.PI.6-8.5,6a,10a.Ex; ELD.PII.6-8.1,2b.Ex

Chapter 16: English Language Arts, Literacy, and English Language Development in High School

Overview of the Span

Navigating the highs and lows of adolescence, thoughtful and perceptive teachers help students expand their world views beyond the confines of the school and community and to see themselves as powerful actors in these settings.

The standards at this grade span represent increasingly sophisticated expectations for students. Students are prompted to think and operate at levels that result in the achievement of the College and Career Readiness Anchor Standards in Reading, Writing, Speaking and Listening, and Language by the end of grade twelve. Students' progress through the high school years involves or is reflected in many cognitive, physical, emotional, and social changes as these emerging adults contemplate their future and their place in the world around them. Adolescent brain development continues apace, and teen brains change and become more powerful every day.

Now ready to exercise their language and literacy muscles, students engage with interesting inquiries, inspirational literature, and the deep questions of humanity. They turn their developing competencies to tasks that engage with real issues of the day (and yesterday) and are motivated by teachers, settings, and tasks that challenge their own and others' thinking and that honor their emerging stances and arguments. The depth of knowledge and level of thinking reflected in the standards are commensurate with the work that students will do in postsecondary education and careers.

Content and pedagogy in the grade span include the following:

Meaning Making: Students engage in increasingly sophisticated levels of analysis and interpretation in their reading, listening, speaking, and writing. They are expected to analyze, evaluate, and address multiple authors, sources, motivations, representations, perspectives and points of view, themes and ideas, and interpretations as they read, write, speak, and listen.

Language Development: Students come to understand and analyze how the structure of language and its organization in a variety of texts differ across academic disciplines, and they need to apply and adapt language forms and features to express their own ideas and construct arguments as appropriate to purpose, audience, and a range of formal and informal academic tasks.

Effective Expression: Students become increasingly effective at expressing themselves through different genres of writing using specific rhetorical devices to support assertions. They synthesize multiple sources in their writing and synthesize comments, claims, and evidence on all sides of an issue in collaborative discussions. Students develop and deliver increasingly sophisticated presentations on complex and varied topics. They use words, phrases, clauses, and varied syntax to link major sections of text.

Content Knowledge: Literacy is an essential tool for learning in every content area and for preparing for postsecondary futures. Students wield appropriate literacy tools in all the disciplines they study. They engage with literary and informational text participating in cross-disciplinary explorations and research projects. Wide reading supports their acquisition of knowledge in ELA and other disciplines. Participation in an organized independent reading program contributes to their knowledge.

Foundational Skills: Ideally, students' knowledge of foundational skills is well established by the time they enter high school, and they access and produce printed language efficiently. However, students who for a variety of reasons have not developed proficiency in the foundational reading skills at this point need intensive instruction in these skills so that they can access grade-level content as soon as possible.

English learners continue to advance their language and thinking at these grade levels in preparation for college and careers. As they progress along the ELD continuum, they are expected to understand and use appropriate registers to express and defend nuanced opinions, consider context in adapting language choices, and address complex questions and show thoughtful consideration of ideas and arguments. They also are asked to analyze the effects of language choices made by writers and speakers and make connections and distinctions between ideas and texts based on evidence as they persuade others. As is the case for EL students at all ages, educators need to monitor progress carefully to ensure that teaching and learning experiences attend to the particular learning needs of individuals. Understanding students' varied schooling experiences and English and primary language proficiencies helps teachers and schools ensure that each EL youth receives the academic challenge and support he or she needs to pursue his or her college and career aspirations.

Synchronous and Asynchronous Instruction. Teachers should carefully consider which learning experiences are given priority during synchronous instruction. Teachers identify lessons that are best conducted synchronously when teachers can make "in-the-moment" decisions about next instructional moves based on students' performance as they engage in the lesson. For example, teachers provide real-time instruction on deconstructing complex sentences with new and challenging vocabulary or language structures. They model their thinking process and observe as students work together to understand selected passages. Teachers may also initiate a brief discussion about a text that students are reading and then organize students into breakout rooms to continue the discussion and respond to critical thinking questions. Teachers visit breakout rooms to observe and interact with students as needed to deepen their thinking. Other activities can occur effectively without the teacher available in real-time. For example, teachers might provide asynchronous activities in which students video themselves giving a book talk. Teachers may also video themselves demonstrating effective online search techniques and then ask students to conduct online research for a group project and record their notes in a shared document.

The following vignette features an interview with a high school teacher about her implementation of distance learning with her students. Discussions of standards and

instructional considerations for ELA and literacy in grades nine through twelve follow the vignette.

Voices from the Field: Kathleen Giannandrea | Orosi High School | Orosi, CA

We often hear about students who have multiple concurrent challenges—English language learning, socioeconomic disadvantages, and even social and emotional learning needs that accompany systemic poverty. English teacher Kathleen Giannandrea—who teaches in the rural southern San Joaquin Valley community of Cutler-Orosi—supports her learners in a variety of ways and ultimately focuses on how to achieve universal success.

Giannandrea is a 25-year veteran who deploys everything from technology to AVID strategies in her senior English courses at Orosi High School. Additionally, she teaches dual-enrollment college courses and serves as the AVID coordinator at both the school and district levels. Here, Giannandrea discusses her approach to instruction and the thoughtful use of technology.

How have you and your colleagues approached the implementation of distance learning?

Truth is, we have had success, as well as challenges. We are continuing to redefine expectations and examine our instruction through a larger lens of equity. As a staff, we are trying to support one another. Early on, we were trying all of the tools available. We experienced overload and both teacher and student frustration. We quickly realized that we had to focus on our top three tools and do those well.

We are a Google school and use the suite of Google Apps. We also use Pear Deck [a formative assessment platform] because of the different ways students can participate: drag and drop, multiple choice questions, draw and use visuals. And we use Edpuzzle [video-based lessons] to incorporate our own videos and outside video content, especially as a supplement for asynchronous opportunities.

Naturally, we have district expectations about the percentage of synchronous and asynchronous time. Friday has been our asynchronous day. It has been a poor attendance day, and our students have struggled during this asynchronous time. I continue to lean on AVID strategies to support them here.

In the English department, we focused our asynchronous time on things like front-loading next week's content, as well as focusing on reflections. This includes written reflections on paper, as well as digitally using Flipgrid [video-based discussion software]. I am seeing lots of asynchronous time being devoted to responding to questions—often reflective in nature—as well as synthesizing what students have learned. We realize that a lot of students are largely on their own during asynchronous times.

In what other ways are you incorporating both analog and digital tools into your instruction?

Students in their final years of high school are expected to engage in sophisticated levels of analysis as they read and synthesize multiple sources of information. I'm finding, however, that many students are struggling right now with processing and organizing key points of the reading. Notetaking can be part of the solution here. We use sketchnotes—or visual notetaking. They can choose to do them either analog or digitally. We provide both analog and digital notetaking templates for them. As an example, we use another AVID strategy known as the One-Pager. We are also still reading books that students come to school and pick up. We have group projects planned related to books they are reading in small groups.

I also use Padlet [collaborative digital presentation software] a great deal. As an example, I used it with my seniors for work on college applications. They submitted what they were working on, incorporated pictures and graphics of their work and then responded to questions that were submitted. They also gave advice to next year's students through Padlet.

How are you using technology to build the kind of critical thinking and literacy skills necessary for success in postsecondary education and the workforce?

We are building cross-disciplinary skills that prepare students for postsecondary education and the workforce. For example, we know that collaboration is important, and we have fully deployed successful Socratic Seminars on Zoom [video conferencing software]. We use Zoom breakout rooms, as well as Google Docs and Slides to maintain the shared collaboration.

We use these and other opportunities to focus on speaking and listening skills. We use the chat feature in Zoom a great deal. We have been using Google Jamboards [collaborative digital whiteboards] as well. If they cannot contribute verbally—often due to unstable internet at home—they can post a digital sticky note on a Jamboard. There are always multiple ways to participate.

Also important for postsecondary preparation is for students to refine their research skills. Therefore, we focused on investigative writing projects. We looked at bias, reliable sources, and what sources are helpful to one's research. We used this time to develop information and media literacy skills. We helped them develop research questions and discussed how to conduct quality, academic research. Students could choose their topics; they pursued what current issues and events were of interest to them.

Which features do you prioritize when seeking out, advocating for, or selecting education technology?

I have had the realization that it's not about what's comfortable or even interesting to me but rather what my students need in terms of technology. Sometimes we have to be aware that it is not about the bells and whistles.

I will continue to use Google tools because I can see my students' work in real time, which allows me to give timely feedback. This feature is critical to supporting students as they read and analyze complex text and write for a variety of purposes. I also want tools that are easy for students to use and that can be easily accessed in- and outside of class. Pear Deck works well this way, too. Tools that focus on collaborative experiences are especially valuable. Kami [an annotation and editing tool] provides this as well.

Tools that help students annotate or provide voice options are helpful. Both Pear Deck and Kami do these. I like the Mote add-on [a student feedback tool] for Google, too, as it provides verbal feedback. Students like to hear our voices. This is good for learners in so many ways. It is good for all learners, but especially English learners and learners with special needs. They appreciate reading and hearing at the same time. Hearing a good reader helps build fluency, which we continue to support as needed in this grade span.

Grades Nine and Ten: English Language Arts and English Language Development

The first year of high school is an exciting but anxious time for students. In the midst of one of the biggest transitions students make in their academic careers, they enter a new world of high school ELA and literacy in which they encounter new ideas, universal themes, and greater demands in reading, writing, speaking, and listening. Students exercise new-found independence as they grapple with more complex ideas and an increased volume of reading and writing.

Students at grades nine and ten are called on to deploy their language and literacy skills to understand, interpret, and create text in ELA and all other subjects. Text complexity increases at these grades as students read Shakespeare and other works of world literature for the first time as well as textbooks and other sources in history/social studies, biology, health, geometry, and more. The standards expect students to question more and consider the impact of authors' choices of language and text structure. For some students, this may be the first time they consider that a content area text may not represent indisputable truth or that literary text can be interrogated for its choices in presentation and ideas. The concept of the author as an imperfect individual is likely to be new. All students, and especially EL students, receive instruction designed to accelerate their progress in meeting the demands of the standards. Students learning English have ample opportunities to engage in extended discussions with peers and adults. They receive rich instruction in all content areas and a comprehensive program of ELD.

Standards and instructional considerations for grades nine and ten follow. In distance learning settings, teachers should carefully consider which learning experiences are given priority during synchronous instruction. Guidelines are presented in Chapter 10 and also addressed in the Overview of the Span in this chapter.

Some key standards are included in more than one theme, or critical area of instructional focus. For example, SL.9-10.1 is crucial in meaning making, language development, effective expression, and content knowledge. Thus, it is included in the first four charts that follow. In each case, the repeated standard is displayed with a pink background to make the repetition obvious. Likewise, RL/RI.9-10.10 appears in several charts, and so a different color (in this case, orange) is used to highlight the repetition. Presented first is a chart depicting the standards for grades nine and ten at a glance followed by detailed charts for each theme.

Critical Areas of Instructional Focus: At a Glance

Theme	Key Standards	Related Standards
Meaning Making	RL/RI.9-10.1,10; W.9-10.1-3,9; SL.9-10.1,3 ELD.PI.9-10.1,6b,10a,11a.Ex	*RL/RI.9-10.2-4,7,9; RI.9-10.8; W.9-10.4,10; SL.9-10.2,4,6; L.9-10.4-6* *ELD.PI.9-10.12.Ex; PII.9-10.1,2.Ex*
Language Development	RL/RI.9-10.4,10; W.9-10.1-3; SL.9-10.1; L.6.1e; L.9-10.4 ELD.PI.9-10.1,6b,c,7.Ex; PII.9-10.2b.Ex	*SL.9-10.6; L.9-10.1-3,5,6* *ELD.PI.9-10.8,12a.Ex; PII.9-10.3-6.Ex*
Effective Expression	RL/RI.9-10. 10; W.9-10.1-3,5; SL.9-10.1,4; L.9-10.1 ELD.PI.9-10.1,3,4,6b,9,10a,b.Ex	*RL/RI.9-10.5,6; W.9-10.6,8-10; SL.9-10.2,5,6; L.9-10.2,3* *ELD.PI.9-10.5; PII.9-10.1-7.Ex*
Content Knowledge	RL/RI.9-10.1,4,10; W.9-10.1,2,9; SL.9-10.1,3; L.9-10.4 ELD.PI.9 -10.1,6b,c,10a.Ex	*RL/RI.9-10.5,7; RI.9-10.6,8; W.9-10.6-8; SL.9-10.2,5,6; L.9-10.5,6* *ELD.PI.8.6a,11a.Ex; PII.9-10.1.Ex*
Foundational Skills	RF.5.4	N/A

Critical Area of Instructional Focus: Meaning Making

Key ELA & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.9-10.1 Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. **W.9-10.9** Draw evidence from literary or informational texts to support analysis, reflection, and research. **SL.9-10.3** Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence. **ELD.PI.9-10.6b,11a.Ex** Explain inferences and conclusions drawn from close reading of grade-appropriate texts and viewing of multimedia; justify opinions and positions or persuade others by making connections between ideas and articulating relevant textual evidence or background knowledge.	● English language arts students in grades nine and ten are expected to conduct increasingly sophisticated analyses of the works they read and view. Students now delineate and evaluate arguments and specific claims, determine whether reasoning is valid, and identify false statements and fallacious reasoning (*RI.9-10.8; SL.9-10.3*). Students analyze the development of a central idea over the course of a text and how it is shaped by specific details (*RL/RI.9-10.2*)*;* how complex characters develop and advance the plot or theme (*RL.9-10.3*)*;* how an author unfolds an analysis or series of ideas or events (*RI.9-10.3*)*;* how an author draws on and transforms source material (e.g., Shakespeare, Ovid) (*RL.9-10.9*)*;* and seminal U.S. documents of historical and literary significance (*RI.9-10.9*). To support meaning making, English language arts teachers model and scaffold (planned and "just-in-time") these complex processes with a range of text genres and disciplines. They look for opportunities to collaborate with librarians and teachers in other disciplines, particularly history-social studies. ● Every student regularly engages with grade-level text with scaffolds (planned and "just-in-time") provided and adjusted in accordance with the strengths and needs of the learner. ● Text-dependent questions help students grapple with and investigate text at increasing levels of complexity. Thoughtfully prepared questions guide students to identify evidence in a text that reveals an author's point of view or purpose and how an author uses rhetoric to advance that point of view or purpose (*RI.9-10.6*). Teachers and students analyze texts to create text-dependent questions that engage students' motivations to read texts closely and that challenge and honor students' thinking. Questions aimed solely at accountability for reading are minimized. ● All students read a range of literary and informational texts both independently and collaboratively with their peers, and they discuss these texts with their peers and teachers. These include assigned texts and self-selected texts intended for in-depth study as well as independent reading texts designed to build reading enjoyment. Teachers confer with students individually or in small groups about their reading, and students share their reading with peers through book talks and other activities. ● Teachers occasionally read-aloud for specific, limited purposes. They read from selected passages of texts the class is studying to illustrate key points or to introduce new genres or beautiful language.

Key ELA & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.9-10.10 By the end of the year, read and comprehend texts in the grades 9-10 text complexity band proficiently, with scaffolding as needed at the high end of the range. **ELD.PI.9-10.6b.Ex** Explain inferences and conclusions drawn from close reading of grade-appropriate texts.	● Students read and discuss increasingly complex texts of different types daily, with special attention given to books with appropriate complexity for grades nine and ten. Volume of reading is critical in building reading stamina, interest, and engagement. Teachers and librarians recommend books based on students' current and potential interests. ● Teachers support students in meaning making, teaching them how to navigate unfamiliar concepts and vocabulary and complex language structures (*RL/RI.9-10.4; L.9-10.4-6; ELD.PI.9-10.12.Ex; ELD.PII.9-10.1-2.Ex*). They guide the deconstruction of selected sentences and paragraphs to deepen students' understanding of language structures, meaning making, and authors' choices. ● Teachers support students as they learn to analyze representations, scenes, or accounts in different mediums while considering emphases and omissions (*RL/RI.9-10.7; SL.9-10.2*). ● Teachers create opportunities for all students to select the texts they read for study and enjoyment to capitalize on students' increasing interest in novelty, exploration, and independence. Teachers and librarians acquire and recommend books that reflect the lives and languages of students—books that speak to the personal struggles and triumphs of all humanity.
W.9-10.1-3 Write arguments, informative/explanatory texts, and narratives. **ELD.PI.9-10.10a.Ex** Write longer literary and informational texts collaboratively and independently.	● All students write about the texts they read and view; writing helps students express, refine, and consolidate their understandings of new concepts and complex texts. Students use writing to capture specific text details and their reactions, interpretations, analyses, summaries, notes, outlines, and answers to questions about the text (*RL/RI.9-10.1-3; RI.9-10.8; W.9-10.10*). ● Students become more skilled in conveying meaning by varying their writing according to their task, purpose, and audience (*W.9-10.4*). They write frequently and often combine argumentative, explanatory, or narrative forms according to their purpose, task, and audience (*W.9-10.10*).

Key ELA & ELD Standard(s)	Related Standards and Instructional Considerations
SL.9-10.1 Initiate and participate effectively in a range of collaborative discussions with diverse partners on grades 9-10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. **ELD.PI.9-10.1.Ex** Contribute to class, group, and partner discussions.	● Discussions are increasingly sophisticated in grades nine and ten, and students' engagement with others enhances their understanding of complex ideas. Students now draw on textual or research evidence from their preparation to stimulate a thoughtful, well-reasoned exchange of ideas (*SL.9-10.1a; RL/RI.9-10.9*). Students actively incorporate others in the discussion; respond thoughtfully to diverse perspectives; summarize points of agreement or disagreement; clarify, verify, or challenge ideas and conclusions; and, when warranted, qualify or justify their views in light of evidence and reasoning presented (*SL.9-10.1c,d*). ● Teachers create opportunities for students to work in pairs and small groups to engage in discussions in virtual and in-class settings. Students participate in both informally and formally structured discussions. Teachers consider the purpose of the task and the EL students' proficiency levels and group them heterogeneously with Peers at more advanced levels of English proficiency for core tasks and consider homogeneous groups for identified language needs. ● Students adapt their speech in discussions and presentations as needed to accomplish their purposes and convey meaning to their audience; they use formal English as appropriate to the task (*SL.9-10.4,6*).

Critical Area of Instructional Focus: Language Development

Key ELA & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.9-10.4 Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings. **L.9-10.4** Determine or clarify the meaning of unknown and multiple-meaning words. **ELD.PI.9-10.6c.Ex** Use knowledge of morphology, context, reference materials, and visual cues to determine the meaning of unknown and multiple-meaning words on familiar and new topics.	● Students continue to develop their understanding of figurative, connotative, and technical meanings of words and phrases in English language arts in grades nine and ten, now considering the cumulative impact of the choices of words and phrases in literary and informational texts (*ELD.PI.9-10.8.Ex*). English language arts teachers model and scaffold (planned and "just-in-time") this process with a range of text types and topics. ● Teachers employ strategies to develop students' word consciousness and encourage students to be curious about new words and new meanings of known words that they encounter. They also encourage students to be curious about and analyze new grammatical and syntactical structures that they encounter in texts; teachers model their own processes for making sense of dense phrases and sentences (*L.9-10.4-6*). ● Teachers leverage all students' experiences and EL students' native language where possible (e.g., highlighting cognates) to support vocabulary development.
RL/RI.9-10.10 By the end of the year, read and comprehend texts in the grades 9-10 text complexity band proficiently, with scaffolding as needed at the high end of the range. **ELD.PI.9-10.6b.Ex** Explain inferences and conclusions drawn from close reading of grade-appropriate texts and viewing of multimedia using an increasing variety of verbs and adverbials.	● Teachers support students to read complex texts by teaching text vocabulary explicitly, providing rich and engaging, as well as repeated, experiences with new words (*L.9-10.4-6*). Teachers select a limited number of words from the text that have high utility for text comprehension and use in other contexts. Teachers also model and encourage students to use strategies for independent word learning (*ELD.PI.9-10.6c,8.Ex*).
W.9-10.1-3 Write arguments, informative/explanatory texts, and narratives. **ELD.PII.9-10.2b.Ex** Apply knowledge of familiar language resources for linking ideas, events, or reasons throughout a text to comprehending texts and to writing increasingly cohesive texts for specific purposes and audiences.	● All students in grades nine and ten learn to use words, phrases, and clauses in increasingly powerful ways in their writing, including linking major sections of the text; clarifying complex relationships between claims, evidence, and counterclaims; and conveying a vivid picture of experiences, events, settings, or characters (*W.9-10.1c,2c-d,3d; ELD.PI.9-10.12a.Ex*). Teachers model and scaffold (planned and "just-in-time") these processes and provide appropriate feedback as they practice.

Key ELA & ELD Standard(s)	Related Standards and Instructional Considerations
SL.9-10.1 Initiate and participate effectively in a range of collaborative discussions with diverse partners on grades 9-10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. **ELD.PI.9-10.1.Ex** Contribute to class, group, and partner discussions.	● All students have regular opportunities to engage in brief and extended conversations with a range of others in a range of contexts for a range of purposes. These opportunities contribute to language development and are particularly important for EL students. Teachers encourage and support students to use target words and phrases in their discussions. ● Students distinguish between formal and informal discourse and use formal English as appropriate to the task (*SL.9-10.6*).
L.6.1e Recognize variations from standard English in their own and others' writing and speaking and identify and use strategies to improve expression in conventional language. (Grade 6 standard provided intentionally.) **ELD.PI.9-10.7** Explain how successfully writers and speakers structure texts and use language to persuade the reader or create other specific effects, with moderate support.	● Teachers support students to build their metacognitive awareness of their own and others' language use in speaking and writing. Teachers create an environment that encourages students to experiment with language without being overly concerned with correctness. Teachers do focus students' attention on correctness during the editing process. Teachers help students understand the impact of using powerful language correctly in formal settings, both on their audience and on their identities as writers and speakers. ● Teachers model how they analyze complex sentences to understand their meanings, and they engage students in similar practices. Examining these language structures in the context of the texts the class is studying is more valuable than isolated grammar practice. It is helpful to all students, particularly EL students, to analyze or "unpack" complex sentences as examples of effective use of verb types and tenses, noun phrases, and adverbials to add and enrich details, and connect ideas (*L.9-10.1-3; ELD.PII.9-10.3-6.Ex*).

Critical Area of Instructional Focus: Effective Expression

Key ELA & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.9-10.10 By the end of the year, read and comprehend texts in the grades 9-10 text complexity band proficiently, with scaffolding as needed at the high end of the range. **ELD.PI.9-10.6b.Ex** Explain inferences and conclusions drawn from close reading of grade-appropriate texts.	● All students read daily in virtual and in-class English language arts settings—both independently and collaboratively. ● Teachers support students to read increasingly complex text and engage students in examining passages that represent samples of effective expression. Students and their teachers work to uncover what makes passages effective or complex and, for the first time, consider rhetorical effects. ● Students analyze how an author has structured a text for particular effects (*RL/RI.9-10.5*) or has used rhetoric to advance a point of view or purpose (*RI.9-10.6*). Students also consider a particular point of view or cultural experience when analyzing a work of literature from outside the U.S. (*RL.9-10.6*).

Key ELA & ELD Standard(s)	Related Standards and Instructional Considerations
W.9-10.1 Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence. **W.9-10.2** Write informative/explanatory texts to examine a topic and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content. **W.9-10.3** Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences. **ELD.PI.9-10.10.Ex** Write longer literary and informational texts collaboratively and independently by using appropriate text organization and growing understanding of register; write increasingly concise summaries of texts and experiences by using complete sentences and key words.	● All students increase their capacities to structure their writing and use language to effectively address their task, purpose, and audience. Students at grades nine and ten are expected to analyze substantive topics or texts and convey complex ideas, concepts, and information effectively in their writing. Teachers engage students in the analysis of a variety of mentor texts representing effective examples of text organization and language use and help students apply similar strategies to their own writing (*ELD.PII.9-10.1-7.Ex*). ● In grades nine and ten, expectations are both more advanced and more nuanced. Students are expected to analyze *substantive* topics or texts, introduce *precise* claims, develop claims and counterclaims *fairly*, and point out strengths and limitations in a way that *anticipates* the audience's knowledge level and concerns (*W.9-10.1a,b*). Teachers again use mentor texts and modeling to help students understand and practice these distinctions. ● Teachers model and guide co-construction of increasingly effective text aligned to purpose and audience to build stronger coherence in writing. ● All students write daily in virtual and in-class settings—both independently and collaboratively (*W.9-10.10*). ● All students use technology to produce and publish writing and collaborate with others. In grades nine and ten, they are expected to use technology to display information flexibly and dynamically and link it to other information (*W.9-10.6*).

Key ELA & ELD Standard(s)	Related Standards and Instructional Considerations
W.9-10.5 Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.	● Teachers help students plan their writing by connecting the products of their reading (e.g., annotations, discussion notes, summaries, reflections, outlines, maps, responses to questions) to the writing task. ● Students' writing receives regular, specific feedback, so students become increasingly effective at expressing arguments, information, and narratives (*W.9-10.8,9*). Teachers and peers provide feedback on longer assignments early in the process so that students can set goals for improvement and make revisions. Feedback is focused on effective communication and selected features that have been the subject of instruction and classroom discussion. Teachers, rather than peers, offer feedback on correctness and form during the editing process (*L.9-10.1-3*). ● Feedback is expressed in positive, encouraging ways that honor students' efforts and acknowledge their progress. Teachers model and provide structures for constructive peer feedback, including opportunities for students to respond to the feedback they receive. Students regularly evaluate their own writing and identify progress they have made toward their own goals.
SL.9-10.1 Initiate and participate effectively in a range of collaborative discussions with diverse partners on grades 9-10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. **ELD.PI.9-10.1,3.Ex** Contribute to class, group, and partner discussions; negotiate with or persuade others in conversations using a growing number of learned phrases and open responses to express and defend nuanced opinions.	● Teachers establish a climate that fosters trust, safety, equitable participation, and respect for individuals and multiple perspectives in both in-class and virtual settings. ● Teachers engage students in using a variety of discussion structures and, together with students, develop norms of effective discussion. Teachers and students offer feedback on discussion processes and set goals for improving them (*SL.9-10.1b-c; ELD.PI.9-10.5.Ex*). ● Students collaborate as partners and in small groups to plan their writing and oral presentations. They review one another's writing or presentation plans at key points and provide feedback about its effectiveness. Teachers offer rubrics to focus feedback on important elements. ● Teachers assess conversations for structure and language used and provide specific feedback aligned to academic language objectives.

Key ELA & ELD Standard(s)	Related Standards and Instructional Considerations
SL.9-10.4 Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task. **ELD.PI.9-10.9.Ex** Plan and deliver a variety of oral presentations and reports on grade-appropriate topics that present evidence and facts to support ideas by using growing understanding of register.	● Students use technology creatively (e.g., audio or video of reports, public service announcements, dramatic performances, spoken word) to present arguments, information, and narratives as individuals, partners, or small groups (*SL.9-10.5*). ● As students plan and deliver oral presentations, they focus on communicating their ideas effectively to their audience and adapting their speech, as appropriate, to the task (*SL.9-10.6*). ● Teachers provide mentor texts in the form of clips from podcasts, films, readings, or other performances to demonstrate powerful language and content, clear structure, and effective presentation techniques (*SL.9-10.2,5*).
L.9-10.1 Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. **ELD.PI.9-10.4.Ex** Adjust language choices according to the context, purpose, task, and audience.	● Teachers accept and value students' language varieties and establish an environment, both online and in class, that is respectful and safe for students to experiment with language. ● Just as students set goals for improving the content and structure of their writing and oral presentations, they are guided in setting goals to improve their use of language conventions (*L.9-10.1-3*). ● All students continue to adapt their use of informal and formal English according to the demands of the context, task, and audience (*SL.9-10.6*).

Critical Area of Instructional Focus: Content Knowledge

Key ELA & ELD Standard(s)	Related Standards and Instructional Considerations
RI.9-10.1 Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. **W.9-10.9** Draw evidence from literary or informational texts to support analysis, reflection, and research. **SL.9-10.3** Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence. **ELD.PI.9-10.6b.Ex** Explain inferences and conclusions drawn from close reading of grade-appropriate texts and viewing of multimedia.	• Students in grades nine and ten are expected to conduct increasingly sophisticated analyses of the works they read and view in English language arts, delineating and evaluating arguments and specific claims, determining whether reasoning is valid, and identifying false statements and fallacious reasoning (*RI.9-10.8; SL.9-10.3*). Students now consider the rhetoric of written and spoken texts (*RI.9-10.6; SL.9-10.3*), and they understand more deeply how arguments and claims can be structured or expressed differently in various disciplines and genres (*W.9-10.1; SL.9-10.3; ELD.PI.9-10.6a,11a.Ex*). English language arts teachers model and scaffold (planned and "just-in-time") these processes and provide practice as needed. • Informational, as well as literary, texts are a crucial component of every grade level in English language arts—particularly in high school. Students read nonfiction and fiction texts to build knowledge, experience multiple perspectives, and gain fresh insights. Text selections are based on grade-level standards in different content areas (e.g., English language arts, science, social studies) and students' interests and cultural experiences. • Informational and literary texts are read in combination in text sets and on their own. Students learn how text structures and evidence vary across genres and subgenres. Teachers look for opportunities to collaborate with librarians and teachers in other departments to integrate literacy across subject areas.
RI.9-10.4 Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings. **ELD.PI.9-10.6c.Ex** Use knowledge of morphology, context, reference materials, and visual cues to determine the meaning of unknown and multiple-meaning words on familiar and new topics.	• Teachers help students examine vocabulary, language structures, organizational structures, and use of media in literary and informational texts of different genres and disciplines (*L.9-10.4-6; RL/RI.9-10.5,7; SL.9-10.2*). Students expand their content knowledge as they attend to the language features unique to these genres and disciplines.

Key ELA & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.9-10.10 By the end of the year, read and comprehend texts in the grades 9-10 text complexity band proficiently, with scaffolding as needed at the high end of the range. **ELD.PI.9-10.6b.Ex** Explain inferences and conclusions drawn from close reading of grade-appropriate texts.	● All students read broadly across text genres and disciplines in classroom and virtual settings and at home. They read to gain knowledge, to become inspired, and for pleasure. Teachers organize independent reading programs that expose students to a variety of text types and capitalize on students' interests. ● Students have access to informational text in their home languages to amplify content knowledge and support meaning making.
W.9-10.1,2 Write arguments and informative/explanatory texts. **ELD.PI.9-10.10a.Ex** Write longer informational texts collaboratively and independently.	● All students write frequently to process information they learn through reading, viewing, and listening and to communicate their understandings and perspectives on what they have learned. As they write, students consolidate their existing and new content knowledge. ● All students use technology to collaborate with classmates and to conduct short as well as more sustained research projects to answer a question or solve a problem (*W.9-10.7; SL.9-10.5; ELD.PI.9-10.6b.Ex; ELD.PII.9-10.1.Ex*). In grades nine and ten, students narrow or broaden the inquiry when appropriate and synthesize multiple sources on the topic (*W.9-10.7*). ● Students now gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively. They integrate information into their text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation, including footnotes and endnotes (*W.9-10.8; SL.9-10.3*). Teachers and school librarians collaborate to help students use a standard citation format and advanced search terms effectively.
SL.9-10.1 Initiate and participate effectively in a range of collaborative discussions with diverse partners on grades 9-10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. **ELD.PI.9-10.1.Ex** Contribute to class, group, and partner discussions.	● All students engage in discussions of what they have read and learned across genres and disciplines, contributing to their content knowledge. Students collaborate as partners or in small groups to conduct research and engage in other long-term projects based on their interests and areas of study (*W.9-10.6,7; SL.9-10.5*). ● As students share their knowledge with others in formal presentations, they focus on communicating effectively with their audience and adapting their speech, as appropriate, to the task and the discipline (*SL.9-10.5,6*).

Critical Area of Instructional Focus: Foundational Skills

Key ELA & ELD Standard(s)	Related Standards and Instructional Considerations
RF.5.4 Read with sufficient accuracy and fluency to support comprehension.	● Ideally, students' knowledge of foundational skills is well established by the time they enter grades nine and ten, and English language arts teachers continue to support students' reading fluency to aid comprehension. ● Support for students who lag significantly behind in foundational reading skills is provided strategically and effectively to allow for accelerated progress and full participation in core instruction. ● Teachers provide EL students targeted instruction in foundational literacy skills based on students' spoken English proficiency, native language proficiency, prior schooling, and assessed needs.

Class Spotlight

Arletta Raymond's tenth-grade English students are reading *The Curious Incident of the Dog in the Night-time* (Haddon, 2004), the story of Christopher, a neurodivergent teenager who is investigating the violent death of a neighbor's dog. Told in the first-person, the protagonist uses logic and reasoning to find the answer. The reader also perceives social challenges and ambiguities that the protagonist does not. "It's a challenge for students to understand the character development of Christopher, when at times he is unaware himself," said Ms. Raymond. "It's a great opportunity for them to learn about the internal life of a character." To support students' meaning making at the start of the novel, Ms. Raymond and her class created a bank of character traits they assigned to Christopher, and the teacher created a digital word cloud to describe him. She posted this on their learning management system's discussion board for future reference. Each period's word clouds varied somewhat, but many of the descriptions were consistent throughout. They soon added word clouds for other major characters. As the novel developed, Ms. Raymond had students analyze for direct and indirect characterizations. "That's a strength of this work, because virtually all of them are indirect," she said. Students referred back to their initial word cloud to see which traits remained constant, and which ones were changing. In addition to aiding character analysis, the activity also supported students' language development.

To sustain the productive engagement with the text of EL students and others who have reading difficulties, Ms. Raymond modeled the use of a set of clarifying bookmarks. In addition, she had EL students track language features (word choice, phrases, and clauses) used to describe character traits and explain their meaning. Students had choices for submitting their chapter analyses, which included dramatic structure, emerging themes, changes in the character, and evidence. Students expressed these analyses in writing and orally; some wrote their analyses using the class discussion board, while others submitted short video recordings of their responses. The video response choice quickly became the more popular option, and Ms. Raymond strengthened it by adding peer responses to the assignment. "These became more

conversational as time went on," said the teacher. Further supporting students' effective expression, Ms. Raymond strategically organized heterogeneous breakout groups so that students could engage in sustained conversations of their emerging ideas about Christopher using evidence from the text. By the end of the novel, students saw that Christopher had become more independent and confident in himself, a struggle these adolescents could relate to their own lives. "Their comparisons of Christopher's evolution as a person across the course of the novel mirrored many of their own experiences."

Prominent ELA/ELD Themes: Meaning Making, Language Development, Effective Expression

Associated Standards: RL.9-10.1,3,10; W.9-10.10; SL.9-10.4,5; ELD.PI.9-10.1,2,6b,8,9;10b.Ex; ELD.PII.9-10.1.Ex

Grades Nine and Ten: Literacy in History/Social Studies and English Language Development

In addition to the standards for English language arts, the California ELA/Literacy Standards at grades nine and ten include Literacy Standards in History/Social Studies, Science, and Technical Subjects. Specifically, the Literacy Standards include the following:

- Reading Standards for Literacy in History/Social Studies
- Reading Standards for Science and Technical Subjects
- Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects

These standards are founded on the premise that instruction in reading, writing, speaking, listening, and language is a shared responsibility within a school. Just as students learn to read, write, speak, listen, and use language effectively in ELA, so too do they learn the literacy skills and understandings required for college and career readiness in multiple disciplines. Literacy standards for grades nine and ten are based on the expectation that teachers of ELA, history/social studies, science, and technical subjects use their expertise to help students meet the particular challenges of reading, writing, speaking, listening, and language in their respective fields. It is important to note that the Literacy Standards in History/Social Studies, Science, and Technical Subjects are not meant to replace content standards in those areas but rather to supplement them.

Standards and instructional considerations for literacy in history/social studies at grades nine and ten follow. They are organized by the five crosscutting themes of the *ELA/ELD Framework*—meaning making, language development, effective expression, content knowledge, and foundational skills. For each theme, key Literacy Standards and key ELD Standards at the Expanding proficiency level are indicated in the left column. Related Standards and Instructional Considerations for each theme are noted in the right column. See *Identification and Organization of the Standards* at the beginning of this document for more specific information on the format and content of the standards.

In distance learning settings, teachers should carefully consider which learning experiences are given priority during synchronous instruction. Guidelines are presented in Chapter 10 and also addressed in the Overview of the Span in this chapter.

Some key standards are included in more than one theme, or critical area of instructional focus. For example, RH.9-10.10 is crucial in meaning making, language development, effective expression, and content knowledge. Thus, it is included in the first four charts that follow. In each case, the repeated standard is displayed with a pink background to make the repetition obvious. Likewise, WHST.9-10.2 appears in several charts, and so a different color (in this case, orange) is used to highlight the repetition. Presented first is a

chart depicting the standards for grades nine and ten at a glance followed by detailed charts for each theme.

Critical Areas of Instructional Focus: At a Glance

Theme	Key Standards	Related Standards
Meaning Making	RH.9-10.1,10; WHST.9-10.1,2,9 ELD.PI.9-10.6b,10a,11a.Ex	*RH.9-10.2-9; WHST.9-10.4,10* *ELD.PI.9-10.1,8,12.Ex; PII.9-10.1,2.Ex*
Language Development	RH.9-10.4,10; WHST.9-10.1,2 ELD.PI.9-10.6b,c.Ex; PII.9-10.2b.Ex	*ELD.PI.9-10.1,8,12a.Ex; PII.9-10.3-6.Ex*
Effective Expression	RH.9-10. 10; WHST.9-10.1,2,5 ELD.PI.9-10.6b,10.Ex	*RH.9-10.5,6; WHST.9-10.6,9,10* *PII.9-10.1-7.Ex*
Content Knowledge	RH.9-10.1,4,10; WHST.9-10.1,2,9 ELD.PI.9-10.6b,c,10a.Ex	*RH.9-10.5,7,8; WHST.9-10.6-8* *ELD.PI.9-10.1,6a,11a.Ex; PII.9-10.1.Ex*
Foundational Skills	RF.5.4	N/A

Critical Area of Instructional Focus: Meaning Making

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RH.9-10.1 Cite specific textual evidence to support analysis of primary and secondary sources, attending to such features as the date and origin of the information. **WHST.9-10.9** Draw evidence from informational texts to support analysis, reflection, and research. **ELD.PI.9-10.6b,11a.Ex** Explain inferences and conclusions drawn from close reading of grade-appropriate texts and viewing of multimedia; justify opinions and positions or persuade others by making connections between ideas and articulating relevant textual evidence or background knowledge.	● History/social studies students in grades nine and ten are expected to conduct increasingly sophisticated analyses of the primary and secondary sources they read and view. Students now assess the extent to which the reasoning and evidence in a text support the author's claims (*RH.9-10.8*). Students analyze and summarize the development of key events or ideas over the course of a text (*RH.9-10.2*); determine whether earlier events caused later ones or simply preceded them (*RH.9-10.3*); and compare and contrast treatments of the same topic in several primary and secondary sources (*RH.9-10.9*). To support meaning making, history/social studies teachers model and scaffold (planned and "just-in-time") these complex processes with a range of sources. They look for opportunities to collaborate with librarians and English language arts teachers. ● Every student regularly engages with grade-level text with scaffolds (planned and "just-in-time") provided and adjusted in accordance with the strengths and needs of the learner. ● Text-dependent questions help students grapple with and investigate text at increasing levels of complexity. Thoughtfully prepared questions guide students to identify evidence that reveals authors' points of view and allows them to compare authors' treatments of similar topics (*RH.9-10.6*). Teachers and students analyze texts to create text-dependent questions that engage students' motivations to read texts closely and that challenge and honor students' thinking. Questions aimed solely at accountability for reading are minimized. ● All students read a range of primary and secondary sources both independently and collaboratively with their peers, and they discuss these texts with their peers and teachers. Teachers occasionally read-aloud from selected passages of texts the class is studying to illustrate key points or to introduce new genres or powerful language. ● Teachers consider the purpose of the task and the EL students' proficiency levels and group them heterogeneously with Peers at more advanced levels of English proficiency for core tasks and consider homogeneous groups for identified language needs.

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RH.9-10.10 By the end of grade 10, read and comprehend history/social studies texts in the grades 9-10 text complexity band independently and proficiently. **ELD.PI.9-10.6b.Ex** Explain inferences and conclusions drawn from close reading of grade-appropriate texts and viewing of multimedia.	● Students read and discuss increasingly complex texts in the discipline regularly, with special attention given to text with appropriate complexity for grades nine and ten. Volume of reading is critical in building reading stamina, interest, and engagement. ● Teachers support students in meaning making, teaching them how to navigate unfamiliar concepts and vocabulary and complex language structures (*RH.9-10.4; ELD.PI.9-10.12.Ex; ELD.PII.9-10.1,2.Ex*). Teachers guide the deconstruction of complex sentences and paragraphs to deepen students' understanding of language structures, meaning making, and authors' choices. ● Teachers support students as they learn to analyze how a text is structured to emphasize key points or advance an explanation or analysis (*RH.9-10.5*); and to integrate quantitative or technical analysis with qualitative analysis in print or digital text (*RH.9-10.7*). ● Teachers create opportunities for all students to select the texts they read for study to capitalize on students' increasing interest in novelty, exploration, and independence. Teachers and librarians acquire and recommend texts that reflect the lives and languages of students—texts that speak to the personal struggles and triumphs of all humanity. ● Students have many opportunities to discuss texts with peers in virtual and in-class settings (*ELD.PI.9-10.1.Ex*). Their engagement with others enhances their understanding of the discipline. Students prepare for discussions, drawing on the textual or research evidence to stimulate a well-reasoned exchange of ideas. They actively incorporate others in the discussion and respond thoughtfully to diverse perspectives. Opportunities for extended discussions are especially important for EL students.

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
WHST.9-10.1,2 Write arguments and informative/explanatory texts focused on discipline-specific content, including the narration of historical events. **ELD.PI.9-10.10a.Ex** Write longer informational texts collaboratively and independently.	● All students write about the texts they read; writing helps students express, refine, and consolidate their understandings of new concepts and complex texts. Students use writing to capture specific text details and their reactions, interpretations, analyses, summaries, notes, outlines, and answers to questions about the text (*RH.9-10.1-3,8; WHST.9-10.10*). ● As they write, students convey meaning by varying their writing according to their task, purpose, and audience (*WHST.9-10.4*). They write frequently and may combine argumentative, explanatory, or narrative forms according to their purpose, task, and audience (*WHST.9-10.10*).

Critical Area of Instructional Focus: Language Development

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RH.9-10.4 Determine the meaning of words and phrases as they are used in a text, including vocabulary describing political, social, or economic aspects of history/social studies. **ELD.PI.9-10.6c.Ex** Use knowledge of morphology, context, reference materials, and visual cues to determine the meaning of unknown and multiple-meaning words on familiar and new topics.	● Teachers support students to read complex disciplinary texts by teaching text vocabulary explicitly, providing rich and engaging, as well as repeated, experiences with new words (ELD.PI.9-10.8,12.Ex). Teachers select a limited number of words from the text that have high utility for text comprehension and use in other contexts (e.g., in several primary sources on the topic). Teachers also model strategies for independent word learning. ● Students continue to develop their understanding of figurative, connotative, and technical meanings of words and phrases in grades nine and ten. History/social studies teachers model and scaffold (planned and "just-in-time") this process with texts in the discipline (*ELD.PI.9-10.8.Ex*). ● Teachers employ strategies to develop students' word consciousness and encourage students to be curious about new words and new meanings of known words that they encounter. They also encourage students to be curious about new syntactical structures common to the discipline that they encounter in texts; teachers model their own processes for making sense of dense phrases and sentences. ● All students have regular opportunities to engage in brief and extended conversations about texts with a range of others in a range of contexts for a range of purposes. These opportunities contribute to language development and are particularly important for EL students (*ELD.PI.9-10.1.Ex*). Teachers encourage and support students in using target words and phrases in their discussions. ● Teachers leverage all students' experiences and ELs' native language where possible (e.g., highlighting cognates) to support vocabulary development.

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RH.9-10.10 By the end of grade 10, read and comprehend history/social studies texts in the grades 9-10 text complexity band independently and proficiently. **ELD.PI.9-10.6b.Ex** Explain inferences and conclusions drawn from close reading of grade-appropriate texts and viewing multimedia using an increasing variety of verbs and adverbials.	● All students have regular opportunities to read and discuss history/social studies texts. Increasingly complex text and rich content curriculum provide opportunities to learn new words and phrases, thereby deepening students' language development. ● Teachers model how they analyze complex sentences to understand their meanings, and they engage students in similar practices. Examining these language structures in the context of the texts the class is studying is more valuable than isolated grammar practice. It is helpful to all students, particularly EL students, to analyze or "unpack" complex sentences as examples of effective use of verb types and tenses, noun phrases, and adverbials to add and enrich details, and connect ideas (*ELD.PII.9-10.3-6.Ex*).
WHST.9-10.1-2 Write arguments and informative/explanatory texts. **ELD.PII.9-10.2b.Ex** Apply knowledge of familiar language resources for linking ideas, events, or reasons throughout a text to comprehending texts and to writing increasingly cohesive texts for specific purposes and audiences.	● All students in grades nine and ten learn to use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claims, reasons, evidence, and counterclaims; students use precise language and domain-specific vocabulary to manage the complexity of the topic and convey a style appropriate to the discipline and likely readers (*WHST.9-10.1c,2d; ELD.PI.9-10.12a.Ex*). Teachers model and scaffold (planned and "just-in-time") these processes and support students as they practice.

Critical Area of Instructional Focus: Effective Expression

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RH.9-10.10 By the end of grade 10, read and comprehend history/social studies texts in the grades 9-10 text complexity band independently and proficiently. **ELD.PI.9-10.6b.Ex** Explain inferences and conclusions drawn from close reading of grade-appropriate texts and viewing multimedia.	● All students read texts in the discipline regularly in virtual and in-class history/social studies settings—both independently and collaboratively. They discuss texts with one another, articulating their ideas clearly, and drawing on evidence from the text (*WHST.9-10.9*). ● Teachers establish a climate that fosters trust, safety, equitable participation, and respect for individuals and multiple perspectives in both in-class and virtual settings. ● Teachers support students to read increasingly complex text and engage students in examining passages that represent samples of effective expression. Students and their teachers work to uncover what makes passages effective or complex, considering how a text is structured to emphasize key points or how two or more authors treat the same or similar topics (*RH.9-10.5,6*). ● Students use technology creatively (e.g., audio or video of reports, public service announcements, dramatic performances, spoken word) to present arguments, information, and narratives as individuals, partners, or small groups (*WHST.9-10.6*). ● Teachers provide mentor texts in the form of clips from podcasts, films, readings, or other performances to demonstrate powerful language and content, clear structure, and effective presentation techniques.

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
WHST.9-10.1 Write arguments focused on discipline-specific content. **WHST.9-10.2** Write informative/explanatory texts, including the narration of historical events. **ELD.PI.9-10.10.Ex** Write longer informational texts collaboratively and independently using appropriate text organization and growing understanding of register; write increasingly concise summaries of texts and experiences by using complete sentences and key words.	● All students learn that the structure and use of language in their writing varies according to the task, purpose, and audience. Teachers engage students in the analysis of a variety of mentor texts representing effective examples of text organization and language use and help students apply similar strategies to their own writing (*ELD.PII.9-10.1-7.Ex*). ● Teachers model and guide co-construction of increasingly effective text aligned to purpose and audience. ● All students organize their writing in increasingly effective ways. Students introduce precise claims or topics; create an organization that establishes clear relationships among claims, counterclaims, reasons, and evidence or among ideas, concepts, and information; and provide a concluding statement that follows from and supports the argument or information (*WHST.9-10.1a,1e,2a,2e*). ● All students write regularly in virtual and in-class settings—both independently and collaboratively (*WHST.9-10.10*). They use technology to produce and publish writing, collaborate with others, and display information flexibly and dynamically link it to other information (*WHST.9-10.6*). ● Teachers support students in building their metacognitive awareness of their own and others' language use in writing (and speaking). Teachers create an environment that encourages students to experiment with language without being overly concerned with correctness. ● Teachers accept and value students' language varieties and establish an environment, both online and in class, that is respectful and safe for students to experiment with language.

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
WHST.9-10.5 Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.	● Teachers help students plan their writing by connecting the products of their reading (e.g., annotations, discussion notes, summaries, reflections, outlines, maps, responses to questions) to the writing task. ● Students' writing receives regular, specific feedback, so students become increasingly effective at expressing arguments and information. Teachers and peers provide feedback on longer assignments early in the process so that students can set goals for improvement and make revisions. Feedback is focused on effective communication in the discipline and selected features that have been the subject of instruction and classroom discussion. Teachers, rather than peers, offer feedback on correctness and form during the editing process. ● Feedback is expressed in positive, encouraging ways to ensure motivation and enthusiasm for creating written work are maintained. Teachers engage students in evaluating their own writing and identifying progress they have made toward their own goals.

Critical Area of Instructional Focus: Content Knowledge

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RH.9-10.1 Cite specific textual evidence to support analysis of primary and secondary sources, attending to such features as the date and origin of the information. **WHST.9-10.9** Draw evidence from informational texts to support analysis, reflection, and research. **ELD.PI.9-10.6b.Ex** Explain inferences and conclusions drawn from close reading of grade-appropriate texts and viewing of multimedia.	● Students assess the extent to which the reasoning and evidence in a history/social studies text support the author's claims, and history/social studies teachers model and scaffold (planned and "just-in-time") this process and provide practice as needed (*RH.9-10.8*). Students practice identifying, evaluating, and expressing arguments (*ELD.PI.9-10.6a,11a.Ex*). ● Teachers integrate history/social studies and literacy using text sets on a given topic. They look for opportunities to collaborate with librarians and teachers in other departments to integrate literacy across subject areas.

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RH.9-10.4 Determine the meaning of words and phrases as they are used in a text, including vocabulary describing political, social, or economic aspects of history/social studies. **ELD.PI.9-10.6c.Ex** Use knowledge of morphology, context, reference materials, and visual cues to determine the meaning of unknown and multiple-meaning words on familiar and new topics.	● Teachers help students examine vocabulary, language structures, organizational structures, and use of graphics and media in print and digital historical and social studies texts. Students identify features unique to the discipline and consider their impact on text meaning (*RH.9-10.5,7*).
RH.9-10.10 By the end of grade 10, read and comprehend history/social studies texts in the grades 9-10 text complexity band independently and proficiently. **ELD.PI.9-10.6b.Ex** Explain inferences and conclusions drawn from close reading of grade-appropriate texts and viewing multimedia.	● All students read broadly in the discipline. Teachers model and scaffold (planned and "just-in-time") as needed to help students read grade-level texts, including primary source documents. The use of text complements and contributes to content instruction; it does not replace inquiry and other content approaches. ● All students read widely in classroom and virtual settings and at home. They read to gain knowledge, to become inspired, and for pleasure. ● All students have frequent opportunities to discuss the content of the texts they read (*ELD.PI.9-10.1.Ex*); these discussions enhance students' content knowledge. ● Students have access to informational text in their home languages to amplify content knowledge and support meaning making.

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
WHST.9-10.1,2 Write arguments and informative/explanatory texts. **ELD.PI.9-10.10a.Ex** Write longer informational texts collaboratively and independently.	● All students write frequently to process information they learn through reading, viewing, and listening and to communicate their understandings and perspectives on what they have learned. As they write, students consolidate their existing and new content knowledge. ● All students use technology to collaborate with classmates, produce and publish writing, and gather information (*WHST.9-10.6,8*). ● All students conduct short as well as more sustained research projects on topics of interest and to answer a question or solve a problem. They narrow or broaden the inquiry when appropriate and synthesize multiple sources on the subject (*WHST.9-10.7; ELD.PI.9-10.6b.Ex; ELD.PII.9-10.1.Ex*). ● Students gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; and integrate information into the text, avoiding plagiarism and following a standard format for citation (*WHST.9-10.8*). Teachers model and scaffold (planned and "just-in-time") increasingly sophisticated processes as needed. Teachers and school librarians collaborate to help students learn to locate and evaluate sources and understand plagiarism.

Critical Area of Instructional Focus: Foundational Skills

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RF.5.4 Read with sufficient accuracy and fluency to support comprehension.	● Ideally, students' knowledge of foundational skills is well established by the time they enter grades nine and ten, and history/social studies teachers continue to support students' developing reading fluency to aid comprehension. ● Support for students who lag significantly behind in foundational reading skills is provided strategically and effectively to allow for accelerated progress and full participation in core instruction.

Class Spotlight

World history teacher Myka Henderson's unit on revolutions around the world after World War II includes Czechoslovakia's Velvet Revolution in 1989. The unit deepens students' knowledge of the period and the process of reporting history. The "Gentle Revolution" marked an extraordinary time of change that did not come about due to violence. With the goal of helping students build meaning when reading historical texts, the teacher used polls and a collaborative digital whiteboard to support her students'

analysis of texts. Using digital primary source documents, Ms. Henderson's students analyzed three sources of newspaper coverage to compare and contrast how the event was reported at the time. "Journalism is the first draft of history," said the teacher. "I want them to be able to critically analyze how the story was told at the time." They first read an account of the week's events in Czechoslovakia from an American newspaper. After their initial reading and discussion, they responded to a poll she deployed asking them to rate the relative level of objectivity on a scale of one to five (significantly biased to not biased). The polling responses averaged a four, meaning that students believed the report to be fairly objective.

Next, students read an article from a Prague newspaper and discussed it. This time, they rated it as a two, meaning that the account was fairly biased. "Let's put these two articles side-by-side and compare them. What are the key points of agreement and disagreement?" she asked. The next ten minutes were spent co-constructing a collaborative digital whiteboard that featured two columns: *Points of Agreement*, and *Points of Disagreement*. Students posted items onto the whiteboard and moved these items into categories. "We're not done yet," Ms. Henderson offered. "Let's read one more source." The third source was coverage from a newspaper in the USSR. "Keep in mind that they were teetering toward a revolution of their own," she said. After reading, the students rated the article as a one, meaning that it was significantly biased. The teacher had the class turn its attention back to the collaborative interactive whiteboard they were building, again posting evidence of agreement and disagreement.

"Now, let's stand back from this," said the teacher. "What did they all agree upon?" Her students quickly named the basic facts, such as names and locations, but little else. The points of disagreement far outweighed them, including the intentions of the protestors, the likely outcomes, and possible economic and political ramifications on the world stage. "Tomorrow, we'll do this again. We'll use a 2009 United Nations document about these events to examine a more historical perspective," she said.

Prominent Literacy/ELD Themes: Content Knowledge, Meaning Making

Associated Standards: RH.9-10.2,3,6,9; ELD.PI.9-10.2,3,6b,8.Ex; ELD.PII.9-10.1.Ex

Grades Nine and Ten: Literacy in Science and Technical Subjects and English Language Development

In addition to the standards for English language arts, the California ELA/Literacy Standards at grades nine and ten include Literacy Standards in History/Social Studies, Science, and Technical Subjects. Specifically, the Literacy Standards include the following:

- Reading Standards for Literacy in History/Social Studies
- Reading Standards for Science and Technical Subjects

- Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects

These standards are based on the premise that instruction in reading, writing, speaking, listening, and language is a shared responsibility within a school. Just as students learn to read, write, speak, listen, and use language effectively in ELA, so too do they learn the literacy skills and understandings required for college and career readiness in multiple disciplines. Literacy standards for grades nine and ten are based on the expectation that teachers of ELA, history/social studies, science, and technical subjects use their expertise to help students meet the particular challenges of reading, writing, speaking, listening, and language in their respective fields. It is important to note that the Literacy Standards in History/Social Studies, Science, and Technical Subjects are not meant to replace content standards in those areas but rather to supplement them.

Standards and instructional considerations for literacy in science and technical subjects at grades nine and ten follow. They are organized by the five crosscutting themes of the *ELA/ELD Framework*—Meaning Making, Language Development, Effective Expression, Content Knowledge, and Foundational Skills. For each theme, key Literacy Standards and key ELD Standards at the Expanding proficiency level are indicated in the left column. Related Standards and Instructional Considerations for each theme are noted in the right column. See *Identification and Organization of the Standards* at the beginning of this document for more specific information on the format and content of the standards.

In distance learning settings, teachers should carefully consider which learning experiences are given priority during synchronous instruction. Guidelines are presented in Chapter 10 and also addressed in the Overview of the Span in this chapter.

Some key standards are included in more than one theme, or critical area of instructional focus. For example, RST.9-10.10 is crucial in meaning making, language development, effective expression, and content knowledge. Thus, it is included in the first four charts that follow. In each case, the repeated standard is displayed with a pink background to make the repetition obvious. Likewise, WHST.9-10.2 appears in several charts, and so a different color (in this case, orange) is used to highlight the repetition. Presented first is a chart depicting the standards for grades nine and ten at a glance followed by detailed charts for each theme.

Critical Areas of Instructional Focus: At a Glance

Theme	Key Standards	Related Standards
Meaning Making	RST.9-10.1,10; WHST.9-10.1,2,9 ELD.PI.9-10.6b,10a,11a.Ex	*RST.9-10.2-9; WHST.9-10.4,10* *ELD.PI.9-10.1,8,12.Ex; PII.9-10.1,2.Ex*
Language Development	RH.9-10.4,10; WHST.9-10.1,2 ELD.PI.9-10.6b,c.Ex; PII.9-10.2b.Ex	*ELD.PI.9-10.8,12a.Ex; PII.9-10.3-6.Ex*

Theme	Key Standards	Related Standards
Effective Expression	RH.9-10. 10; WHST.9-10.1,2,5 ELD.PI.9-10.6b,10.Ex	*RST.9-10.5,6; WHST.9-10.6,9,10* *ELD.PII.9-10.1-7.Ex*
Content Knowledge	RH.9-10.1,4,10; WHST.9-10.1,2,9 ELD.PI.9-10.6b,c,10a.Ex	*RST.9-10.5,7,8; WHST.9-10.6-8* *ELD.PI.9-10.1,6a,11a.Ex; PII.9-10.1.Ex*
Foundational Skills	RF.5.4	N/A

Critical Area of Instructional Focus: Meaning Making

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RST.9-10.1 Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions. **WHST.9-10.9** Draw evidence from informational texts to support analysis, reflection, and research. **ELD.PI.9-10.6b,11a.Ex** Explain inferences and conclusions drawn from close reading of grade-appropriate texts and viewing of multimedia; justify opinions and positions or persuade others by making connections between ideas and articulating relevant textual evidence or background knowledge.	● Students in grades nine and ten are expected to conduct increasingly sophisticated analyses of the texts they read and view in science and technical subjects. Students now assess the extent to which the reasoning and evidence in a text support the author's claims or recommendations for solving a scientific or technical problem (*RST.9-10.8*). Students determine the central ideas or conclusions of a text; trace the text's explanation or depiction of a complex process; and summarize the text accurately (*RST.9-10.2*). Students compare and contrast findings presented in a text to those from other sources, noting when findings support or contradict previous explanations or accounts (*RST.9-10.9*). Science and technical subjects teachers model and scaffold (planned and "just-in-time") these complex processes with a range of scientific and technical texts and in collaboration with English language arts teachers. ● Every student regularly engages with grade-level text with scaffolds (planned and "just-in-time") provided and adjusted in accordance with the strengths and needs of the learner. ● Text-dependent questions help students grapple with and investigate text at increasing levels of complexity. Thoughtfully prepared questions guide students to evidence that reveals the author's purpose and defining the question the author seeks to address (*RST.9-10.6*). Teachers and students analyze texts to create text-dependent questions that engage students' motivations to read texts closely and that challenge and honor students' thinking. Questions aimed solely at accountability for reading are minimized. ● All students read a range of scientific and technical texts both independently and collaboratively with their peers, and they discuss these texts with their peers and teachers. Teachers occasionally read-aloud from selected passages of texts the class is studying to illustrate key points or to introduce new genres or specialized language. ● Teachers consider the purpose of the task and the EL students' proficiency levels and group them heterogeneously with Peers at more advanced levels of English proficiency for core tasks and consider homogeneous groups for identified language needs.

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RST.9-10.10 By the end of grade 10, read and comprehend science/technical texts in the grades 9-10 text complexity band independently and proficiently. **ELD.PI.9-10.6b.Ex** Explain inferences and conclusions drawn from close reading of grade-appropriate texts and viewing of multimedia.	● Students read and discuss increasingly complex texts in the discipline regularly, with special attention given to text with appropriate complexity for grades nine and ten. Volume of reading is critical in building reading stamina, interest, and engagement. ● Teachers support students in meaning making with text, teaching them to follow precisely a complex multistep procedure (*RST.9-10.3*) and to navigate unfamiliar concepts and vocabulary, including the meaning of symbols, key terms, and other domain-specific words and phrases (*RST.9-10.4; ELD.PI.9-10.12.Ex; ELD.PII.9-10.1,2.Ex*). Teachers guide the deconstruction of complex sentences and paragraphs to deepen students' understanding of language structures, meaning making, and authors' choices. ● Teachers support students as they learn to analyze the structure of the relationships among concepts and key terms (*RST.9-10.5*) and to translate quantitative or technical information expressed in words into visual form (e.g., chart) and translate information expressed visually (e.g., equation) into words (*RST.9-10.7*). ● Teachers create opportunities for all students to select the texts they read for study to capitalize on students' increasing interest in novelty, exploration, and independence. Teachers and librarians acquire and recommend texts that reflect the lives and languages of students. ● Students have many opportunities to discuss texts with peers in virtual and in-class settings (*ELD.PI.9-10.1.Ex*). They prepare for discussions, drawing on the textual evidence or other sources of information to stimulate a well-reasoned exchange of ideas. Students actively incorporate others in the discussion and demonstrate understanding of and respect for others' expression of growing knowledge. Opportunities for extended discussions are especially important for EL students.

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
WHST.9-10.1,2 Write arguments and informative/explanatory texts focused on discipline-specific content, including the narration of historical events. **ELD.PI.9-10.10a.Ex** Write longer informational texts collaboratively and independently.	● All students write about the texts they read and the investigations in which they participate; writing helps students express, refine, and consolidate their understandings of new concepts, complex texts, and learning experiences. Students use writing to capture specific text details and their reactions, analyses, summaries, notes, and answers to questions (*RST.9-10.1,2,8; WHST.9-10.10*). ● As they write, students convey meaning by varying their writing according to their task, purpose, and audience (*WHST.9-10.4*). They write frequently and may combine argumentative, explanatory, or narrative forms according to their purpose, task, and audience (*WHST.9-10.10*).

Critical Area of Instructional Focus: Language Development

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RST.9-10.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a scientific or technical context. **ELD.PI.9-10.6c.Ex** Use knowledge of morphology, context, reference materials, and visual cues to determine the meaning of unknown and multiple-meaning words on familiar and new topics.	● Teachers support students to read complex disciplinary texts by teaching text vocabulary explicitly, providing rich and engaging, as well as repeated, experiences with new words (*ELD.PI.9-10.6c.Ex*). Teachers select a limited number of words from the text that have high utility for text comprehension and use in other contexts (e.g., in several scientific and technical subjects). Teachers also model strategies for independent word learning. ● Students continue to develop their understanding of figurative, connotative, and technical meanings of words and phrases in grades nine and ten. Science and technical subjects teachers model and scaffold (planned and "just-in-time") this process with texts in the discipline (*ELD.PI.9-10.8.Ex*). ● Teachers employ strategies to develop students' word consciousness and encourage students to be curious about new words and new meanings of known words that they encounter. They also encourage students to be curious about new syntactical structures common to the discipline that they encounter in texts; teachers model their own processes for making sense of dense phrases and sentences. ● All students have regular opportunities to engage in brief and extended conversations about texts with a range of others in a range of contexts for a range of purposes. These opportunities contribute to language development and are particularly important for EL students. Teachers encourage and support students in using target words and phrases in their discussions. ● Teachers leverage all students' experiences and ELs' native language where possible (e.g., highlighting cognates) to support vocabulary development.

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RST.9-10.10 By the end of grade 10, read and comprehend science/technical texts in the grades 9-10 text complexity band independently and proficiently. **ELD.PI.9-10.6b.Ex** Explain inferences and conclusions drawn from close reading of grade-appropriate texts and viewing multimedia using an increasing variety of verbs and adverbials.	● All students have regular opportunities to read and discuss scientific and technical texts and learning experiences. Increasingly complex text and rich content curriculum provide opportunities to learn new words and phrases, thereby deepening students' language development. ● Teachers model how they analyze complex sentences to understand their meanings, and they engage students in similar practices. Examining these language structures in the context of the texts the class is studying is more valuable than isolated grammar practice. It is helpful to all students, particularly EL students, to analyze or "unpack" complex sentences as examples of effective use of verb types and tenses, noun phrases, and adverbials to add and enrich details, and connect ideas (*ELD.PII.9-10.3-6.Ex*).
WHST.9-10.1,2 Write arguments and informative/explanatory texts. **ELD.PII.9-10.2b.Ex** Apply knowledge of familiar language resources for linking ideas, events, or reasons throughout a text to comprehending texts and to writing increasingly cohesive texts for specific purposes and audiences.	● All students in grades nine and ten learn to use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claims, reasons, evidence, and counterclaims; students use precise language and domain-specific vocabulary to manage the complexity of the topic and convey a style appropriate to the discipline and likely readers (*WHST.9-10.1c,2d; ELD.PI.9-10.12a.Ex*). Teachers model and scaffold (planned and "just-in-time") these processes and support students as they practice.

Critical Area of Instructional Focus: Effective Expression

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RST.9-10.10 By the end of grade 10, read and comprehend science/technical texts in the grades 9-10 text complexity band independently and proficiently. **ELD.PI.9-10.6b.Ex** Explain inferences and conclusions drawn from close reading of grade-appropriate texts and viewing multimedia.	● All students read texts in the discipline regularly in virtual and in-class science and technical subjects settings—both independently and collaboratively. They discuss texts and learning experiences with one another, articulating their ideas clearly, and drawing on evidence from the text (*WHST.9-10.9*). ● Teachers establish a climate that fosters trust, safety, equitable participation, and respect for individuals and multiple perspectives in both in-class and virtual settings. ● Teachers support students to read increasingly complex text and engage students in examining passages that represent samples of effective expression. Students and their teachers work to uncover what makes passages effective or complex, analyzing the structure of the relationships among concepts and key terms in a text (*RST.9-10.5*). Students also analyze the author's purpose in providing an explanation or description and define the question the author seeks to address (*RST.9-10.6*). ● Students use technology creatively (e.g., audio or video of reports, public service announcements, dramatic performances, spoken word) to present arguments and information as individuals, partners, or small groups (*WHST.9-10.6*). ● Teachers provide mentor texts in the form of clips from podcasts, documentary films, panel discussions, or other presentations to demonstrate specialized language and content, clear structure, and effective presentation techniques.

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
WHST.9-10.1 Write arguments focused on discipline-specific content. **WHST.9-10.2** Write informative/explanatory texts, including the narration of scientific procedures/experiments or technical processes. **ELD.PI.9-10.10.Ex** Write longer informational texts collaboratively and independently using appropriate text organization and growing understanding of register; write increasingly concise summaries of texts and experiences by using complete sentences and key words.	● All students learn that the structure and use of language in their writing varies according to the task, purpose, and audience. Teachers engage students in the analysis of a variety of mentor texts representing effective examples of text organization and language use and help students apply similar strategies to their own writing (*ELD.PII.9-10.1-7.Ex*). ● All students organize their writing in increasingly effective ways. Students introduce precise claims or topics; create an organization that establishes clear relationships among claims, counterclaims, reasons, and evidence or among ideas, concepts, and information; and provide a concluding statement that follows from and supports the argument or information (*WHST.9-10.1a,1e,2a,2e*). ● Teachers model and guide co-construction of increasingly effective text aligned to purpose and audience. ● All students write regularly in virtual and in-class settings—both independently and collaboratively (*WHST.9-10.10*). They use technology to produce and publish writing, collaborate with others, and display information flexibly and dynamically link it to other information (*WHST.9-10.6*). ● Teachers support students in building their metacognitive awareness of their own and others' language use in writing (and speaking). Teachers create an environment that encourages students to experiment with language without being overly concerned with correctness. ● Teachers accept and value students' language varieties and establish an environment, both online and in class, that is respectful and safe for students to experiment with language.

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
WHST.9-10.5 Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.	● Teachers help students plan their writing by connecting the products of their reading (e.g., annotations, discussion notes, lab notes, summaries, reflections, outlines, maps, responses to questions) to the writing task. ● Students' writing receives regular, specific feedback, so students become increasingly effective at expressing arguments and information. Teachers and peers provide feedback on longer assignments early in the process so that students can set goals for improvement and make revisions. Feedback is focused on effective communication in the discipline and selected features that have been the subject of instruction and classroom discussion. Teachers, rather than peers, offer feedback on correctness and form during the editing process. ● Feedback is expressed in positive, encouraging ways to ensure motivation and enthusiasm for creating written work are maintained. Teachers engage students in evaluating their own writing and identifying progress they have made toward their own goals.

Critical Area of Instructional Focus: Content Knowledge

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RST.9-10.1 Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions. **WHST.9-10.9** Draw evidence from informational texts to support analysis, reflection, and research. **ELD.PI.9-10.6b.Ex** Explain inferences and conclusions drawn from close reading of grade-appropriate texts and viewing of multimedia.	● Students assess the extent to which the reasoning and evidence in a text support the author's claim or recommendation for solving a scientific or technical problem; science and technical subjects teachers model and scaffold (planned and "just-in-time") this process and provide practice as needed (*RST.9-10.8*). Students practice identifying, evaluating, and expressing arguments and explanations (*ELD.PI.9-10.6a,11a.Ex*). ● Teachers integrate science/technical subjects and literacy using text sets on a given topic. They look for opportunities to collaborate with librarians and teachers in other departments to integrate literacy across subject areas.

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RST.9-10.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a scientific or technical context. **ELD.PI.9-10.6c.Ex** Use knowledge of morphology, context, reference materials, and visual cues to determine the meaning of unknown and multiple-meaning words on familiar and new topics.	● Teachers help students examine vocabulary, including technical terms, language structures, organizational structures, and use of symbols, graphics, and media in scientific and technical texts. Students identify features unique to the discipline and consider their impact on text meaning (*RST.9-10.5,7*).
RST.9-10.10 By the end of grade 10, read and comprehend science/technical texts in the grades 9-10 text complexity band independently and proficiently. **ELD.PI.9-10.6b.Ex** Explain inferences and conclusions drawn from close reading of grade-appropriate texts and viewing multimedia.	● All students read broadly in the discipline. Teachers model and scaffold (planned and "just-in-time") as needed to help students read grade-level texts, including accounts of experiments and technical processes. The use of text complements and contributes to content instruction; it does not replace inquiry and other content approaches. ● All students read widely in classroom and virtual settings and at home. They read to gain knowledge, to become inspired, and for pleasure. ● All students have frequent opportunities to discuss the content of the texts they read (*ELD.PI.9-10.1.Ex*); these discussions enhance students' content knowledge.

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
WHST.9-10.1-2 Write arguments and informative/explanatory texts. **ELD.PI.9-10.10a.Ex** Write longer informational texts collaboratively and independently.	● All students write frequently to process information they learn through reading, viewing, and listening and to communicate their understandings and perspectives on what they have learned. As they write, students consolidate their existing and new content knowledge. ● All students use technology to collaborate with classmates, produce and publish writing, and gather information (*WHST.9-10.6,8*). ● All students conduct short as well as more sustained research projects on topics of interest and to answer a question or solve a problem. They narrow or broaden the inquiry when appropriate and synthesize multiple sources on the subject (*WHST.9-10.7; ELD.PI.9-10.6b.Ex; ELD.PII.9-10.1.Ex*). ● Students gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; and integrate information into the text, avoiding plagiarism and following a standard format for citation (*WHST.9-10.8*). Teachers model and scaffold (planned and "just-in-time") these increasingly sophisticated processes as needed. Teachers and school librarians collaborate to help students learn to locate and evaluate sources and understand plagiarism. ● Students have access to informational text in their home languages to amplify content knowledge and support meaning making.

Critical Area of Instructional Focus: Foundational Skills

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RF.5.4 Read with sufficient accuracy and fluency to support comprehension.	● Ideally, students' knowledge of foundational skills is well established by the time they enter grades nine and ten, and science and technical subjects teachers continue to support students' developing reading fluency to aid comprehension. ● Support for students who lag significantly behind in foundational reading skills is provided strategically and effectively to allow for accelerated progress and full participation in core instruction.

Class Spotlight

Ninth-grade earth science teacher Ken Paek, in a unit on intraplate volcanoes, prepares for a close reading of an informational text by developing questions to draw students'

attention to misconceptions. To support students' meaning making, Mr. Paek engages his students with a close reading during synchronous learning by sharing his screen, so they can see the text. He selected a page from the science e-textbook, with an accompanying video animation. "The [textbook] is great because it's visually powerful, but students tend to look at the sizzle and not evaluate the scientific principles that underpin a diagram. This is one of them," he said. The animation and accompanying text on intraplate volcanoes emphasize that they form in the center, rather than on the boundaries of tectonic plates. "They've been learning that lots of volcanoes occur in places where plates collide, but they don't realize that these 'hot spots' happen in lots of other places on Earth." Mr. Paek moves back and forth on the screen between the video and the digital text to replicate how we move between the two to more fully understand and make meaning of this complex science concept. He explains that the key idea of this text is that volcanoes occur within plates and that the causation differs from boundary plate volcanoes. "I have to ask them questions that get them noticing that there's information in the text about mantle plumes that form between the mantle and core." Mr. Paek continued,

> There are two elements in the video animation they need to notice: An arrow shows the direction of the tectonic plate's movement and the Hawaiian Islands featured next to it, along with text that says that *the oldest islands are farthest from the plume.* Some of my questions will be to draw their attention to these elements so they can realize there's a conveyor belt effect going on here. The volcanoes keep forming and make a chain of islands. A lot of Earth Science deals with things that happen too fast or too slow to be seen.

He continued, "It's going to take some interpretation of information on their part to realize that the northwestern islands of Hawaii are five million years older than the southeastern end of the chain." Ms. Lee, the ELD teacher who was co-planning the lesson with Mr. Paek, suggested that they think about strategies to help ELs and other students understand how different digital texts are structured. They consider strategies to explain how sections of the text work together while attending to language features used in science informational text, such as nominalization (in which a verb or adjective becomes a noun, such as from *cause* to *causation*, *form* to *formation*, or *difficult* to *difficulty*) and simultaneous, sequential, and causal connectives (words or phrases that show connections, such as *at the same time*; *first, second, third*; and *because, as a result*). Ms. Lee said, "Maybe modeling meaning making or deconstructing sentences and phrases as well as visuals could help students." Mr. Paek was intrigued by the idea of deconstructing language from the text and agreed that they would include that strategy in this lesson.

Prominent Literacy/ELD Themes: Content Knowledge, Meaning Making

Associated Standards: RST.9-10.2,7,10; ELD.PI.9-10.5,6a.Ex; ELD.PII.9-10.1.Ex

Grades Eleven and Twelve: English Language Arts and English Language Development

The final two years of high school are full of plans—plans for college, for careers, and for their future lives. Students are now at their most independent and are poised to make yet another momentous transition. In ELA and other content areas, students are increasingly sophisticated in their thinking and performances, displaying a critical and thoughtful stance toward their coursework and the problems of the day. Their reasoning and debating skills never better, they welcome the opportunity to engage in meaningful discussions and debates. Expectations for the volume, pace, and depth of reading and writing increase to new levels.

Students at these grades read Shakespeare, seminal documents of U.S. history, and works of American literature as well as textbooks and other sources in government, civics, chemistry, precalculus, and more. Students are expected to determine where the text leaves matters uncertain, identify inconsistencies, and analyze how complex ideas interact and develop. Students also evaluate the effectiveness of structures the author uses and identify rhetoric that is particularly effective. The formal study of syntax is introduced and students are expected to vary its use in their writing. Students write arguments and make presentations using precise and knowledgeable claims and counterclaims, supplying the most relevant evidence, and anticipating the audience's knowledge level, concerns, values, and possible biases. All students, and especially EL students, receive instruction designed to accelerate their progress in meeting the demands of the standards. Students learning English have ample opportunities to engage in extended discussions with peers and adults. They receive rich instruction in all content areas and a comprehensive program of ELD.

Standards and instructional considerations for grades eleven and twelve follow. In distance learning settings, teachers should carefully consider which learning experiences are given priority during synchronous instruction. Guidelines are presented in Chapter 10 and also addressed in the Overview of the Span in this chapter.

Some key standards are included in more than one theme. For example, SL.11-12.1 is crucial in meaning making, language development, effective expression, and content knowledge. Thus, it is included in the first four theme charts that follow. In each case, the repeated standard is displayed with a pink background to make the repetition obvious. Likewise, RL/RI.11-12.10 appears in several charts, and so a different color (in this case, orange) is used to highlight the repetition. Presented first is a chart depicting the standards for grades eleven and twelve at a glance followed by detailed charts for each theme.

Critical Areas of Instructional Focus: At a Glance

Theme	Key Standards	Related Standards
Meaning Making	RL/RI.11-12.1,10; W.11-12.1-3,9; SL.11-12.1,3 ELD.PI.11-12.1,6b,10a,11a.Ex	*RL/RI.11-12.2-4,6,7,9; RI.11-12.8; W.11-12.4,10; SL.11-12.2,4,6; L.11-12.4-6* *ELD.PI.11-12.6c,8,12.Ex; PII.11-12.1,2.Ex*
Language Development	RL/RI.11-12.4,10; W.11-12.1-3; SL.11-12.1; L.6.1e; L.11-12.4 ELD.PI.11-12.1,6b,c,7.Ex; PII.11-12.2b.Ex	*SL.11-12.6; L.11-12.1-3,5,6* *ELD.PI.11-12.8,12a.Ex; PII.11-12.3-6.Ex*
Effective Expression	RL/RI.11-12. 10; W.11-12.1-3,5; SL.11-12.1,4; L.11-12.1 ELD.PI.11-12.1,3,4,6b,9,10a,b.Ex	*RL/RI.11-12.5,6; W.11-12.6,8-10; SL.11-12.2,5,6; L.11-12.2,3* *ELD.PI.11-12.5; PII.11-12.1-7.Ex*
Content Knowledge	RL/RI.11-12.1,4,10; W.11-12.1,2,9; SL.11-12.1,3; L.11-12.4 ELD.PI.11-12.1,6b,c,10a.Ex	*RL/RI.11-12.5,7; RI.11-12.6,8; W.11-12.6-8; SL.11-12.2,5,6; L.11-12.5,6* *ELD.PI.11-12.6a,11a.Ex; PII.11-12.1.Ex*
Foundational Skills	RF.5.4	N/A

Critical Area of Instructional Focus: Meaning Making

Key ELA & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.11-12.1 Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text, including determining where the text leaves matters uncertain. **W.11-12.9** Draw evidence from literary or informational texts to support analysis, reflection, and research. **SL.11-12.3** Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used. **ELD.PI.11-12.6b,11a.Ex** Explain inferences and conclusions drawn from close reading of grade-appropriate texts and viewing of multimedia; justify opinions and positions or persuade others by making connections between ideas and articulating relevant textual evidence or background knowledge.	● English language arts students in grades eleven and twelve are expected to identify and analyze uncertainty and complex connections between themes, characters, events, and ideas within and across texts (*RL/RI.11-12.1-3*). Students delineate and evaluate the reasoning in seminal U.S. texts, including constitutional principles and legal reasoning, and the premises, purposes, and arguments in works of public advocacy (*RI.11-12.8; SL.11-12.3*). They also analyze seventeenth-, eighteenth-, and nineteenth-century foundational U.S. documents of historical and literary significance (*RI.11-12.9*) and demonstrate knowledge of eighteenth-, and nineteenth-, and early-twentieth-century foundational works of American literature (*RL.11-12.9*). English language arts teachers model and scaffold (planned and "just-in-time") these complex processes with a range of text genres and disciplines. They look for opportunities to collaborate with librarians and teachers in other disciplines, particularly history-social studies. ● In the last two years of secondary schooling, the expectations for students in grades eleven and twelve increase dramatically as students approach college and career readiness levels in their comprehension and analysis of texts. Every student regularly engages with grade-level text with scaffolds (planned and "just-in-time") provided and adjusted in accordance with the strengths and needs of the learner. ● Text-dependent questions help students grapple with and investigate text at increasing levels of complexity. Thoughtfully prepared questions guide students to evidence that reveals an author's purpose or intended meaning in a text in which the rhetoric is particularly effective (*RL/RI.11-12.6*). Teachers and students analyze texts to create text-dependent questions that engage students' motivations to read texts closely and that challenge and honor students' thinking. Questions aimed solely at accountability for reading are minimized. ● All students read a range of literary and informational texts both independently and collaboratively with their peers, and they discuss these texts with their peers and teachers. These include assigned texts and self-selected texts intended for in-depth study as well as independent reading texts designed to build reading enjoyment. Teachers confer with students individually or in small groups about their reading, and students share their reading with peers through book talks and other activities. ● Teachers occasionally read-aloud for specific, limited purposes. They read from selected passages of texts the class is studying to illustrate key points or to introduce new genres or beautiful language.

Key ELA & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.11-12.10 By the end of grade 12, read and comprehend texts at the high end of the grades 11-CCR text complexity band independently and proficiently. **ELD.PI.11-12.6b.Ex** Explain inferences and conclusions drawn from close reading of grade-appropriate texts.	● Students read and discuss complex texts of different types daily. Students are now expected to read independently and proficiently reading at levels that approach standards of college and career readiness. Sustaining reading volume is critical for students to maintain reading stamina, interest, and engagement. Teachers and librarians recommend books based on students' current and potential interests. ● Teachers support students in meaning making, teaching them how to navigate unfamiliar concepts and vocabulary and complex language structures (*RL/RI.11-12.4; L.11-12.4-6; ELD.PI.11-12.12.Ex; ELD.PII.11-12.1,2.Ex*). They guide the deconstruction of complex sentences and paragraphs for students' understanding of language structures, meaning making, and authors' choices. ● Teachers support students as they learn to integrate and evaluate multiple sources of information presented in different media or formats (*RI.11-12.7; SL.11-12.2*). Additionally, students analyze multiple interpretations of performances, including at least one play by Shakespeare and one play by an American dramatist (*RL.11-12.7*). ● Teachers create opportunities for all students to select the texts they read for study and enjoyment to capitalize on students' increasing interest in novelty, exploration, and independence. Teachers and librarians acquire and recommend books that reflect the lives and languages of students—books that speak to the personal struggles and triumphs of all humanity.
W.11-12.1-3 Write arguments, informative/explanatory texts, and narratives. **ELD.PI.11-12.10a.Ex** Write longer literary and informational texts collaboratively and independently.	● All students write about the texts they read and view; writing helps students express, refine, and consolidate their understandings of new concepts and complex texts. Students use writing to capture specific text details and their reactions, interpretations, analyses, summaries, notes, outlines, and answers to questions about the text (*RL/RI.11-12.1-3; RI.11-12.8; W.11-12.10*). ● Students become skilled in conveying meaning by varying their writing according to their task, purpose, and audience (*W.11-12.4*). They write frequently and often combine argumentative, explanatory, or narrative forms according to their purpose, task, and audience (*W.11-12.10*).

Key ELA & ELD Standard(s)	Related Standards and Instructional Considerations
SL.11-12.1 Initiate and participate effectively in a range of collaborative discussions with diverse partners on grades 11-12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. **ELD.PI.11-12.1.Ex** Contribute to class, group, and partner discussions.	● Discussions are increasingly sophisticated in grades eleven and twelve, and students' engagement with others enhances their understanding of complex ideas. Students continue to draw on textual or research evidence from their preparation to stimulate a thoughtful, well-reasoned exchange of ideas (*SL.11-12.1a; RL/RI.11-12.9*). Students are expected to ensure a hearing for a full range of positions on a topic or issue; promote divergent and creative perspectives; synthesize comments, claims, and evidence made on all sides of an issue; and resolve contradictions when possible (*SL.11-12.1c,d*). ● Teachers create opportunities for students to work in pairs and small groups to engage in discussions in virtual and in-class settings. Students participate in both informally and formally structured discussions. Teachers consider the purpose of the task and the EL students' proficiency levels and group them heterogeneously with Peers at more advanced levels of English proficiency for core tasks and consider homogeneous groups for identified language needs. ● Students adapt their speech in discussions and presentations as needed to accomplish their purposes and convey meaning to their audience; they use formal English as appropriate to the task (*SL.11-12.4,6*).

Critical Area of Instructional Focus: Language Development

Key ELA & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.9-10.4 Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings. **L.11-12.4** Determine or clarify the meaning of unknown and multiple-meaning words and phrases. **ELD.PI.11-12.6c.Ex** Use knowledge of morphology, context, reference materials, and visual cues to determine the meaning of unknown and multiple-meaning words on familiar and new topics.	● Students continue to develop their understanding of figurative, connotative, and technical meanings of words and phrases in English language arts in grades eleven and twelve, considering the quality of language use and its development over the course of literary and informational texts (*ELD.PI.11-12.8.Ex*). English language arts teachers model and scaffold (planned and "just-in-time") this process with a range of text types and topics. ● Teachers employ strategies to develop students' word consciousness and encourage students to be curious about new words and new meanings of known words that they encounter. They also encourage students to be curious about and analyze new grammatical and syntactical structures that they encounter in texts; teachers model their own processes for making sense of dense phrases and sentences (*L.11-12.4-6*). ● Teachers leverage all students' experiences and EL students' native language where possible (e.g., highlighting cognates) to support vocabulary development.
RL/RI.11-12.10 By the end of grade 12, read and comprehend texts at the high end of the grades 11-CCR text complexity band independently and proficiently. **ELD.PI.11-12.6b.Ex** Explain inferences and conclusions drawn from close reading of grade-appropriate texts and viewing of multimedia using an increasing variety of verbs and adverbials.	● Teachers support students to read complex texts by teaching text vocabulary explicitly, providing rich and engaging, as well as repeated, experiences with new words (*L.11-12.4-6*). Teachers select a limited number of words from the text that have high utility for text comprehension and use in other contexts. Teachers also model and encourage students to use strategies for independent word learning (*ELD.PI.11-12.6c,8.Ex*).
W.11-12.1-3 Write arguments, informative/explanatory texts, and narratives. **ELD.PII.11-12.2b.Ex** Apply knowledge of familiar language resources for linking ideas, events, or reasons throughout a text to comprehending texts and to writing increasingly cohesive texts for specific purposes and audiences.	● All students in grades eleven and twelve use words, phrases, and clauses as well as varied syntax in increasingly powerful ways in their writing, including linking major sections of the text; clarifying relationships among complex arguments, ideas, and concepts; and conveying a vivid picture of experiences, events, settings, or characters (*W.11-12.1c,2c-d,3d; ELD.PI.11-12.12a.Ex*). Teachers model and scaffold (planned and "just-in-time") these processes and provide appropriate feedback as they practice.

Key ELA & ELD Standard(s)	Related Standards and Instructional Considerations
SL.11-12.1 Initiate and participate effectively in a range of collaborative discussions with diverse partners on grades 11-12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. **ELD.PI.11-12.1.Ex** Contribute to class, group, and partner discussions.	● All students have regular opportunities to engage in brief and extended conversations with a range of others in a range of contexts for a range of purposes. These opportunities contribute to language development and are particularly important for EL students. Teachers encourage and support students to use target words and phrases in their discussions. ● Students distinguish between formal and informal discourse and use formal English as appropriate to the task (*SL.11-12.6*).
L.6.1e Recognize variations from standard English in their own and others' writing and speaking and identify and use strategies to improve expression in conventional language. (Grade 6 standard provided intentionally.) **ELD.PI.11-12.7.Ex** Explain how successfully writers and speakers structure texts and use language to persuade the reader or create other specific effects, with moderate support.	● Teachers support students to build their metacognitive awareness of their own and others' language use in speaking and writing. Teachers create an environment that encourages students to experiment with language without being overly concerned with correctness. Teachers do focus students' attention on correctness during the editing process. Teachers help students understand the impact of using powerful language correctly in formal settings, both on their audience and on their identities as writers and speakers. ● Teachers model how they analyze complex sentences to understand their meanings, and they engage students in similar practices. Examining these language structures in the context of the texts the class is studying is more valuable than isolated grammar practice. It is helpful to all students, particularly ELs, to analyze or "unpack" complex sentences as examples of effective use of verb types and tenses, noun phrases, and adverbials to add and enrich details, and connect ideas (*L.11-12.1-3; ELD.PII.11-12.3-6.Ex*).

Critical Area of Instructional Focus: Effective Expression

Key ELA & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.11-12.10 By the end of grade 12, read and comprehend texts at the high end of the grades 11-CCR text complexity band independently and proficiently. **ELD.PI.11-12.6b.Ex** Explain inferences and conclusions drawn from close reading of grade-appropriate texts.	● All students read daily in virtual and in-class English language arts settings—both independently and collaboratively. ● Teachers support students to read increasingly complex text and engage students in examining passages that represent samples of effective expression. Students and their teachers work to uncover what makes passages effective or complex and consider their aesthetic and rhetorical impacts. ● Students analyze authors' choices in structuring text that contribute to meaning and aesthetic impact and makes points clear, convincing, and engaging (*RL/RI.11-12.5*). They grasp point of view by distinguishing what is directly stated from what is really meant (e.g., satire, irony) (*RL.11-12.6*), and they determine an author's purpose or point of view in a text in which the rhetoric is particularly effective, analyzing how style and content contribute to the power, persuasiveness, or beauty of the text (*RI.11-12.6*).

Key ELA & ELD Standard(s)	Related Standards and Instructional Considerations
W.11-12.1 Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence. **W.11-12.2** Write informative/explanatory texts to examine a topic and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content. **W.11-12.3** Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences. **ELD.PI.11-12.10.Ex** Write longer literary and informational texts collaboratively and independently by using appropriate text organization and growing understanding of register; write increasingly concise summaries of texts and experiences by using complete sentences and key words.	● All students increase their capacities to structure their writing and use language to effectively address their task, purpose, and audience. Students at grades eleven and twelve continue working to analyze substantive topics or texts and convey complex ideas, concepts, and information effectively in their writing. Teachers engage students in the analysis of a variety of mentor texts representing effective examples of text organization and language use and help students apply similar strategies to their own writing (*ELD.PII.11-12.1-7.Ex*). ● In grades eleven and twelve, expectations for writing become yet more sophisticated. Students are expected to establish the *significance* of claims, develop claims and counterclaims fairly and *thoroughly,* anticipate audience's knowledge level, concerns, *values,* and *possible biases,* and use *specific rhetorical devices* to support assertions (*W.11-12.1a-b,f*). Teachers again use mentor texts and modeling to help students understand and practice these distinctions. ● All students write daily in virtual and in-class settings—both independently and collaboratively (*W.11-12.10*). ● Teachers model and guide co-construction of increasingly effective text aligned to purpose and audience. ● All students use technology to produce and publish writing and collaborate with others. In grades eleven and twelve, they are expected to use technology to update projects in response to ongoing feedback, including new arguments or information (*W.11-12.6*).

Key ELA & ELD Standard(s)	Related Standards and Instructional Considerations
W.11-12.5 Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.	● Teachers help students plan their writing by connecting the products of their reading (e.g., annotations, discussion notes, summaries, reflections, outlines, maps, responses to questions) to the writing task. ● Students' writing receives regular, specific feedback, so students become increasingly effective at expressing arguments, information, and narratives (*W.11-12.8,9*). Teachers and peers provide feedback on longer assignments early in the process so that students can set goals for improvement and make revisions. Feedback is focused on effective communication and selected features that have been the subject of instruction and classroom discussion. Teachers, rather than peers, offer feedback on correctness and form during the editing process (*L.11-12.1-3*). ● Feedback is expressed in positive, encouraging ways that honor students' efforts and acknowledge their progress. Teachers model and provide structures for constructive peer feedback, including opportunities for students to respond to the feedback they receive. Students regularly evaluate their own writing and identify progress they have made toward their own goals.
SL.11-12.1 Initiate and participate effectively in a range of collaborative discussions with diverse partners on grades 11-12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. **ELD.PI.11-12.1,3.Ex** Contribute to class, group, and partner discussions; negotiate with and persuade others in discussions and conversations using learned phrases and open responses to express and defend nuanced opinions.	● Teachers establish a climate that fosters trust, safety, equitable participation, and respect for individuals and multiple perspectives in both in-class and virtual settings. ● Teachers engage students in using a variety of discussion structures and, together with students, develop norms of effective discussion. Students work with peers to promote civil, democratic discussions and decision-making. Teachers and students offer feedback on discussion processes and set goals for improving them (*SL.11-12.1b,c; ELD.PI.11-12.5.Ex*). ● Students collaborate as partners and in small groups to plan their writing and oral presentations. They review one another's writing or presentation plans at key points and provide feedback about its effectiveness. Teachers offer rubrics to focus feedback on important elements. ● Teachers assess conversations and presentations for structure and language used and provide specific feedback aligned to academic language objectives.

Key ELA & ELD Standard(s)	Related Standards and Instructional Considerations
SL.11-12.4 Present information, findings, and supporting evidence, conveying a clear and distinct perspective and logical argument, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks. **ELD.PI.11-12.9.Ex** Plan and deliver a variety of oral presentations and reports on grade-appropriate topics that present evidence and facts to support ideas by using growing understanding of register.	● Students use technology creatively (e.g., audio or video of reports, public service announcements, dramatic performances, spoken word) to present arguments, information, and narratives as individuals, partners, or small groups (*SL.11-12.5*). ● As students plan and deliver oral presentations, they focus on communicating their ideas effectively to their audience and adapting their speech, as appropriate, to the task (*SL.11-12.6*). ● Teachers provide mentor texts in the form of clips from podcasts, films, readings, or other performances to demonstrate powerful language and content, clear structure, and effective presentation techniques (*SL.11-12.2,5*).
L.11-12.1 Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. **ELD.PI.11-12.4.Ex** Adjust language choices according to the context, purpose, task, and audience.	● Teachers accept and value students' language varieties and establish an environment, both online and in class, that is respectful and safe for students to experiment with language. ● Just as students set goals for improving the content and structure of their writing and oral presentations, they are guided in setting goals to improve their use of language conventions (*L.11-12.1-3*). ● All students continue to adapt their use of informal and formal English according to the demands of the context, task, and audience (*SL.11-12.6*).

Critical Area of Instructional Focus: Content Knowledge

Key ELA & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.11-12.1 Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text, including determining where the text leaves matters uncertain. **W.11-12.9** Draw evidence from literary or informational texts to support analysis, reflection, and research. **SL.11-12.3** Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis, and tone used. **ELD.PI.11-12.6b.Ex** Explain inferences and conclusions drawn from close reading of grade-appropriate texts and viewing of multimedia.	● Students in grades 11-12 are expected to conduct increasingly sophisticated analyses of the works they read and view in English language arts, delineating and evaluating the reasoning in seminal U.S. texts, including constitutional principles and legal reasoning, and the premises, purposes, and arguments in works of public advocacy (*RI.11-12.8; SL.11-12.3*). Students consider written and spoken texts in which the rhetoric is particularly effective (*RI.11-12.6; SL.11-12.3*), and they understand more deeply how arguments and claims can be structured or expressed differently in various disciplines and genres (*W.11-12.1; SL.11-12.3; ELD.PI.11-12.6a,11a.Ex*). English language arts teachers model and scaffold (planned and "just-in-time") these processes and provide practice as needed. ● Informational, as well as literary, texts are a crucial component of every grade level in English language arts—particularly in high school. Students read informational and literary texts to build knowledge, experience multiple perspectives, and gain fresh insights. Text selections are based on grade-level standards in different content areas (e.g., English language arts, science, social studies) and students' interests and cultural experiences. ● Informational and literary texts are read in combination in text sets and on their own. Students learn how text structures and evidence vary across genres and subgenres. Teachers look for opportunities to collaborate with librarians and teachers in other departments to integrate literacy across subject areas.
RL/RI.11-12.4 Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings. **ELD.PI.11-12.6c.Ex** Use knowledge of morphology, context, reference materials, and visual cues to determine the meaning of unknown and multiple-meaning words on familiar and new topics.	● Teachers help students examine vocabulary, language structures, organizational structures, and use of media in literary and informational texts of different genres and disciplines (*L.11-12.4-6; RL/RI.11-12.5,7; SL.11-12.2*). Students expand their content knowledge as they attend to the language features unique to these genres and disciplines.

Key ELA & ELD Standard(s)	Related Standards and Instructional Considerations
RL/RI.11-12.10 By the end of grade 12, read and comprehend texts at the high end of the grades 11-CCR text complexity band independently and proficiently. **ELD.PI.11-12.6b.Ex** Explain inferences and conclusions drawn from close reading of grade-appropriate texts.	● All students read broadly across text genres and disciplines in classroom and virtual settings and at home. They read to gain knowledge, to become inspired, and for pleasure. Teachers organize independent reading programs that expose students to a variety of text types and capitalize on students' interests. ● Students have access to informational text in their home languages to amplify content knowledge and support meaning making.
W.11-12.1,2 Write arguments and informative/explanatory texts. **ELD.PI.11-12.10a.Ex** Write longer informational texts collaboratively and independently.	● All students write frequently to process information they learn through reading, viewing, and listening and to communicate their understandings and perspectives on what they have learned. As they write, students consolidate their existing and new content knowledge. ● All students use technology to collaborate with classmates and to conduct short as well as more sustained research projects to answer a question or solve a problem (*W.11-12.7; SL.11-12.5; ELD.PI.11-12.6b.Ex; ELD.PII.11-12.1.Ex*). In grades eleven and twelve, students continue to narrow or broaden the inquiry when appropriate and synthesize multiple sources on the topic (*W.11-12.7; SL.11-12.3*). ● Students continue to gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; and they continue to integrate information into their text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation, including footnotes and endnotes. Students now assess the strengths and limitations of each source in terms of the task, purpose, and audience (*W.11-12.8*). Teachers and school librarians collaborate to help students use a standard citation format and advanced search terms effectively.
SL.11-12.1 Initiate and participate effectively in a range of collaborative discussions with diverse partners on grades 11-12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively. **ELD.PI.11-12.1.Ex** Contribute to class, group, and partner discussions.	● All students engage in discussions of what they have read and learned across genres and disciplines, contributing to their content knowledge. Students collaborate as partners or in small groups to conduct research and engage in other long-term projects based on their interests and areas of study (*W.11-12.6,7; SL.11-12.5*). ● As students share their knowledge with others in formal presentations, they focus on communicating effectively with their audience and adapting their speech, as appropriate, to the task and the discipline (*SL.11-12.5,6*).

Critical Area of Instructional Focus: Foundational Skills

Key ELA & ELD Standard(s)	Related Standards and Instructional Considerations
RF.5.4 Read with sufficient accuracy and fluency to support comprehension.	● Ideally, students' knowledge of foundational skills is well established by the time they enter grades eleven and twelve, and English language arts teachers continue to support students' reading fluency to aid comprehension. ● Support for students who lag significantly behind in foundational reading skills is provided strategically and effectively to allow for accelerated progress and full participation in core instruction. ● Teachers provide EL students targeted instruction in foundational literacy skills based on students' spoken English proficiency, native language proficiency, prior schooling, and assessed needs.

Class Spotlight

The students in Mateo Ruiz's eleventh-grade English class are writing argumentative essays focusing on effective written expression. They have all recorded their draft versions of their papers via Google Voice and sent them to their teacher. As they recorded, many students noticed errors and self-corrected. Mr. Ruiz responded to each student with a voice recording, noting strengths and suggesting changes. During their synchronous class session, Mr. Ruiz asked the students to complete a self-assessment on Google Forms, analyzing the strength of their claims and thesis statements, their organization and evidence, and the rhetorical devices they used to support their assertions. Mr. Ruiz then modeled his thinking with a paper written by a student from the previous year who granted permission to have work shown to others. Mr. Ruiz read-aloud sections of the paper to his class, pausing to comment on the strengths and potential areas of improvement. As he noted, "There is a very strong claim here. The person who wrote this wants us to understand why they feel this way. Now, I'm looking for evidence to support the claim that has been made."

The think aloud continues as Mr. Ruiz notes the evidence and then focuses on the appeal to emotion that the author used. Mr. Ruiz ends the class session letting students know that they will be in breakout rooms the following day to work on areas they expressed as needed. As he said, "You have all identified areas that you want to improve. You'll have a chance to meet with others who have similar needs as well as others who have strengths in that area." Mr. Ruiz also supports effective expression in discussions by reminding students to review the tools and protocols for successful academic discourse among peers with a focus on arguments. He also asks them to prepare a set of questions they have about the quality of their work. He proceeds to suggest a few questions, "Did I state my point of view clearly in the introduction? How well did I introduce quotations or evidence? How well did I expand my ideas? He continues, "We'll be moving around different rooms for the whole period, and I'll be

meeting with you individually for conferences. Your argument papers are coming along very nicely, and I am seeing your passion for the topics you have selected."

Prominent ELA/ELD Themes: Effective Expression

Associated Standards: W.11-12.1,4,5,10; SL.11-12.1,5; ELD.11-12.1,2,10a,11a.Ex; ELD.PII.11-12.1,2.Ex

Grades Eleven and Twelve: Literacy in History/Social Studies and English Language Development

In addition to the standards for English language arts, the California ELA/Literacy Standards at grades eleven and twelve include Literacy Standards in History/Social Studies, Science, and Technical Subjects. Specifically, the Literacy Standards include the following:

- Reading Standards for Literacy in History/Social Studies
- Reading Standards for Science and Technical Subjects
- Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects

These standards are based on the premise that instruction in reading, writing, speaking, listening, and language is a shared responsibility within a school. Just as students learn to read, write, speak, listen, and use language effectively in ELA, so too do they learn the literacy skills and understandings required for college and career readiness in multiple disciplines. Literacy standards for grades six through eight are based on the expectation that teachers of ELA, history/social studies, science, and technical subjects use their expertise to help students meet the particular challenges of reading, writing, speaking, listening, and language in their respective fields. It is important to note that the Literacy Standards in History/Social Studies, Science, and Technical Subjects are not meant to replace content standards in those areas but rather to supplement them.

Standards and instructional considerations for literacy in history/social studies at grades eleven and twelve follow. They are organized by the five crosscutting themes of the *ELA/ELD Framework*—meaning making, language development, effective expression, content knowledge, and foundational skills. For each theme, key Literacy Standards and key ELD Standards at the Expanding proficiency level are indicated in the left column. Related Standards and Instructional Considerations for each theme are noted in the right column. See *Identification and Organization of the Standards* at the beginning of this document for more specific information on the format and content of the standards.

In distance learning settings, teachers should carefully consider which learning experiences are given priority during synchronous instruction. Guidelines are presented in Chapter 10 and also addressed in the Overview of the Span in this chapter.

Some key standards are included in more than one theme, or critical area of instructional focus. For example, RH.11-12.10 is crucial in meaning making, language development, effective expression, and content knowledge. Thus, it is included in the first four charts that follow. In each case, the repeated standard is displayed with a pink background to make the repetition obvious. Likewise, WHST.11-12.2 appears in several charts, and so a different color (in this case, orange) is used to highlight the repetition. Presented first is a chart depicting the standards for grades eleven and twelve at a glance followed by detailed charts for each theme.

Critical Areas of Instructional Focus: At a Glance

Theme	Key Standards	Related Standards
Meaning Making	RH.11-12.1,10; WHST.11-12.1,2,9 ELD.PI.11-12.6b,10a,11a.Ex	*RH.11-12.2-9; WHST.11-12.4,10* *ELD.PI.11-12.1,6c,8,12.Ex; PII.11-12.1,2.Ex*
Language Development	RH.11-12.4,10; WHST.11-12.1,2 ELD.PI.11-12.6b,c.Ex; PII.11-12.2b.Ex	*ELD.PI.11-12.1,8,12a.Ex; PII.11-12.3-6.Ex*
Effective Expression	RH.11-12. 10; WHST.11-12.1,2,5 ELD.PI.11-12.6b,10.Ex	*RH.11-12.5,6; WHST.11-12.6,9, 10* *ELD.PII.11-12.1-7.Ex*
Content Knowledge	RH.11-12.1,4,10; WHST.11-12.1,2,9 ELD.PI.11-12.6b,c,10a.Ex	*RH.11-12.5,7,8; WHST.11-12.6-8* *ELD.PI.11-12.1,6a,11a.Ex; PII.11-12.1.Ex*
Foundational Skills	RF.5.4	N/A

Critical Area of Instructional Focus: Meaning Making

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RH.11-12.1 Cite specific textual evidence to support analysis of primary and secondary sources, connecting insights gained from specific details to an understanding of the text as a whole. **WHST.11-12.9** Draw evidence from informational texts to support analysis, reflection, and research. **ELD.PI.11-12.6b,11a.Ex** Explain inferences and conclusions drawn from close reading of grade-appropriate texts and viewing of multimedia; justify opinions and positions or persuade others by making connections between ideas and articulating relevant textual evidence or background knowledge.	● History/social studies students in grades eleven and twelve are expected to conduct increasingly sophisticated analyses of the primary and secondary sources they read and view. Students now evaluate an author's premises, claims, and evidence by corroborating or challenging them with other information (*RH.11-12.8*). Students provide summaries that make clear the relationships among the key details and ideas (*RH.11-12.2*); evaluate various explanations for actions or events and determine which explanation best accords with textual evidence, acknowledging where the text leaves matters uncertain (*RH.11-12.3*); and integrate information from diverse sources, into a coherent understanding of an idea or event, noting discrepancies among sources (*RH.11-12.9*). History/social studies teachers model and scaffold (planned and "just-in-time") these complex processes with a range of sources and in collaboration with English language arts teachers. ● Every student regularly engages with grade-level text with scaffolds (planned and "just-in-time") provided and adjusted in accordance with the strengths and needs of the learner. ● Text-dependent questions help students grapple with and investigate text at increasing levels of complexity. Thoughtfully prepared questions guide students to evidence that helps them evaluate authors' differing points of view on the same event or issue (*RH.11-12.6*). Teachers and students analyze texts to create text-dependent questions that engage students' motivations to read texts closely and that challenge and honor students' thinking. Questions aimed solely at accountability for reading are minimized. ● All students read a range of primary and secondary sources both independently and collaboratively with their peers, and they discuss these texts with their peers and teachers. Teachers occasionally read-aloud from selected passages of texts the class is studying to illustrate key points or to introduce new genres or powerful language. ● Teachers consider the purpose of the task and the EL students' proficiency levels and group them heterogeneously with Peers at more advanced levels of English proficiency for core tasks and consider homogeneous groups for identified language needs.

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RH.11-12.10 By the end of grade 12, read and comprehend history/social studies texts in the grades 11-12 text complexity band independently and proficiently. **ELD.PI.11-12.6b.Ex** Explain inferences and conclusions drawn from close reading of grade-appropriate texts and viewing of multimedia.	● Students read and discuss increasingly complex texts in the discipline regularly, with special attention given to text with appropriate complexity for grades eleven and twelve. Volume of reading is critical in building reading stamina, interest, and engagement. ● Teachers support students in meaning making, teaching them how to navigate unfamiliar concepts and vocabulary and complex language structures (*RH.11-12.4; ELD.PI.11-12.12.Ex; ELD.PII.11-12.1,2.Ex*). Teachers guide the deconstruction of complex sentences and paragraphs to deepen students' understanding of language structures, meaning making, and authors' choices. ● Teachers support students as they learn to analyze how a complex primary source is structured, including how key sentences, paragraphs, and larger portions contribute to the whole (*RH.11-12.5*); and to integrate and evaluate multiple sources of information presented in diverse formats and media (*RH.11-12.7*). ● Teachers create opportunities for all students to select the texts they read for study to capitalize on students' increasing interest in novelty, exploration, and independence. Teachers and librarians acquire and recommend texts that reflect the lives and languages of students—texts that speak to the personal struggles and triumphs of all humanity. ● Students have many opportunities to discuss texts with peers in virtual and in-class settings (*ELD.PI.11-12.1.Ex*). They prepare for discussions, drawing on the textual or research evidence to stimulate a well-reasoned exchange of ideas. Students are expected to ensure a hearing for a full range of positions on a topic or issue; promote divergent perspectives; synthesize comments, claims, and evidence; and resolve contradictions when possible. Opportunities for extended discussions are especially important for EL students.
WHST.11-12.1,2 Write arguments and informative/explanatory texts focused on discipline-specific content, including the narration of historical events. **ELD.PI.11-12.10a.Ex** Write longer informational texts collaboratively and independently.	● All students write about the texts they read; writing helps students express, refine, and consolidate their understandings of new concepts and complex texts. Students use writing to capture specific text details and their reactions, interpretations, analyses, summaries, notes, outlines, and answers to questions about the text (*RH.11-12.1-3,8; WHST.11-12.10*). ● As they write, students convey meaning by varying their writing according to their task, purpose, and audience (*WHST.11-12.4*). They write frequently and may combine argumentative, explanatory, or narrative forms according to their purpose, task, and audience (*WHST.11-12.10*).

Critical Area of Instructional Focus: Language Development

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RH.11-12.4 Determine the meaning of words and phrases as they are used in a text, including analyzing how an author uses and refines the meaning of a key term over the course of a text. **ELD.PI.11-12.6c.Ex** Use knowledge of morphology, context, reference materials, and visual cues to determine the meaning of unknown and multiple-meaning words on familiar and new topics.	● Teachers support students to read complex disciplinary texts by teaching text vocabulary explicitly, providing rich and engaging, as well as repeated, experiences with new words (*RH.11-12.4*). Teachers select a limited number of words from the text that have high utility for text comprehension and use in other contexts (e.g., in several primary sources on the topic). Teachers also model strategies for independent word learning (*ELD.PI.11-12.6c,8.Ex*). ● Students continue to develop their understanding of figurative, connotative, and technical meanings of words and phrases in grades eleven and twelve. History/social studies teachers model and scaffold (planned and "just-in-time") this process with texts in the discipline (*ELD.PI.11-12.8.Ex*). ● Teachers employ strategies to develop students' word consciousness and encourage students to be curious about new words and new meanings of known words that they encounter. They also encourage students to be curious about new syntactical structures common to the discipline that they encounter in texts; teachers model their own processes for making sense of dense phrases and sentences. ● All students have regular opportunities to engage in brief and extended conversations about texts with a range of others in a range of contexts for a range of purposes. These opportunities contribute to language development and are particularly important for EL students (*ELD.PI.11-12.1.Ex*). Teachers encourage and support students in using target words and phrases in their discussions. ● Teachers leverage all students' experiences and ELs' native language where possible (e.g., highlighting cognates) to support vocabulary development.

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RH.11-12.10 By the end of grade 12, read and comprehend history/social studies texts in the grades 11-12 text complexity band independently and proficiently. **ELD.PI.11-12.6b.Ex** Explain inferences and conclusions drawn from close reading of grade-appropriate texts and viewing multimedia using an increasing variety of verbs and adverbials.	● All students have regular opportunities to read and discuss history/social studies texts. Increasingly complex text and rich content curriculum provide opportunities to learn new words and phrases, thereby deepening students' language development. ● Teachers model how they analyze complex sentences to understand their meanings, and they engage students in similar practices. Examining these language structures in the context of the texts the class is studying is more valuable than isolated grammar practice. It is helpful to all students, particularly EL students, to analyze or "unpack" complex sentences as examples of effective use of verb types and tenses, noun phrases, and adverbials to add and enrich details, and connect ideas (*ELD.PII.11-12.3-6.Ex*).
WHST.11-12.1-2 Write arguments and informative/explanatory texts. **ELD.PII.11-12.2b.Ex** Apply knowledge of familiar language resources for linking ideas, events, or reasons throughout a text to comprehending texts and to writing increasingly cohesive texts for specific purposes and audiences.	● All students learn to use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claims, reasons, evidence, and counterclaims; students use precise language and domain-specific vocabulary to manage the complexity of the topic and convey a knowledgeable stance in a style appropriate to the discipline and the expertise of likely readers (*WHST.11-12.1c,2d; ELD.PI.11-12.12a.Ex*). Teachers model and scaffold (planned and "just-in-time") these processes and support students as they practice.

Critical Area of Instructional Focus: Effective Expression

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RH.11-12.10 By the end of grade 12, read and comprehend history/social studies texts in the grades 11-12 text complexity band independently and proficiently. **ELD.PI.11-12.6b.Ex** Explain inferences and conclusions drawn from close reading of grade-appropriate texts and viewing multimedia.	● All students read texts in the discipline regularly in virtual and in-class history/social studies settings—both independently and collaboratively. They discuss texts with one another, articulating their ideas clearly, and drawing on evidence from the text (*WHST.11-12.9*). ● Teachers establish a climate that fosters trust, safety, equitable participation, and respect for individuals and multiple perspectives in both in-class and virtual settings. ● Teachers support students to read increasingly complex text and engage students in examining passages that represent samples of effective expression. Students and their teachers work to uncover what makes passages effective or complex, considering how a complex text is structured, including how key sentences, paragraphs, and larger portions contribute to the whole, and evaluating authors' differing points of view on the same historical event or issue by assessing the authors' claims, reasoning, and evidence (*RH.11-12.5,6*). ● Students use technology creatively (e.g., audio or video of reports, public service announcements, dramatic performances, spoken word) to present arguments, information, and narratives as individuals, partners, or small groups (*WHST.11-12.6*). ● Teachers provide mentor texts in the form of clips from podcasts, films, readings, or other performances to demonstrate powerful language and content, clear structure, and effective presentation techniques.

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
WHST.11-12.1 Write arguments focused on discipline-specific content. **WHST.11-12.2** Write informative/explanatory texts, including the narration of historical events. **ELD.PI.11-12.10.Ex** Write longer informational texts collaboratively and independently using appropriate text organization and growing understanding of register; write increasingly concise summaries of texts and experiences by using complete sentences and key words.	● All students increase their capacities to structure their writing and use language to address their task, purpose, and audience. Teachers engage students in the analysis of a variety of mentor texts representing effective examples of text organization and language use and help students apply similar strategies to their own writing (*ELD.PII.11-12.1-7.Ex*). ● Teachers model and guide co-construction of increasingly effective text aligned to purpose and audience. ● All students organize their writing in increasingly effective ways. Students introduce precise, knowledgeable claims or topics; create an organization that logically sequences the claims, counterclaims, reasons, and evidence or ideas, concepts, and information; and provide a concluding statement that follows from and supports the argument or information (*WHST.11-12.1a,1e,2a,2e*). ● All students write regularly in virtual and in-class settings—both independently and collaboratively (*WHST.11-12.10*). They use technology to produce and publish writing, collaborate with others, and update individual or shared writing products in response to ongoing feedback, including new arguments or information (*WHST.11-12.6*). ● Teachers support students in building their metacognitive awareness of their own and others' language use in writing (and speaking). Teachers create an environment that encourages students to experiment with language without being overly concerned with correctness. ● Teachers accept and value students' language varieties and establish an environment, both online and in class, that is respectful and safe for students to experiment with language.

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
WHST.11-12.5 Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.	● Teachers help students plan their writing by connecting the products of their reading (e.g., annotations, discussion notes, summaries, reflections, outlines, maps, responses to questions) to the writing task. ● Students' writing receives regular, specific feedback, so students become increasingly effective at expressing arguments and information. Teachers and peers provide feedback on longer assignments early in the process so that students can set goals for improvement and make revisions. Feedback is focused on effective communication in the discipline and selected features that have been the subject of instruction and classroom discussion. Teachers, rather than peers, offer feedback on correctness and form during the editing process. ● Feedback is expressed in positive, encouraging ways to ensure motivation and enthusiasm for creating written work are maintained. Teachers engage students in evaluating their own writing and identifying progress they have made toward their own goals.

Critical Area of Instructional Focus: Content Knowledge

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RH.11-12.1 Cite specific textual evidence to support analysis of primary and secondary sources, connecting insights gained from specific details to an understanding of the text as a whole. **WHST.11-12.9** Draw evidence from informational texts to support analysis, reflection, and research. **ELD.PI.11-12.6b.Ex** Explain inferences and conclusions drawn from close reading of grade-appropriate texts and viewing of multimedia.	● Students evaluate an author's premises, claims, and evidence in a history/social studies text by corroborating or challenging them with other information, and history/social studies teachers model and scaffold (planned and "just-in-time") this process and provide practice as needed (*RH.11-12.8*). Students practice identifying, evaluating, and expressing arguments (*ELD.PI.11-12.6a,11a.Ex*). ● Teachers integrate history/social studies and literacy using text sets on a given topic. They look for opportunities to collaborate with librarians and teachers in other departments to integrate literacy across subject areas.

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RH.11-12.4 Determine the meaning of words and phrases as they are used in a text, including analyzing how an author uses and refines the meaning of a key term over the course of a text. **ELD.PI.11-12.6c.Ex** Use knowledge of morphology, context, reference materials, and visual cues to determine the meaning of unknown and multiple-meaning words on familiar and new topics.	● Teachers help students examine vocabulary, language structures, organizational structures, and use of graphics, formats, and media in print and digital historical and social studies texts. Students identify features unique to the discipline and consider their impact on text meaning (*RH.11-12.5,7*).
RH.11-12.10 By the end of grade 12, read and comprehend history/social studies texts in the grades 11-12 text complexity band independently and proficiently. **ELD.PI.11-12.6b.Ex** Explain inferences and conclusions drawn from close reading of grade-appropriate texts and viewing multimedia.	● All students read broadly in the discipline. Teachers model and scaffold (planned and "just-in-time") as needed to help students read grade-level texts, including primary source documents. The use of text complements and contributes to content instruction; it does not replace inquiry and other content approaches. ● All students read widely in classroom and virtual settings and at home. They read to gain knowledge, to become inspired, and for pleasure. ● All students have frequent opportunities to discuss the content of the texts they read (*ELD.PI.11-12.1.Ex*); these discussions enhance students' content knowledge. ● Students have access to informational text in their home languages to amplify content knowledge and support meaning making.

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
WHST.11-12.1,2 Write arguments and informative/explanatory texts. **ELD.PI.11-12.10a.Ex** Write longer informational texts collaboratively and independently.	● All students write frequently to process information they learn through reading, viewing, and listening and to communicate their understandings and perspectives on what they have learned. As they write, students consolidate their existing and new content knowledge. ● All students use technology to collaborate with classmates, produce and publish writing, and gather information (*WHST.11-12.6,8*). ● All students conduct short as well as more sustained research projects on topics of interest and to answer a question or solve a problem. They narrow or broaden the inquiry when appropriate and synthesize multiple sources on the subject (*WHST.11-12.7; ELD.PI.11-12.6b.Ex; ELD.PII.11-12.1.Ex*). ● Students continue to gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; and they continue to integrate information into their text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation. Students now assess the strengths and limitations of each source in terms of the task, purpose, and audience and avoid overreliance on any one source (*WHST.11-12.8*). Teachers model and scaffold (planned and "just-in-time") these increasingly sophisticated processes as needed. Teachers and school librarians collaborate to help students learn to locate and evaluate sources and avoid plagiarism.

Critical Area of Instructional Focus: Foundational Skills

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RF.5.4 Read with sufficient accuracy and fluency to support comprehension.	● Ideally, students' knowledge of foundational skills is well established by the time they enter grades eleven and twelve, and history/social studies teachers continue to support students' developing reading fluency to aid comprehension. ● Support for students who lag significantly behind in foundational reading skills is provided strategically and effectively to allow for accelerated progress and full participation in core instruction.

Class Spotlight

Eleventh-grade students in Ann-Marie Farmer's U.S. history class are studying the internment of Japanese and Japanese Americans in camps during World War II and will conclude the unit by writing a document-based analysis essay online to reflect their

knowledge of the content. With the aim of supporting her students' effective expression, Ms. Farmer focuses her students on the analysis of the writing prompt. She says, "A strong writing assignment or prompt should lend itself to student analysis of task, purpose, and audience. This is especially important in asynchronous learning, when students must respond accurately to prompts without being able to ask clarifying questions in the moment." She prepares her students to parse an asynchronous writing assignment by answering the following questions:

- What is my purpose for writing this piece?
- Who is my audience?
- What is the task?

The teacher has already prepared students to understand the organizational structure and language features of a strong document-based analysis essay. Modeling for students during synchronous learning, she engages them in deconstruction exercises in which they analyze complex essays and in collaborative peer co-construction exercises. Using the digital whiteboard, she now works with students to categorize key elements of the prompt to identify purpose, audience, and task. "I want them to build the habit of doing this on their own when facing an asynchronous writing assignment," explained Ms. Farmer. Students also use digital self-assessment tools and rubrics to evaluate their own writing and submit it to their teacher, along with the writing assignment. "I've learned over the years that it starts with how solid my writing prompt is," she said. Before students begin writing, she spends time parsing the prompt. "We talk about each of these dimensions so that they're clear and I'm clear about what they need to do," said the teacher. The writing prompt reads as follows:

> What is the cost of freedom? After reading *Korematsu v. United States*, 323 U.S. 214 (1944), the Supreme Court decision upholding the internment of Japanese and Japanese Americans during World War II, write a document-based analysis essay for fellow high school history students that compares the cases brought by the plaintiff and defendant and argues whether the court ruled rightly or wrongly on its constitutionality. Be sure to support your position with evidence from the text.

"I have them underline or highlight the answer to each of these questions on their digital documents using the annotation feature," explained Ms. Farmer. "What's my purpose? *To write a document-based analysis essay,*" she begins. "Who's my audience? *Fellow high school history students*." Ms. Farmer continues. "What's my task? *Compare the cases brought by the plaintiff and defendant and argues whether the court ruled rightly or wrongly on its constitutionality*."

"They have lots of high-stakes writing in their futures with college applications and such, and I want them to be able to shine. The more they practice this analysis and use the writing process to develop effective online essays, the better prepared they will be."

Prominent Literacy/ELD Themes: Content Knowledge, Effective Expression

Associated Standards: WHST.11-12.2,4,10; ELD.PI.11-12.6b,10a,11a.Ex; ELD.PII.11-12.1.Ex

Grades Eleven and Twelve: Literacy in Science and Technical Subjects and English Language Development

In addition to the standards for English language arts, the California ELA/Literacy Standards at grades eleven and twelve include Literacy Standards in History/Social Studies, Science, and Technical Subjects. Specifically, the Literacy Standards include the following:

- Reading Standards for Literacy in History/Social Studies
- Reading Standards for Science and Technical Subjects
- Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects

These standards are based on the premise that instruction in reading, writing, speaking, listening, and language is a shared responsibility within a school. Just as students learn to read, write, speak, listen, and use language effectively in ELA, so too do they learn the literacy skills and understandings required for college and career readiness in multiple disciplines. Literacy standards for grades eleven and twelve are based on the expectation that teachers of ELA, history/social studies, science, and technical subjects use their expertise to help students meet the particular challenges of reading, writing, speaking, listening, and language in their respective fields. It is important to note that the Literacy Standards in History/Social Studies, Science, and Technical Subjects are not meant to replace content standards in those areas but rather to supplement them.

Standards and instructional considerations for literacy in science and technical subjects at grades eleven and twelve follow. They are organized by the five crosscutting themes of the *ELA/ELD Framework*—meaning making, language development, effective expression, content knowledge, and foundational skills. For each theme, key Literacy Standards and key ELD Standards at the Expanding proficiency level are indicated in the left column. Related Standards and Instructional Considerations for each theme are noted in the right column. See *Identification and Organization of the Standards* at the beginning of this document for more specific information on the format and content of the standards.

In distance learning settings, teachers should carefully consider which learning experiences are given priority during synchronous instruction. Guidelines are presented in Chapter 10 and also addressed in the Overview of the Span in this chapter.

Some key standards are included in more than one theme, or critical area of instructional focus. For example, RST.11-12.10 is crucial in meaning making, language development, effective expression, and content knowledge. Thus, it is included in the first four charts that follow. In each case, the repeated standard is displayed with a pink background to make the repetition obvious. Likewise, WHST.11-12.2 appears in several charts, and so a

different color (in this case, orange) is used to highlight the repetition. Presented first is a chart depicting the standards for grades eleven and twelve at a glance followed by detailed charts for each theme.

Critical Areas of Instructional Focus: At a Glance

Theme	Key Standards	Related Standards
Meaning Making	RST.11-12.1,10; WHST.11-12.1,2,9 ELD.PI.11-12.6b,10a,11a.Ex	*RST.11-12.2-9; WHST.11-12.4,10* *ELD.PI.11-12.1,6c,8,12.Ex; PII.11-12.1,2.Ex*
Language Development	RST.11-12.4,10; WHST.11-12.1,2 ELD.PI.11-12.6b,c.Ex; PII.11-12.2b.Ex	*ELD.PI.11-12.8,12a.Ex; PII.11-12.3-6.Ex*
Effective Expression	RST.11-12. 10; WHST.11-12.1,2,5 ELD.PI.11-12.6b,10.Ex	*RST.11-12.5,6; WHST.11-12.6,9,10* *ELD.PII.11-12.1-7.Ex*
Content Knowledge	RST.11-12.1,4,10; WHST.11-12.1,2,9 ELD.PI.11-12.6b,c,10a.Ex	*RST.11-12.5,7,8; WHST.11-12.6-8* *ELD.PI.11-12.1,6a,11a.Ex; PII.11-12.1.Ex*
Foundational Skills	RF.5.4	N/A

Critical Area of Instructional Focus: Meaning Making

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RST.11-12.1 Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps of inconsistencies in the account. **WHST.11-12.9** Draw evidence from informational texts to support analysis, reflection, and research. **ELD.PI.11-12.6b,11a.Ex** Explain inferences and conclusions drawn from close reading of grade-appropriate texts and viewing of multimedia; justify opinions and positions or persuade others by making connections between ideas and articulating relevant textual evidence or background knowledge.	● Science and technical studies students in grades eleven and twelve are expected to conduct increasingly sophisticated analyses of the texts they read and view in science and technical subjects. Students now evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information (*RST.11-12.8*). Students summarize complex concepts, processes, or information in a text by paraphrasing them in simpler but still accurate terms (*RST.11-12.2*). Students synthesize information from a range of sources into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible (*RST.11-12.9*). Science and technical studies teachers model and scaffold (planned and "just-in-time") these complex processes with a range of sources and in collaboration with English language arts teachers. ● Every student regularly engages with grade-level text with scaffolds (planned and "just-in-time") provided and adjusted in accordance with the strengths and needs of the learner. ● Text-dependent questions help students grapple with and investigate text at increasing levels of complexity. Thoughtfully prepared questions guide students to evidence that helps them analyze the author's purpose (*RST.11-12.6*). Teachers and students analyze texts to create text-dependent questions that engage students' motivations to read texts closely and that challenge and honor students' thinking. Questions aimed solely at accountability for reading are minimized. ● All students read a range of scientific and technical texts both independently and collaboratively with their peers, and they discuss these texts with their peers and teachers. Teachers occasionally read-aloud from selected passages of texts the class is studying to illustrate key points or to introduce new genres or specialized language. ● Teachers consider the purpose of the task and the EL students' proficiency levels and group them heterogeneously with Peers at more advanced levels of English proficiency for core tasks and consider homogeneous groups for identified language needs.

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RST.11-12.10 By the end of grade 12, read and comprehend science/technical texts in the grades 11-12 text complexity band independently and proficiently. **ELD.PI.11-12.6b.Ex** Explain inferences and conclusions drawn from close reading of grade-appropriate texts and viewing of multimedia.	● Students read and discuss increasingly complex texts in the discipline regularly, with special attention given to text with appropriate complexity for grades eleven and twelve. Volume of reading is critical in building reading stamina, interest, and engagement. ● Teachers support students in meaning making, teaching them to follow precisely a complex multistep procedure and analyze the specific results based on explanations in the text (*RST.11-12.3*) and to navigate unfamiliar concepts and vocabulary, including the meaning of symbols, key terms, and other domain-specific words and phrases and complex language structures (*RST.11-12.4; ELD.PI.11-12.12.Ex; ELD.PII.11-12.1,2.Ex*). Teachers guide the deconstruction of complex sentences and paragraphs to deepen students' understanding of language structures, meaning making, and authors' choices. ● Teachers support students as they learn to analyze how a text structures information or ideas into categories or hierarchies and demonstrate understanding of the information or ideas (*RST.11-12.5*) and to integrate and evaluate multiple sources of information presented in diverse formats and media in order to address a question or solve a problem (*RST.11-12.7*). ● Teachers create opportunities for all students to select the texts they read for study to capitalize on students' increasing interest in novelty, exploration, and independence. Teachers and librarians acquire and recommend texts that reflect the lives and languages of students. ● Students have many opportunities to discuss texts with peers in virtual and in-class settings (*ELD.PI.11-12.1.Ex*). They prepare for discussions, drawing on the textual evidence or other sources of information to stimulate a well-reasoned exchange of ideas. Students actively incorporate others in the discussion and demonstrate understanding of and respect for others' expression of growing knowledge. Opportunities for extended discussions are especially important for EL students.

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
WHST.11-12.1,2 Write arguments and informative/explanatory texts focused on discipline-specific content, including the narration of scientific procedures/experiments or technical processes. **ELD.PI.11-12.10a.Ex** Write longer informational texts collaboratively and independently.	● All students write about the texts they read and the investigations in which they participate; writing helps students express, refine, and consolidate their understandings of new concepts, complex texts, and learning experiences. Students use writing to capture specific details, including hypotheses and data, in a science or technical text and to record their reactions, analyses, summaries, notes, and answers to questions (*RST.11-12.1-3,8; WHST.11-12.10*). ● As they write, students convey meaning by varying their writing according to their task, purpose, and audience (*WHST.11-12.4*). They write frequently and may combine argumentative, explanatory, or narrative forms according to their purpose, task, and audience (*WHST.11-12.10*).

Critical Area of Instructional Focus: Language Development

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RST.11-12.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a scientific or technical context. **ELD.PI.11-12.6c.Ex** Use knowledge of morphology, context, reference materials, and visual cues to determine the meaning of unknown and multiple-meaning words on familiar and new topics.	● Teachers support students to read complex disciplinary texts by teaching text vocabulary explicitly, providing rich and engaging, as well as repeated, experiences with new words (*RST.11-12.4*). Teachers select a limited number of words from the text that have high utility for text comprehension and use in other contexts (e.g., in several scientific and technical subjects). Teachers also model strategies for independent word learning (*ELD.PI.11-12.6c,8.Ex*). ● Students continue to develop their understanding of figurative, connotative, and technical meanings of words and phrases in grades eleven and twelve. Science and technical studies teachers model and scaffold (planned and "just-in-time") this process with texts in the discipline (*ELD.PI.11-12.8.Ex*). ● Teachers employ strategies to develop students' word consciousness and encourage students to be curious about new words and new meanings of known words that they encounter. They also encourage students to be curious about new syntactical structures common to the discipline that they encounter in texts; teachers model their own processes for making sense of dense phrases and sentences. ● All students have regular opportunities to engage in brief and extended conversations about texts with a range of others in a range of contexts for a range of purposes. These opportunities contribute to language development and are particularly important for EL students (*ELD.PI.11-12.1.Ex*). Teachers encourage and support students in using target words and phrases in their discussions. ● Teachers leverage all students' experiences and ELs' native language where possible (e.g., highlighting cognates) to support vocabulary development.

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RST.11-12.10 By the end of grade 12, read and comprehend science/technical texts in the grades 11-12 text complexity band independently and proficiently. **ELD.PI.11-12.6b.Ex** Explain inferences and conclusions drawn from close reading of grade-appropriate texts and viewing multimedia using an increasing variety of verbs and adverbials.	● All students have regular opportunities to read and discuss scientific and technical texts and learning experiences. Increasingly complex text and rich content curriculum provide opportunities to learn new words and phrases, thereby deepening students' language development. ● Teachers model how they analyze complex sentences to understand their meanings, and they engage students in similar practices. Examining these language structures in the context of the texts the class is studying is more valuable than isolated grammar practice. It is helpful to all students, particularly EL students, to analyze or "unpack" complex sentences as examples of effective use of verb types and tenses, noun phrases, and adverbials to add and enrich details, and connect ideas (*ELD.PII.11-12.3-6.Ex*).
WHST.11-12.1-2 Write arguments and informative/explanatory texts. **ELD.PII.11-12.2b.Ex** Apply knowledge of familiar language resources for linking ideas, events, or reasons throughout a text to comprehending texts and to writing increasingly cohesive texts for specific purposes and audiences.	● All students in grades eleven and twelve learn to use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claims, reasons, evidence, and counterclaims; students use precise language and domain-specific vocabulary to manage the complexity of the topic and convey a knowledgeable stance in a style appropriate to the discipline and the expertise of likely readers (*WHST.11-12.1c,2d; ELD.PI.11-12.12a.Ex*). Teachers model and scaffold (planned and "just-in-time") these processes and support students as they practice.

Critical Area of Instructional Focus: Effective Expression

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RST.11-12.10 By the end of grade 12, read and comprehend science/technical texts in the grades 11-12 text complexity band independently and proficiently. **ELD.PI.11-12.6b.Ex** Explain inferences and conclusions drawn from close reading of grade-appropriate texts and viewing multimedia.	● All students read texts in the discipline regularly in virtual and in-class science and technical studies settings—both independently and collaboratively. They discuss texts with one another, articulating their ideas clearly, and drawing on evidence from the text (*WHST.11-12.9*). ● Teachers establish a climate that fosters trust, safety, equitable participation, and respect for individuals and multiple perspectives in both in-class and virtual settings. ● Teachers model and guide co-construction of increasingly effective text aligned to purpose and audience ● Teachers support students to read increasingly complex text and engage students in examining passages that represent samples of effective expression. Students and their teachers work to uncover what makes passages effective or complex, analyzing how a text structures information or ideas into categories or hierarchies (*RST.11-12.5*). Students also analyze the author's purpose in providing an explanation or description and identify important issues that remain unresolved (*RST.11-12.6*). ● Students use technology creatively (e.g., audio or video of reports, public service announcements, dramatic performances, spoken word) to present arguments and information as individuals, partners, or small groups (*WHST.11-12.6*). ● Teachers provide mentor texts in the form of clips from podcasts, documentary films, panel discussions, or other presentations to demonstrate specialized language and content, clear structure, and effective presentation techniques.

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
WHST.11-12.1 Write arguments focused on discipline-specific content. **WHST.11-12.2** Write informative/explanatory texts, including the narration of scientific procedures/experiments or technical processes. **ELD.PI.11-12.10.Ex** Write longer informational texts collaboratively and independently using appropriate text organization and growing understanding of register; write increasingly concise summaries of texts and experiences by using complete sentences and key words.	● All students learn that the structure and use of language in their writing varies according to the task, purpose, and audience. Teachers engage students in the analysis of a variety of mentor texts representing effective examples of text organization and language use and help students apply similar strategies to their own writing (*ELD.PII.11-12.1-7.Ex*). ● All students organize their writing in increasingly effective ways. Students introduce precise, knowledgeable claims or topics; create an organization that logically sequences the claims, counterclaims, reasons, and evidence or ideas, concepts, and information; and provide a concluding statement that follows from and supports the argument or information (*WHST.11-12.1a,1e,2a,2e*). ● All students write regularly in virtual and in-class settings—both independently and collaboratively (*WHST.11-12.10*). They use technology to produce and publish writing, collaborate with others, and update individual or shared writing products in response to ongoing feedback, including new arguments or information (*WHST.11-12.6*). ● Teachers support students in building their metacognitive awareness of their own and others' language use in writing (and speaking). Teachers create an environment that encourages students to experiment with language without being overly concerned with correctness. ● Teachers accept and value students' language varieties and establish an environment, both online and in class, that is respectful and safe for students to experiment with language.

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
WHST.11-12.5 Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.	● Teachers help students plan their writing by connecting the products of their reading (e.g., annotations, discussion notes, lab notes, summaries, reflections, outlines, maps, responses to questions) to the writing task. ● Students' writing receives regular, specific feedback, so students become increasingly effective at expressing arguments and information. Teachers and peers provide feedback on longer assignments early in the process so that students can set goals for improvement and make revisions. Feedback is focused on effective communication in the discipline and selected features that have been the subject of instruction and classroom discussion. Teachers, rather than peers, offer feedback on correctness and form during the editing process. ● Feedback is expressed in positive, encouraging ways to ensure motivation and enthusiasm for creating written work are maintained. Teachers engage students in evaluating their own writing and identifying progress they have made toward their own goals.

Critical Area of Instructional Focus: Content Knowledge

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RST.11-12.1 Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps of inconsistencies in the account. **WHST.11-12.9** Draw evidence from informational texts to support analysis, reflection, and research. **ELD.PI.11-12.6b.Ex** Explain inferences and conclusions drawn from close reading of grade-appropriate texts and viewing of multimedia.	● Students evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information; science and technical subjects teachers model and scaffold (planned and "just-in-time") these processes and provide practice as needed (*RST.11-12.8*). Students practice identifying, evaluating, and expressing arguments and explanations (*ELD.PI.11-12.6a,11a.Ex*). ● Teachers integrate science/technical subjects and literacy using text sets on a given topic. They look for opportunities to collaborate with librarians and teachers in other departments to integrate literacy across subject areas.

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RST.11-12.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a scientific or technical context. **ELD.PI.11-12.6c.Ex** Use knowledge of morphology, context, reference materials, and visual cues to determine the meaning of unknown and multiple-meaning words on familiar and new topics.	● Teachers help students examine vocabulary, including technical terms, language structures, organizational structures, and use of symbols, graphics, formats, and media in scientific and technical texts. Students identify features unique to the discipline and consider their impact on text meaning (*RST.11-12.5,7*).
RST.11-12.10 By the end of grade 12, read and comprehend science/technical texts in the grades 11-12 text complexity band independently and proficiently. **ELD.PI.11-12.6b.Ex** Explain inferences and conclusions drawn from close reading of grade-appropriate texts and viewing multimedia.	● All students read broadly in the discipline. Teachers model and scaffold (planned and "just-in-time") as needed to help students read grade-level texts, including accounts of experiments and technical processes. The use of text complements and contributes to content instruction; it does not replace inquiry and other content approaches. ● All students read widely in classroom and virtual settings and at home. They read to gain knowledge, to become inspired, and for pleasure. ● All students have frequent opportunities to discuss the content of the texts they read (*ELD.PI.11-12.1.Ex*); these discussions enhance students' content knowledge. ● Students have access to informational text in their home languages to amplify content knowledge and support meaning making.

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
WHST.11-12.1,2 Write arguments and informative/explanatory texts. **ELD.PI.11-12.10a.Ex** Write longer informational texts collaboratively and independently.	● All students write frequently to process information they learn through reading, viewing, and listening and to communicate their understandings and perspectives on what they have learned. As they write, students consolidate their existing and new content knowledge. ● All students use technology to collaborate with classmates, produce and publish writing, and gather information (*WHST.11-12.6,8*). ● All students conduct short as well as more sustained research projects on topics of interest and to answer a question or solve a problem. They narrow or broaden the inquiry when appropriate and synthesize multiple sources on the subject (*WHST.11-12.7; ELD.PI.11-12.6b.Ex; ELD.PII.11-12.1.Ex*). ● Students continue to gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; and they continue to integrate information into their text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation. Students now assess the strengths and limitations of each source in terms of the task, purpose, and audience and avoid overreliance on any one source (*WHST.11-12.8*). Teachers model and scaffold (planned and "just-in-time") these increasingly sophisticated processes as needed. Teachers and school librarians collaborate to help students learn to locate and evaluate sources and avoid plagiarism.

Critical Area of Instructional Focus: Foundational Skills

Key Literacy & ELD Standard(s)	Related Standards and Instructional Considerations
RF.5.4 Read with sufficient accuracy and fluency to support comprehension.	● Ideally, students' knowledge of foundational skills is well established by the time they enter grades eleven and twelve, and science and technical studies teachers continue to support students' developing reading fluency to aid comprehension. ● Support for students who lag significantly behind in foundational reading skills is provided strategically and effectively to allow for accelerated progress and full participation in core instruction.

Class Spotlight

Physics teacher Charlie Larson's eleventh- and twelfth-grade students use virtual labs and simulations to deepen their content knowledge and learn principles of the subject. Their next simulation will be on gravitational force and the inverse square law. "They get

all the materials in front of them, and they want to go to town," he said. "The procedural information and the questions to promote scientific thinking are on the lab sheet, but they rush through it." Mr. Larson now has lab partners collaboratively annotate the digital lab sheets before they get to work. "They're going to be writing individual lab reports after the simulation to address questions about comparison between larger and smaller masses and how they exert forces on one another," he explains.

Mr. Larson had met with the ELD teacher. Together they identified the essential science concepts and academic vocabulary that they consider inseparable from the conceptual understandings. To support students' language development, they selected eight words from the reading that will be the target academic vocabulary for the unit. The physics teacher created collaborative slides in advance for each lab group that include activities to develop the target abstract and technical academic vocabulary and concepts for the unit. The slides contain the background reading on Newton's Third Law to prepare for the simulation. "If they don't understand that, they will miss a huge learning point," he says. Collaborative digital annotation encourages students to work together as they read and discuss the text. Students read and mark the text together, using a protocol of Mr. Larson's own devising.

- Circle the verbs and write a synonym in the margin.
- Draw a slash and write the phrase "stop and observe" at each point in the lab where this will be necessary.
- Write questions about anything that is not clear to you and your lab partners so I can answer them.

"As they meet in their breakout rooms, I can see the progress on each of their slides and read their annotations," said Mr. Larson. "I get a quick measure of how well they understand what they will need to do." The physics teacher also noted that, "It's also made me get better at writing labs so that they're clear and worded in such a way that I am prompting their critical thinking, not just completing a procedure," he said. When students begin to write their lab reports, they return to their annotated version one more time. "It helps them to remember what they were thinking about before they performed the simulation, which makes it easier for them to reflect on their learning," said Mr. Larson.

Prominent Literacy/ELD Themes: Content Knowledge, Language Development

Associated Standards: RST.11-12.2,4,10; WHST.11-12.2,6,9,10; ELD.PI.11-12.1,2,10b,12a.Ex; ELD.PII.11-12.1,6,7.Ex

Note: Digital tools and resources to support the implementation of the strategies and considerations identified in this section are included in the Appendices. Please also note that digital tools referenced in Appendix B include free and premium options, and their inclusion in the guidance are largely derived from interviews with California educators. LEAs exercise local control when selecting digital tools and resources. Resources and digital tools included in the guide should not be considered endorsements by the CDE.

Glossary of Key Terms

Active Learning

An approach to learning where the student is actively engaged in their learning process, rather than passively receiving information. This can include both hands-on learning as well as minds-on learning, especially in online learning. Activities for active learning online may include, but are not limited to, simulations, games, writing, problem solving, reflection, discussion, debate, and more.

Assessment for Learning

Collecting moment-by-moment and day-by-day data aligned with learning goals with the goal of improving learning and informing instruction.

Assessment as Learning

Engaging students in self-assessment of the learning goals often using success criteria.

Assessment of Learning

Analyzing information about learning to make judgements about student performance and achievement at the end of a period of instruction.

Asynchronous Learning

Asynchronous learning occurs without direct, simultaneous interaction of participants such as videos featuring direct instruction of new content students watch on their own time.[232] Asynchronous learning can happen within a structured schedule (e.g., weekly deadlines within a course). Asynchronous learning might include collaborating with others, completing formative assessments, consuming content (e.g., watching videos), participating in discussion boards, or project-based learning.

Blended Learning

Combination of in-person and distance instruction[233] and integrates both activities to create a comprehensive learning experience (Horn & Staker, 2014).

Culturally and Linguistically Responsiveness Teaching

An approach that leverages the strengths that students of color bring to the classroom to make learning more relevant and effective. A major goal of Culturally and Linguistically Responsiveness Teaching is to reverse patterns of underachievement for students of color. Culturally Responsive Teaching requires teachers to recognize the

[232] https://www.cde.ca.gov/ls/he/hn/guidanceplanning.asp#definitions

[233] https://www.cde.ca.gov/ls/he/hn/guidanceplanning.asp#definitions

cultural capital and tools that students of color bring to the classroom and to utilize their students' cultural learning tools throughout instruction.[234]

Digital Citizenship

Signifies the attributes needed to engage with technology for the betterment of society as a whole. Includes responsible legal and ethical use of technology, online etiquette or netiquette, appropriate behavior for self and with others, digital identity, and more.

Digital Literacy

Includes the ability to find, evaluate, use, share, analyze, create, and communicate using digital technologies in a safe and secure way. More broadly, it can also stand for the ability to use digital technologies to learn and work in society.

Distance/Online Learning

Instruction in which the pupil and instructor are in different locations and pupils are under the general supervision of a certificated employee of the local educational agency. Distance learning may include but is not limited to all of the following:

- Interaction, instruction, and check-in between teachers and pupils through the use of a computer or communications technology
- Video or audio instruction in which the primary mode of communication between the pupil and certificated employee is online interaction, instructional television, video, telecourses, or other instruction that relies on computer or communications technology
- The use of print materials incorporating assignments that are the subject or written or oral feedback (*EC* 43500(a))[235]

Distance learning can take on many forms, but in this context, distance/online learning programs are facilitated formal learning experiences that are institutional-based (not self-study programs) that include interactive communication (online or otherwise) where students and teachers are physically separated from each other (Rice, 2006).

Hybrid Learning

Hybrid learning is used to describe situations in which students learn part-time with a teacher in a physical school classroom and part-time online.

Information Literacy

[234] https://www.cde.ca.gov/pd/ee/responsiveteaching.asp

[235] https://www.cde.ca.gov/ls/he/hn/guidanceplanning.asp#definitions

The access of information efficiently and effectively by reading and understanding essential content of a range of informational texts and documents in all academic areas. See California's Model Library Standards for more information.[236]

Learner Agency

Students' autonomy of their learning experience. This involves providing students with voice and choice based on their passions and interests, which allows them to take ownership and have more buy-in, investment, motivation, and engagement in what they are learning. In an online environment, teachers can support students in learning ways to advocate for themselves by using communication tools.

Learning Management System

A software platform that manages delivery of instructional content, tracks assignments, and reports progress.

Relationship Skills

One of the CASEL 5, relationship skills, is the ability to establish and maintain healthy and supportive relationships and to effectively navigate settings with diverse individuals and groups. This includes the capacities to communicate clearly, listen actively, cooperate, work collaboratively to problem solve and negotiate conflict constructively, navigate settings with differing social and cultural demands and opportunities, provide leadership, and seek or offer help when needed. Some additional components that fall under relationship skills include the following:

- Communicating effectively
- Developing positive relationships
- Demonstrating cultural competency
- Practicing teamwork and collaborative problem-solving
- Resolving conflicts constructively
- Resisting negative social pressure
- Showing leadership in groups
- Seeking or offering support and help when needed
- Standing up for the rights of others

Responsible Decision-Making

[236] https://www.cde.ca.gov/be/st/ss/documents/librarystandards.pdf

One of the CASEL 5, responsible decision-making, is the ability to make caring and constructive choices about personal behavior and social interactions across diverse situations. This includes the capacities to consider ethical standards and safety concerns and to evaluate the benefits and consequences of various actions for personal, social, and collective well-being. Some additional components that fall under responsible decision-making include the following:

- Demonstrating curiosity and open-mindedness
- Learning how to make a reasoned judgment after analyzing information, data, and facts
- Identifying solutions for personal and social problems
- Anticipating and evaluating the consequences of one's actions
- Recognizing how critical thinking skills are useful both inside and outside of school
- Reflecting on one's role to promote personal, family, and community well-being
- Evaluating personal, interpersonal, community, and institutional impacts

Restorative Practices

Includes alternative, non-punitive strategies for behavior management that emphasize inclusiveness, problem-solving, and relationship building. These may include mindfulness strategies, meditation, yoga, and reflection, as well as student and educator spaces, such as zen zones, calm corners, or wellness rooms. Restorative practices can help students whose trauma responses caused by adverse experiences may cause them to behave in ways that can be seen as out of the usual.

Self-Awareness

One of the CASEL 5, self-awareness means the ability to understand one's own emotions, thoughts, and values and how they influence behavior across contexts. This includes capacities to recognize one's strengths and limitations with a well-grounded sense of confidence and purpose. Some additional components that fall under self-awareness include the following:

- Integrating personal and social identities
- Identifying personal, cultural, and linguistic assets
- Identifying one's emotions
- Demonstrating honesty and integrity
- Linking feelings, values, and thoughts
- Examining prejudices and biases

- Experiencing self-efficacy
- Having a growth mindset
- Developing interests and a sense of purpose

Self-Management

One of the CASEL 5, social awareness, is the ability to understand the perspectives of and the ability to empathize with others, including those from diverse backgrounds, cultures, and contexts. This includes the capacities to feel compassion for others, understand broader historical and social norms for behavior in different settings, and recognize family, school, and community resources and supports. Some additional components that fall under social awareness include the following:

- Identifying and using stress management strategies
- Exhibiting self-discipline and self-motivation
- Setting personal and collective goals
- Using planning and organizational skills
- Showing the courage to take initiative
- Demonstrating personal and collective agency

Social Awareness

One of the CASEL 5 is social awareness, which is the ability to understand the perspectives of and the ability to empathize with others, including those from diverse backgrounds, cultures, and contexts. This includes the capacities to feel compassion for others, understand broader historical and social norms for behavior in different settings, and recognize family, school, and community resources and supports. Some additional components that fall under social awareness include:

- Taking others' perspectives
- Recognizing strengths in others
- Demonstrating empathy and compassion
- Showing concern for the feelings of others
- Understanding and expressing gratitude
- Identifying diverse social norms, including unjust ones
- Recognizing situational demands and opportunities
- Understanding the influences of organizations and systems on behavior

Social Emotional Learning (SEL)

Process through which all young people and adults acquire and apply the knowledge, skills, and attitudes to develop healthy identities, manage emotions and achieve personal and collective goals, feel and show empathy for others, establish and maintain supportive relationships, and make responsible and caring decisions.

Student Engagement

A students' commitment, effort, and investment in learning. Includes subcategories of behavior, cognition, and emotion (Henrie, Halverson, & Graham, 2015).

Synchronous Learning

Synchronous learning takes place in real-time, with delivery of instruction and/or interaction with participants such as a live whole-class, small group, or individual meeting via an online platform or in-person when possible.[237] It involves students and teachers interacting with content and each other at the same time during live sessions. Synchronous learning might include text-based chat, live discussions, or video conferencing sessions (e.g., Google Meet, Zoom).

Transformative SEL

Transformative SEL is a process whereby young people and adults build strong, respectful, and lasting relationships that facilitate co-learning to critically examine root causes of inequity and develop collaborative solutions that lead to personal, community, and societal well-being. This form of social and emotional learning (SEL) is aimed at promoting social justice through increased engagement in school and civic life. It emphasizes the development of identity, agency, belonging, curiosity, and collaborative problem solving within the Collaborative for Academic, Social, and Emotional Learning (CASEL) framework.

Trauma-informed Practices

Trauma-informed practices in education include having an understanding of and responsiveness to the impact that trauma can have on the learning process. These practices emphasize physical, psychological, and emotional safety, including cultivating a learning environment that builds trust, empowerment, choice, and voice, and acknowledges and combats cultural, historical, and gender issues. Also included is a sense of support and belonging from peers (Hopper et al., 2010). Understanding trauma starts with acknowledging events, experiences, and their effects on body, mind, and psyche. Also important is a knowledge of the four R's of trauma:

- ***Realize*** the impact of trauma and what can be done to help those impacted;
- ***Recognize*** signs and symptoms that result from trauma;

[237] https://www.cde.ca.gov/ls/he/hn/guidanceplanning.asp#definitions

- ***Respond*** by bringing together policy, procedures, and practices that are aligned with trauma-informed approaches; and
- ***Resist Re-traumatization*** by knowing students and potential triggers.

Well-being

A mental, physical, or emotional state of health and contentment.

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Appendix A: Full Literature Review

ISTE's California Digital Learning Integration and Standards Guidance Project Literature Review

Prepared by Caitlin Clause McLemore, Ed.D.

Introduction

ISTE's California Distance Learning Curriculum and Instructional Guidance project, funded by the Sacramento County Office of Education (SCOE), aims to draft a curriculum and instructional guide for critical subject areas related to distance learning. Specifically, the guide aims to address factors related to distance learning such as administering meaningful assessments, deciding between asynchronous and synchronous instruction, ensuring well-being, bolstering social and emotional learning skills, determining instructional time, and understanding subject-specific guidelines. The primary goal of this literature review is to identify research-based best practices for educators in distance learning in general, along with the previously identified relevant factors. ISTE and its partners will use this literature review to inform the California Distance Learning Curriculum and Instructional Guidance project, which will include a formal, written report.

Research Objective

The primary research objective for this literature review was to identify research-based best practices for educators in distance learning to inform ISTE's development of the California Distance Learning Curriculum and Instructional Guidance project. The literature review focused on critical variables related to distance learning such as administering meaningful assessments, deciding between asynchronous and synchronous instruction, ensuring well-being, bolstering social and emotional learning skills, determining instructional time, and understanding subject-specific guidelines.

Search Methodology

The following databases were used to locate sources for inclusion in the literature review:

- Gale Academic OneFile
- Google Scholar
- Michigan Virtual Learning Research Institute Research Clearinghouse for K-12 Blended & Online Learning
- Quality Matters (QM) Research Library

Search Terms

The following search terms were entered into the databases listed above to conduct a comprehensive search for relevant meta-analyses and systematic reviews:

- "K–12" AND:
    - "Distance education"
    - "Distance learning"
    - "Online learning"

Inclusion Criteria

We applied the following inclusion criteria to the articles resulting from the search:

1. Must be a meta-analysis or systematic review
2. Must be peer-reviewed (e.g., scholarly journal article, conference proceedings) or from a reputable source (e.g., educational research organization, a government department)
3. Must be published in 2000 or later
4. Must include study populations of K-12 students or teachers
5. Must relate to distance learning instructional design or pedagogical practices
6. Must be relevant to the aims of the California Distance Learning Curriculum and Instructional Guidance project

Due to the volume of individual research studies with relevant research, we limited our search to meta-analyses and systematic reviews. Meta-analyses collect individual research studies with a particular focus to calculate an overall effect size from the collected studies (Card, 2012). Systematic reviews gather an extensive collection of individual research studies with a particular focus to create an overall summary of information gathered from the collected studies. Meta-analyses provide a quantitative or numerical summary of relevant literature, while systematic reviews provide a qualitative or non-numerical summary of relevant literature. Meta-analyses and systematic reviews provide insight into an estimate of effect sizes and overall findings from relevant research.

For this literature review, included studies were required to be peer-reviewed or published through a reputable source (e.g., a government or research organization). The included studies were also required to be published in 2000 or later to provide updated technological information. Additionally, study populations were required to include K-12 students or teachers, at minimum, and several focused solely on the K-12

environment. The final inclusion criteria ensured a focus on the primary goal of the literature review, to determine best practices related to distance learning instructional design and pedagogical strategies as determined by the aims of the California Distance Learning Curriculum and Instructional Guidance project.

Search Processes

After conducting initial database queries, a list of potential sources was reviewed to ensure they met the inclusion criteria. In addition to research specifically focused on K-12 online and blended learning, this literature review also included sources that addressed or explored elements related to the overarching project topics, such as serving students with disabilities, engaging students in online learning, and identifying teacher characteristics specific to online pedagogy. Based on these criteria, a total of 23 articles remained for consideration in the review (see References). This included six meta-analyses, 16 systematic reviews, and one source that included both a systematic review and meta-analysis (Means et al., 2010). Three of the six meta-analyses and 12 of the 16 systematic reviews focused specifically on K-12 students or teachers. The rest of the sources included K-12 students or teachers within a broader scope (e.g., K-12 and higher education or adult learners).

Systematic reviews were published in peer-reviewed scholarly journals, by educational research organizations (e.g., Marzano Research, Michigan Virtual Learning Research Institute), in educational conference proceedings (e.g., Society for Information Technology and Teacher Education), or by the U.S. Department of Education. All meta-analyses were published in peer-reviewed scholarly journals (5) or by the U.S. Department of Education (2).

Literature Summary

This section includes a summary of the literature. A glossary of terms used in subsequent sections of the literature review is included in the Supplementary Materials. Table 1 includes a summary of results from meta-analyses and Table 2 includes a summary of results from systematic reviews. For more information about the characteristics and effect sizes of the meta-analyses, see Supplementary Materials.

Table 1. Summary of Results from Meta-Analyses Included in Review

Article	Purpose	Findings
Cavanaugh, 2001	Effectiveness of K-12 distance education on student learning outcomes	Student academic achievement is comparable in different settings of distance learning and traditional instruction.
Bernard et al., 2004*	Comparison research in distance education	No significant differences found in overall comparison of instructional settings.
Cavanaugh et al., 2004	Effect of distance learning on K-12 student outcomes	The effectiveness of distance learning and in-person classroom instruction is comparable.
Bernard et al., 2009*	Comparison research in distance education	Quality course design and student interactions have a positive impact on student learning.

Article	Purpose	Findings
Means et al., 2009*	Comparison of learning contexts (online, blended, face-to-face)	Students in blended/online learning environments performed better, on average, than students in face-to-face instruction. Differences may be due to instructional content, pedagogical methods, and time.
Means et al., 2013*	Comparison of learning contexts (online, blended, face-to-face)	Students in blended/online learning environments performed better, on average, than students in face-to-face instruction. Differences may be due to instructional content, pedagogical methods, and time.
Larwin & Erickson, 2016	Effectiveness of distance education on achievement for K-12 students with disabilities	Students with disabilities performed better online compared to those in face-to-face instruction, but worse than students without disabilities in the same online courses. Effective communication and high-quality student-teacher interactions are ultimately what impact student learning outcomes.

*included all learners (not just focused on K-12)

Table 2. Summary of Results from Systematic Reviews Included in Review

Article	Study purpose	Key findings
Rice, 2006	Examining student and teacher characteristics and qualities in distance education	Some learners succeed online and some do not. Understanding student success comes from a learner-focused, not tool-focused, approach. Teacher quality may be the most influential factor in student success.
Barbour & Reeves, 2009*	Exploring the benefits and challenges of virtual schools and identifying student characteristics of online learners	Learning is a social experience. Typical characteristics of online learners include autonomy and independence, but K-12 students need more guidance and structure.
Cavanaugh, Barbour, & Clark, 2009	Examining K-12 online learning including benefits and challenges, educator roles, and learning models.	Mixed results determining the advantages or disadvantages of online learning models. Online learning might result in better outcomes, but there is no guarantee of effectiveness.
Means et al., 2009*	Comparison of learning contexts (online, blended, face-to-face)	Blended/online learning environments resulted in comparable student learning outcomes when compared with face-to-face instruction.
Vasquez & Straub, 2012	Examining online learning research related to students with disabilities and teachers	Students with disabilities performed better when familiar with content, tools, and through exposure to accessible websites. Educators and researchers need to identify accessible online instructional methods.

Article	Study purpose	Key findings
Hasler-Waters, Barbour, & Menchaca, 2014	Describing and evaluating the effectiveness of online charter schools	Lack of evidence of effectiveness with full-time online learning as compared to traditional schools.
Barbour, 2015	To challenge the expansion of full-time, K-12 online learning programs	Lack of reliable research evidence to support the expansion of full-time online learning. Student performance in full-time charter or virtual schools sometimes indicates lower or mixed results compared to traditional schools.
Henrie, Halverson, & Graham, 2015*	Measuring student engagement in technology-mediated learning	Student engagement levels provide information about student academic and social outcomes, helps identify students who need additional support, and provides evidence of activity, course, or tool quality.
Brodersen & Melluzzo, 2017	Determining the effectiveness of differentiated learning programs on student achievement outcomes in K-12 online, blended, and face-to-face learning programs	Blended learning programs that exhibited a statistically significant effect on student achievement outcomes: Cognitive Tutor Algebra 1, LeapTrack, READ 180, Time to Know. All blended learning programs used online information to inform in-class instruction.
Martin, Ahlgrim-Delzel, & Budhrani, 2017*	Examining characteristics of synchronous online learning (e.g., content, student characteristics)	Modern technology tools provide synchronous learning opportunities that “enable communication, collaboration, and critical discussion” (p. 12).
Barbour, 2018	To explore how higher education blended and online learning research can inform K-12 blended and online learning	Learning analytics can help to evaluate pedagogical effectiveness. Online educators hold multiple roles of teacher, facilitator, and designer.
Pulham & Graham, 2018	Comparing K-12 online and blended teaching	Instructional design is critical to online learning. In blended learning, it is important to integrate online and face-to-face instruction. Successful teachers in blended learning environments exhibit a commitment to change, growth mindset, and self-reflection. Dynamic digital materials are adaptive, interactive, and personalized.
Pulham, Graham, & Short, 2018	Comparing teaching competencies for blended, online, and face-to-face learning	Research indicates that teachers need different skills to be successful in blended, online, and face-to-face learning environments, but often these differences are not acknowledged within teacher competencies or preparation programs.

Article	Study purpose	Key findings
Arnesen et al., 2019	Examining K-12 online learning research	K-12 online learning research includes high-quality scholars that are also influential in the broader fields of distance learning and educational technology. Top K-12 online learning research topics include assessment, creating and evaluating distance education programs, student characteristics, student achievement outcomes, and teacher preparation.
Hu et al., 2019	Examining K-12 online learning research published in the Journal of Online Learning Research	The majority of K-12 online learning research focuses on context comparison. The Journal of Online Learning Research is the leading publication for K-12 online learning research.
Arnesen et al., 2020	Examining low and uncited K-12 online learning research	Low and uncited K-12 online learning research often focuses on international and rural school settings, but also explores general benefits and challenges.
Barbour, 2020	K-12 online learning research	“It does not matter if the student is separated by time, place, path, and/or pace from their teacher or other students. As long as the appropriate conditions for learning are present, learning will occur” (p. 15).

*included all learners (not just focused on K-12)

Research Findings

To summarize research findings, we integrated findings from both meta-analyses and systematic reviews into one comprehensive section. Topics include general findings on K-12 distance learning, benefits, effective pedagogical strategies, asynchronous vs. synchronous learning, assessment, teacher quality, student characteristics, and challenges. Not included in the initial sections but noted in the research findings section are citations to chapters from the Handbook of Research on K-12 Online and Blended Learning (Kennedy & Ferdig, 2018). Each chapter within the Handbook serves as a literature review around key topics, highlighting research-based best practices.

Distance learning is comparable to traditional classroom instruction

Some sources found a modest improvement in student learning outcomes in online learning environments (Barbour & Reeves, 2009; Means et al., 2013), while others found a lack of evidence of effectiveness when comparing full-time online learning with traditional instruction (Hasler-Waters, Barbour, & Menchaca, 2014; Barbour, 2015). However, in most of the meta-analyses that compared blended or online learning to traditional classrooms, overall effect sizes were small and often close to zero (Cavanaugh, 2001; Bernard et al., 2004; Cavanaugh, 2004; Means et al., 2009). These results indicated no difference in the impact of instructional setting on student

achievement, engagement, or other student learning outcomes. For more information on effect sizes, see Supplementary Materials.

Though overall effect sizes were small, the effect sizes reported within individual studies varied widely. As such, researchers in both meta-analyses and systematic reviews surmised that factors of course quality, instructional design, meaningful interactions, pedagogical methods, and student characteristics contributed a greater impact on student learning than differences in instructional setting (Bernard et al., 2004; Cavanaugh et al., 2004; Bernard et al., 2009; Cavanaugh, Barbour, & Clark, 2009; Larwin & Erickson, 2016; Pulham & Graham, 2018). This sentiment was best expressed by Barbour (2020), who stated that "it does not matter if the student is separated by time, place, path, and/or pace from their teacher or other students. As long as the appropriate conditions for learning are present, learning will occur" (p. 15). Rather than focusing on where learning happens, the focus should be on "who is teaching, who is learning, and how that learning is accomplished" (Rice, 2006, p. 440).

K-12 distance learning is unique

Due to the developmental needs of young learners, K-12 distance learning cannot (or rather, should not) replicate higher education (Cavanaugh et al., 2004). For example, K-12 students may find synchronous instruction more beneficial as it is "better suited to their academic schedules and their need for spontaneous guidance and feedback" (Bernard et al., 2004, p. 33). As they are still developing as learners, K-12 students need additional guidance and support in online learning environments, particularly in developing intrinsic motivation (Vazquez & Straub, 2012) and social skills (Rice, 2006).

Benefits of distance learning

- The most referenced benefit to distance learning included expanding access to opportunities that students would not otherwise be able to access (Cavanaugh, 2001; Cavanaugh et al., 2004; Barbour & Reeves, 2009; Means et al., 2009; Vazquez & Straub, 2012; Means et al., 2013; Hasler-Waters, Barbour, & Menchaca, 2014; Arnesen et al., 2020). Distance learning provides opportunities to serve diverse student populations. For example, students with health issues that prevent them from attending in-person schools can take online courses, or students in rural locations have access to a wider variety of course offerings.

- Distance learning facilitates skill development of digital age skills, such as collaboration, critical thinking, metacognition, and self-reflection (Cavanaugh et al., 2004; Means et al., 2009; Means et al., 2013). This occurs through increased opportunities for interactive (Means et al., 2013) and reality-based (Cavanaugh, 2001) learning.

- Distance learning provides students with increased flexibility and choice (Rice, 2006; Barbour & Reeves, 2009; Means et al., 2009; Vazquez & Straub, 2012; Hasler-Waters, Barbour, & Menchaca, 2014; Pulham & Graham, 2018; Arnesen et al., 2020). With online courses, students can choose a learning path that

works best for them. Additionally, students can often adjust their course schedules to accommodate other timing constraints.

- Distance learning also increases exposure to diverse perspectives (Cavanaugh, 2001) and increases student motivation (Barbour & Reeves, 2009).

Learning is a social experience

Based on Interaction and Social Presence theory, online learning requires a variety of social interactions (Garrett Dikkers, 2018; Moore, 1989). Quality student interactions increase cognitive engagement, which in turn improves student outcomes including content retention (Rice, 2006; Barbour & Reeves, 2009; Bernard et al., 2009; Henrie, Halverson, & Graham, 2015, Larwin & Erickson, 2016; Garrett Dikkers, 2018).

Student interaction types include student-student (how students interact with their peers), student-teacher (how students interact with their teachers), and student-content (how students interact with course content).

- The most effective student-teacher interactions focused on critical and higher-order thinking, rather than content (Bernard et al., 2009). Consistent, positive relationships with teachers can improve retention rates in online learning, particularly for at-risk students (Rice, 2006).

- High-quality, positive student-student interactions facilitate increased motivation and improved cognitive processes (Bernard et al., 2009).

A common concern with online learning is a lack of social interaction, particularly with younger students. To address this concern, teachers should utilize technology tools such as discussion boards and synchronous sessions (e.g., chat, video conferencing) to facilitate student-student and student-teacher interactions and decrease feelings of social isolation (Rice, 2006). Students report positive feedback on communication tools like chat or instant messaging in virtual learning spaces because it allows them to communicate and socialize with others, both in formal and informal conversation with their peers and teachers (Barbour & Reeves, 2009).

In addition to online communication tools, some social support strategies that can benefit students include “the encouragement of reflective thinking” and “dialogue, interaction and extension of ideas with feedback from peers and mentors on emerging issues” (McLoughlin, 2002, p. 152).

Student emotional engagement includes students’ feelings about learning, as well as their social connections with other students (Henrie, Halverson, & Graham, 2015). Emotional engagement, along with behavioral and cognitive engagement, contributes to students’ academic achievement, persistence, and satisfaction as it helps students to develop social presence (Bernard et al., 2009).

Incorporating student support structures is critical for student success in online learning. These support structures include, but are not limited to, behavioral, affective, and

cognitive domains, and these can include help from peers, educators, the community, outside experts, and family/caregivers (Borup et al., 2020). Additionally, at-risk students need academic, behavioral, and mental support through a caring community, positive school climate, and connection with others (Repetto, Spitler, & Cox, 2018).

Effective pedagogical strategies for impacting student learning outcomes in blended or online learning environments

- Students in online learning environments benefit from individualized instruction (Cavanaugh, 2001; Vazquez & Straub, 2012; Hasler-Waters, Barbour, & Menchaca, 2014; Pulham & Graham, 2018; Arnesen et al., 2020) and a student-centered approach to learning (Rice, 2006; Pulham & Graham, 2018).

- Student-centered learning includes:

    - Opportunities for student-student collaboration (Means et al., 2009).

    - Interactive lessons that facilitate digital age skills, such as collaboration, critical thinking, metacognition, and self-reflection (Cavanaugh, 2001; Means et al., 2009; Larwin & Erickson, 2016).

    - Meaningful small group discussions (Cavanaugh, 2001; Vazquez & Straub, 2012) that use guiding questions (Means et al., 2010) based on real-life scenarios (Barbour, 2018).

- Using digital learning materials and tools can improve student learning outcomes through dynamic, interactive, multimodal, and personalized learning experiences (Bernard et al., 2009; Pulham & Graham, 2018). These materials and tools incorporate data-informed decision-making to guide instruction and help students better understand more complex concepts in an efficient manner. Examples of digital learning materials and tools include content-specific websites (e.g., Khan Academy, Newsela), collaboration and creation tools (e.g., Flipgrid, G Suite for Education, Screencastify, WeVideo), learning management systems (e.g., Blackboard, Brightspace, Canvas, Google Classroom), and more. Additionally, using student data from digital learning tools can provide useful learning analytics for determining pedagogical effectiveness (Barbour, 2018).

- Providing access to a learning coach or other local support is critical to student success in online learning (Borup, 2018; Barbour, 2015). Parents often serve in this role, yet they are unprepared to be successful in supporting students (Hasler-Waters, Barbour, & Menchaca, 2014). Thus, schools and teachers need to partner with students' families to provide a community of support for online learners.

- In blended learning, it is important to make clear curricular connections between in-person and online learning activities (Cavanaugh, 2001; Brodersen & Melluzzo, 2017; Pulham & Graham, 2018).

Asynchronous vs. synchronous learning

In general, effect sizes for student achievement favored asynchronous learning over face-to-face instruction but favored face-to-face instruction over synchronous learning (Bernard et al., 2004). With asynchronous learning, students exhibited improved achievement and attitudes but lower retention rates.

For asynchronous learning, researchers found that a focus on active learning, collaboration, project-based learning, and quality course design was more impactful than which technology materials and tools were used (Bernard et al., 2004). For synchronous learning, researchers found the biggest impact on student learning when it was utilized to "enable communication, collaboration, and critical discussion" (Martin, Ahlgrim-Delzel, & Budhrani, 2017, p. 12).

Regarding student development, younger children need more guidance and support in developing communication skills in virtual spaces (Rice, 2006; Barbour & Reeves, 2009). Teachers can utilize Vygotsky's zone of proximal development to design activities and opportunities for social interaction that are developmentally appropriate (Barbour & Reeves, 2009).

Teacher quality may be the most influential factor in student success, regardless of setting.

As stated by Rice (2006), technology "cannot substitute for well-designed instruction and opportunities to engage in purposeful, interactive learning activities" (p. 440). Teacher competencies contributing to student learning include providing meaningful feedback (Cavanaugh, Barbour, & Clark, 2009), exhibiting a growth mindset, and engaging in self-reflection (Pulham & Graham, 2018).

In addition to teaching duties, educators in online courses also hold multiple roles, depending on the setting, such as instructional designer and technology support (Barbour, 2018). An exemplar of online course design, the Florida Virtual School (FLVS) supports educators through collaborative teams that include an educator, but also instructional designer, web designers, technology support, and other support staff to ensure a successful learning experience for students (Barbour & Reeves, 2009).

Assessment in online learning environments

Assessment in online learning should include formative and summative assessment to determine student learning outcomes, including product, process, and progress (Barbour, 2018; Pulham & Graham, 2018). Online assessments should utilize technology tools to provide individualization and personalization utilizing multiple data sources (Pulham & Graham, 2018). Some examples of formative assessment in online learning environments include discussion participation, e-portfolios, and self-testing (Barbour, 2018).

Characteristics of successful online learners

Successful online learners exhibit independence through individual characteristics, such as autonomy (Barbour & Reeves, 2009), high levels of motivation (Barbour & Reeves, 2009), persistence (Cavanaugh et al., 2004; Rice, 2006), responsibility (Rice, 2006; Barbour & Reeves, 2009), and self-regulation (Cavanaugh et al., 2004; Rice, 2006). Additionally, sufficient access to technology and skills for using available technology contributed to a successful online learning experience (Rice, 2006).

Concerning students with disabilities, researchers found that these students performed better in online learning environments compared to similar students in face-to-face instruction, but performed worse than students without disabilities participating in the same online courses (Larwin & Erickson, 2016). Instructional strategies found to help improve the learning outcomes of students with disabilities included student familiarity with the content topic and tools being used, as well as student exposure to accessible websites (Basham et al., 2018; Rice & Dykman, 2018; Vazquez & Straub, 2012).

Student engagement levels during participation in online courses can help to identify students who need additional support, provide evidence of quality (e.g., activity, course, tool), and indicate student academic or social outcomes (e.g., achievement, interaction with others, motivation to succeed, participation; Henrie, Halverson, & Graham, 2015).

Challenges of distance learning

Researchers found several challenges of online and blended learning:

- Access to the infrastructure, resources, and tools needed for participation (Rice, 2006; Barbour & Reeves, 2009; Arnesen et al., 2020). Investment in infrastructure is needed to adequately support online teaching and learning, including startup costs for implementation of blended or online learning programs.

- Accountability of students in completing coursework and schools in providing a quality learning experience (Rice, 2006; Barbour & Reeves, 2009). With students, the retention rates in online courses are often lower, meaning students drop out of these courses at higher rates (Hasler-Waters, Barbour, & Menchaca, 2014).

- Teacher preparedness for online teaching (Arnesen et al., 2019; Archambault & Kennedy, 2018; Dawson & Dana-Fichtman, 2018). Teachers often do not receive appropriate training for blended or online learning within teacher preparation programs. This creates a gap between teachers' ability and comfort level to teach in a digital learning environment.

Challenges and Considerations

- Meta-analyses include quantitative results from a large collection of research studies, meaning information is summarized which thus reduces the

methodological issues present in individual studies (Card, 2012). However, meta-analyses can vary in quality based on their inclusion criteria.

- Some of the systematic reviews and meta-analyses focused on all learners rather than a specific focus on K-12 students. Thus, results from these studies may not be as applicable to K-12 students or teachers due to their unique developmental needs.

- Most of the systematic reviews and meta-analyses we examined reported a wide variability of effect sizes within individual studies. Furthermore, individual studies often included numerous variables. For brevity purposes, we only included the overall effect sizes for major variables.

- To provide a comprehensive literature review, we included sources that were not published in peer-reviewed scholarly journals. However, we only included additional studies from reliable publication sources, such as educational conference proceedings, government, and non-profit educational research organizations.

- Although we are confident that the list of sources, systematic reviews, and meta-analyses is comprehensive, due to the broad scope of the project and its goals, this literature review is likely not exhaustive of all related literature. Rather than presenting a definitive conclusion on the effectiveness of distance education, the goal of this literature review was to identify best practices for curriculum and instruction in online learning environments.

Conclusion

This literature review identified several research-based best practices for educators in distance learning. In general, research findings from both quantitative and qualitative studies indicated no significant difference between instructional settings (e.g., blended, distance, in-person). Rather, course quality, instructional design, meaningful interactions, pedagogical methods, student characteristics, and support structures provide more meaningful impact on student learning outcomes (Bernard et al., 2004; Cavanaugh et al., 2004; Bernard et al., 2009; Cavanaugh, Barbour, & Clark, 2009; Larwin & Erickson, 2016; Pulham & Graham, 2018). These factors can be present (or not) in any instructional setting. As such, educators should focus their attention on effective pedagogical strategies to design high-quality, meaningful, and supportive learning experiences. In an online learning environment, this includes preparing educators for online teaching, understanding the benefits and challenges of digital spaces, balancing asynchronous and synchronous learning activities, implementing engaging and motivating activities for active learning, supporting students in personalized ways, designing meaningful formative and summative assessments, and guiding students to develop habits for successful online learning.

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Supplementary Materials

Glossary

- Asynchronous learning involves students and teachers interacting with content and each other at different times. Asynchronous learning can happen within a structured schedule (e.g., weekly deadlines within a course). Asynchronous learning might include collaborating with others, completing formative assessments, consuming content (e.g., watching videos), discussion board participation, or project-based learning.

- Synchronous learning involves students and teachers interacting with content and each other at the same time during live sessions. Synchronous learning might include text-based chat, live discussions, or video conferencing sessions (e.g., Google Meet, Zoom).

- Blended learning includes both in-person and online learning and integrates both activities to create a comprehensive learning experience (Horn & Staker, 2014).

- Distance/online learning can take on many forms, but in this context of this literature review we considered distance/online learning programs that facilitated formal learning experiences, were institutional-based (not self-study programs), included interactive communication (online or otherwise), and where students and teachers were physically separated from each other (Rice, 2006).

- Online charter school: K-12 program publicly funded and governed by the state, where most of the schooling occurs online (Hasler-Waters, Barbour, & Menchaca, 2014).

- Student engagement: A students' commitment, effort, and investment in learning. Includes subcategories of behavior, cognition, and emotion (Henrie, Halverson, & Graham, 2015).

Characteristics of Meta-Analyses Included in Review

Study	Variable(s)	# primary studies	Overall sample size	Date range of primary studies
Cavanaugh, 2001	Achievement	19	929	1980-1998
Bernard et al., 2004	Achievement	232 total 11 K-12 studies	57,019	1985-2002
Bernard et al., 2004	Attitude	232 total 11 K-12 studies	35,365	1985-2002
Bernard et al., 2004	Retention	232 total 11 K-12 studies	3,744,869	1985-2002
Cavanaugh et al., 2004	Student outcomes	14	7561	1999-2004
Bernard et al., 2009	Achievement/ attitude	74	N/A	1985-2006
Means et al., 2009	Context comparison	45	N/A	1996-2008
Means et al., 2009	K-12 learners	5	N/A	1996-2008
Means et al., 2013	Context comparison	45	N/A	1996-2008
Means et al., 2013	K-12 learners	5	N/A	1996-2008
Larwin & Erickson, 2016	Achievement	7	24,031 (total) 3,558 (students with disabilities)	2005-2014

Effect Sizes from Meta-Analyses Included in Review

Study	Variable(s)	Mean effect size
Cavanaugh, 2001	Achievement	0.147
Bernard et al., 2004	Achievement	0.0128 (overall) -0.1022 (synchronous) 0.0527 (asynchronous)

Study	Variable(s)	Mean effect size
Bernard et al., 2004	Attitude	-0.0812 (overall) -0.1846 (synchronous) -0.0034 (asynchronous)
Bernard et al., 2004	Retention	-0.0573 (overall) 0.0051 (synchronous) -0.0933 (asynchronous)
Cavanaugh et al., 2004	Student outcomes	-0.028
Bernard et al., 2009	Student interactions on achievement/attitude (overall)	0.38
Bernard et al., 2009	Student-student	0.49
Bernard et al., 2009	Student-teacher	0.32
Bernard et al., 2009	Student-content	0.46
Means et al., 2009	Online & blended learning vs. face-to-face classroom instruction	0.20
Means et al., 2009	K-12 learners	0.1664
Means et al., 2013	Online & blended learning vs. face-to-face classroom instruction	0.20
Means et al., 2013	K-12 learners	0.1664
Larwin & Erickson, 2016	Achievement	-0.015
Larwin & Erickson, 2016	Students with disabilities online vs. students with disabilities face-to-face	0.497
Larwin & Erickson, 2016	Students with disabilities online vs. students without disabilities online	-0.561

Appendix B: Digital Tools Matrix[238]

The chart below organizes digital tools referenced in the guide by type, cost, publisher, grade-level, description, and how teachers and students may use them in service of learning.

Tool	Tool Type	Description	Teacher Use	Student Use
Adobe Spark Publisher: Adobe URL: https://spark.adobe.com Cost: Free and premium Grades: K-12	● Audio creation ● Video creation ● Digital storytelling ● Infographics	Adobe Spark is an integrated suite of media creation applications. It is comprised of three separate design apps: Spark Page, Spark Post, and Spark Video.	● Create graphics, short videos, and web pages.	● Create graphics, short videos, and web pages. ● Create engaging and creative components for a project or assignment.
Bamboozle Publisher: Bamboozle URL: https://www.baamboozle.com Cost: Free and premium Grades: K-8	● Assessment ● Gamification	Bamboozle is a game-based learning platform that offers engaging activities for learners.	● Create or use pre-made assessment-based activities in a gamified environment.	● Utilize game-based assessment activities assigned by teachers.

[238] Appendix B includes digital tools to support the implementation of the strategies and considerations identified in the *California Digital Learning Integration and Standards Guidance*. The digital tools are available free and premium, and their inclusion in the guidance are largely derived from interviews with California educators. LEAs exercise local control when selecting digital tools and resources. The digital tools listed should not be considered endorsements by the CDE.

Tool	Tool Type	Description	Teacher Use	Student Use
Edji Publisher: Edji URL: https://edji.it Cost: Free and premium Grades: K-12	● Note-taking and annotation ● Knowledge organization and sharing ● Assessment ● Synchronous text discussion	Edji is a collaborative classroom reading tool used to check students' understanding of shared articles.	● Create or use pre-made articles and issue them to students for reading comprehension. ● View real time reflections and thoughts of students while they are reading an article. ● Allow students to view peer insights.	● Annotate an assigned article individually or collaboratively with classmates. ● Leave notes on highlighted using text and/or audio.
Edpuzzle Publisher: Edpuzzle Inc. URL: https://edpuzzle.com Cost: Free and premium Grades: K-12	● Video streaming ● Video sharing ● Interactive assessment	Edpuzzle is a video assessment tool capable of assessing student understanding using questions placed throughout the Edpuzzle video.	● Create or use pre-made videos from the publisher's website. ● Create videos with different question types to quickly assess student understanding.	● Interact with an assigned video through different question types created by the teacher. ● Rewind videos to review information if unsure of a question.
Edulastic Publisher: Snapwiz Inc URL: https://edulastic.com Cost: Free and premium Grades: K-12	● Assessment	Edulastic is an online tool with technology-enhanced assessment items, which offer an insight into student learning and growth.	● Create or use pre-made assessments from the publisher's platform. ● Use question types linked to state standards to track student learning and growth.	● Gain familiarity with the flow and style of typical state assessments.

Tool	Tool Type	Description	Teacher Use	Student Use
Flipgrid Publisher: Microsoft URL: https://info.flipgrid.com/ Cost: Free Grades: K-12	● Video creation and editing ● Audio creation and editing ● Video sharing ● Audio sharing ● Discussion forum ● Screen recording ● Multimodal production	Flipgrid is a video response system which allows students to record verbal responses to questions posed in class.	● Create "grids" to facilitate video discussions. ● Use grids to function as a virtual message board. ● Pose questions, called "topics" that appear in a tiled grid display.	● Respond to classroom questions through video or audio. ● Respond creatively through the use of images, text, and whiteboarding.
Formative Publisher: Formative URL: https://goformative.com/ Cost: Free and premium Grades: K-12	● Lesson authoring ● Assessment ● Online whiteboarding	Formative is a web-based tool that allows teachers to create digital formative assessments, tasks, or assignments that are easily accessible from any electronic device.	● Create classroom assessments with multiple question types to gain real time analytics and check for student understanding.	● Respond to different question types with text, audio, or digital ink.
Insert Learning Publisher: Insert Learning URL: https://insertlearning.com/ Cost: Free and premium Grades: K-12	● Synchronous text discussion ● Assessment	Insert Learning is a web-based tool that allows teachers to insert different question types on any web page.	● Insert questions, discussions, and comments directly into any website. ● See when students go to a website, view their responses to questions and discussions, and check for understanding.	● Actively learn through engagement with questions embedded directly into website. ● Respond to questions, discussions, and take notes directly on a web page.

Tool	Tool Type	Description	Teacher Use	Student Use
Google Jamboard Publisher: Google URL:https://jamboard.google.com/ Cost: Free and premium Grades: K-12	● Synchronous text discussion ● Image sharing ● Mindmapping ● Online whiteboarding	Jamboard is a digital whiteboard that offers a collaborative experience for teams and classrooms. Teachers can create a "Jam," edit it from any device, and share it with students.	● Create collaborative whiteboards for students to work collaboratively. ● Create backgrounds or scenes with items students can manipulate to demonstrate understanding in a variety of subjects.	● Demonstrate understanding in a collaborative environment through the use of images, text, sticky notes, and digital ink.
Kahoot! Publisher: Kahoot! URL:https://kahoot.com/ Cost: Free and premium Grades: K-12	● Assessment ● Gamification	Kahoot! is a game-based learning platform. Its learning games, "Kahoots", are user-generated multiple-choice quizzes that can be accessed via a web browser or the Kahoot! application.	● Create or use pre-made games to assess student understanding through gamified assessments. ● Use games to be run synchronously as a whole class activity or assigned as an asynchronous student-paced activity.	● Learn content through a gamified learning platform. ● See the question on teachers' projected screen and choose their answer from their own device. ● See each question point value and compete to see who can answer the most questions correctly.
Loom Publisher: Loom Inc URL: https://www.loom.com/ Cost: Free and premium Grades: K-12	● Video creation and editing ● Video sharing ● Screen recording	Loom is a video and screen recording tool which can be initiated from the Loom website, chrome extension, or Gmail response.	● Record messages for students and/or screen record "how to" guides to ensure student understanding. ● Communicate through video messages rather than through text alone with the publisher's Gmail integration.	● Record a video response and/or showcase digital work through screen recording features. ● Send video answers to teachers rather than through text alone.

Tool	Tool Type	Description	Teacher Use	Student Use
Mote Publisher: Mote URL:https://www.justmote.me/ Cost: Free and premium Grades: K-12	● Synchronous text discussion ● Audio creation ● Accessibility	Mote is a Chrome extension that lets users easily add voice notes and feedback to shared documents and assignments.	● Leave verbal feedback into the comments section of any Google application. ● Use student voice to automatically transcribe audio messages and place it text alongside the original voice note.	● Listen to a voice note left by the teacher. ● Read the transcribed message in text if they cannot hear the voice note. ● Have the voice transcribed into a different language.
Nearpod Publisher: Renaissance URL:https://nearpod.com/ Cost: Free and premium Grades: K-12	● Lesson authoring ● Knowledge organization and sharing ● Video sharing ● Assessment ● Presentations ● Digital pinboard	*Nearpod is a digital tool capable of creating* interactive lessons, videos, and formative assessments.	● Create interactive lessons using previously made PowerPoint or Google Slide presentations. ● Create or use pre-made lessons directly from the publisher's platform. ● Embed multiple question types at any point during the lesson to check for understanding.	● Become more engaged with a lesson through multiple question types like "Draw It", VR Field Trips, or free responses. ● Take notes during the presentation through the built-in note feature.
Padlet Publisher: Padlet URL:https://padlet.com/ Cost: Free and premium Grades: TK-12	● Audio sharing ● Video sharing ● Synchronous text discussion ● Discussion forum ● Digital pinboard	Padlet is a digital tool which can be used by students and teachers to post notes on a common page. The notes posted by teachers and students can contain links, videos, images, and document files.	● Use digital tools to generate collaborative ideas and checks for understanding. ● Create running lists of resources throughout the year or a one-time discussion board for the day.	● Respond to text, voice, video, images, or any combination of the above. ● Interact with other students' messages, upvote, like, or comment.

Tool	Tool Type	Description	Teacher Use	Student Use
Pear Deck Publisher: Pear Deck Inc URL:https://www.peardeck.com/ Cost: Free and premium Grades: K-12	● Audio sharing ● Video sharing ● Lesson authoring ● Presentation ● Interactive assessment	Pear Deck is an interactive presentation tool used to actively engage students in individual and social learning. Teachers can use Pear Deck to create interactive presentations that allow students to work independently to respond to various questions throughout the 'deck'.	● Create interactive lessons from previously made PowerPoint or Google Slide presentations. ● Embed multiple question types at any point during a lesson to check for understanding.	● Become more engaged with a lesson through multiple question types like drawing, free response, fill in the blank, and true or false.
Quizalize Publisher: Zzish Ltd URL:https://www.quizalize.com/ Cost: Free and premium Grades: K-12	● Interactive assessment ● Gamification	Quizalize is a gamified assessment tool with standards-tagged quizzes. Teachers receive instant data on student mastery and can automatically assign differentiated follow-up activities.	● Use quizzes with standards-tags to efficiently track mastery data. ● Use the Quizalize platform to automatically assign different resources to students depending on their quiz score.	● Become more engaged with a lesson through a gamified assessment platform.

Tool	Tool Type	Description	Teacher Use	Student Use
Quizizz Publisher: Quizizz Inc URL:https://quizizz.com/ Cost: Free and premium Grades: K-12	● Interactive assessment ● Gamification ● Presentation ● Lesson authoring	Quizizz allows teachers to create gamified quizzes, lessons, presentations, and flashcards for students.	● Create or use pre-made games to assess student understanding through gamified assessments. ● Use games, run synchronously or asynchronous, as a whole class activity or assigned to students individually.	● Learn content through a gamified learning platform. ● Move at set pace through assessments. ● See each question with a point values so that entire classes can compete to see who can answer the most questions correctly.
Screencastify Publisher: Screencastify URL:https://www.screencastify.com/ Cost: Free and premium Grades: K-12	● Video creation and editing ● Video sharing ● Audio creation and editing ● Audio sharing ● Screen Recording	Screencastify is a video and screen recording tool which can be initiated from the Screencastify website or Chrome extension. The videos can be stored on the Screencastify website or automatically updated to Google Drive.	● Record messages for students and/or screen record “how to” guides to ensure student understanding. ● Automatically upload the videos to Google Drive, and then link the file as video comments onto any student work or embed into Google Slides.	● Record a video response and or showcase digital work through screen recording features. ● Automatically upload videos to Google Drive, and send video answers to teachers, rather than through text messages alone. ● Link files as a video response in other Google tools (e.g., Google Slides).

Tool	Tool Type	Description	Teacher Use	Student Use
Seesaw Publisher: Seesaw URL:https://web.seesaw.me/ Cost: Free and premium Grades: TK-5	● Audio creation and editing ● Audio sharing ● Video creation and editing ● Video sharing ● Online whiteboard ● Lesson authoring ● Digital storytelling	Seesaw uses built-in multimodal tools to capture what students know in Seesaw's digital portfolio. Teachers see all stages of student thinking and progress, enabling them to better adjust their instruction.	● Assign work pages and activities to students or observe student commentary in their digital portfolio.	● Complete activities assigned by teachers or capture what they have learned through their digital portfolio. ● Add images, take pictures, and leave audio or video answers.
Soundtrap Publisher: Spotify URL:https://www.soundtrap.com/ Cost: Free and premium Grades: K-12	● Audio creation and editing ● Audio sharing ● Digital storytelling	Soundtrap is an online digital audio workstation that allows users to create music or podcasts. Each project can be shared with others to work collaboratively on their creation.	● Ask students to work creatively on collaborative projects, such as podcasts or music.	● Demonstrate knowledge through the creation of music or a podcast. ● Work collaboratively on a shared project.
WeVideo Publisher: WeVideo Inc URL:https://www.wevideo.com/ Cost: Free and premium Grades: K-12	● Video creation and editing ● Video sharing ● Digital storytelling ● Multimodal production	WeVideo is an online video creation suite that allows users to create creative videos. Each project can be shared with others to work collaboratively on their creation. WeVideo is capable of utilizing greenscreen technology for an added opportunity for creativity.	● Ask students to work creatively on collaborative projects such as videos to demonstrate understanding or to demonstrate creativity.	● Demonstrate knowledge through the creation of a video or movie. ● Work collaboratively on a project from different devices and different locations at the same time.

Tool	Tool Type	Description	Teacher Use	Student Use
Whiteboard.fi Publisher: Kahoot! URL:https://whiteboard.fi/ Cost: Free and premium Grades: K-12	● Online whiteboard ● Interactive assessment	Whiteboard.fi is an instant formative assessment whiteboarding tool for providing live feedback and immediate overview of student understanding.	● Create a whiteboard room in minutes with limited setup time. ● Use a whiteboard platform for all subjects and grade levels.	● Demonstrate knowledge by writing on a personal digital whiteboard that gives teachers an opportunity to provide real-time feedback.

Appendix C: Section Resources[239]

Section A

Be Internet Awesome

Google provides free digital citizenship resources and lesson plans to help educators reinforce students' digital citizenship skills. Google additionally provides helpful resources for parents/caregivers to reinforce digital citizenship from home.

https://beinternetawesome.withgoogle.com

California Department of Education Distance Learning Webinar Series

Webinars include guidance for EL student instruction, English language development, and dual-language programs.

https://www.cde.ca.gov/ls/he/hn/covid19webinars.asp

CASEL'S SEL Framework

The CASEL framework addresses five broad, interrelated areas of competence and examples for each: self-awareness, self-management, social awareness, relationship skills, and responsible decision-making.

https://casel.org/wp-content/uploads/2020/12/CASEL-SEL-Framework-11.2020.pdf

Center for Equity for English Learners: *Equitable Distance Learning for English Learners: Design Principles*

Loyola Marymount University, as part of their Center for Equity for English Learners, released this resource that provides five design principles for supporting EL students in distance learning environments. Included in these design principles are creating explicit goals, outcomes, and digital modes; forming meaningful connections and engagement; maximizing comprehensibility; varying participation structures; and differentiating reflections and assessments.

https://soe.lmu.edu/media/lmuschoolofeducation/departments/ceel/documents/Equitable%20Distance%20Learning%20for%20ELs%20Design%20Principles_LMU%20CEEL%20May%202020%20A%C3%8C%C2%82.pdf

[239] Appendix C includes resources to support the implementation of the strategies and considerations identified in the *California Digital Learning Integration and Standards Guidance*. LEAs exercise local control when selecting digital tools and resources. The resources listed should not be considered endorsements by the CDE.

Creating and Sustaining Family Partnerships in Distance Learning

Californians Together, along with EL RISE! (English Learner Roadmap Implementation for Systemic Excellence) and LMU's Center for Equity for English Learners, hosted a webinar focused on connecting to and engaging with families to support EL students in online and blended learning. Strategies shared include engaging in meaningful dialoguing with families, goal setting with EL students, streamlining communications, providing flexible instruction options, ensuring culturally responsive and supportive communities, and more.

https://www.californianstogether.org/?s=distance+learning

Critical Conditions for English Learners in Distance Learning

EL RISE! published a resource that highlights areas where educators, schools, and districts can better support EL students. These include centralizing and building language in all lessons, harnessing formative assessment, leveraging flexible grouping, providing scaffolds and supports, affirming identity, investing in relationships, ensuring access, disrupting inequity, supporting home language, prioritizing oral language, implementing designated English language development, and making learning relevant.

https://padlet-uploads.storage.googleapis.com/238062564/6dbfdc04cfe2920cd6dcc7eaf4789026/Critical_Conditions_for_English_Learners_in_Distance_Learning.pdf

DigCitCommit

The DigCitCommit competencies take digital citizenship a step further than safe and healthy communication and comprehensively define the topic as being composed of five distinct competencies (Inclusive, Informed, Balanced, Engaged, and Alert) that educators can help students build.

https://digcitcommit.org/

Digital Citizenship Resources and Curricula

Common Sense Education provides free digital citizenship resources and lesson plans sorted by grade level to help educators reinforce students' digital citizenship skills, ranging from digital identity and footprint to news and media literacy.

https://www.commonsense.org/education/digital-citizenship/curriculum

Educator Resources for Citing Sources

BrainPOP provides sample lesson plans and resources to help students in younger grades properly give attribution to online sources of information.

https://educators.brainpop.com/lesson-plan/citing-sources-lesson-plan-create-dos-donts-list/?bp-topic=citing-sources

Equity & Social and Emotional Learning: A Cultural Analysis

This brief examines how the CASEL SEL framework reflects issues of equity, including programs and practices that support the competencies to promote educational equity.

https://casel.org/wp-content/uploads/2020/04/equity-and-SEL-.pdf

Evaluating Online Sources

Learning for Justice provides lesson plans and resources to help students in grades 9-12 evaluate online sources of information for credibility, accuracy, and reliability.

https://www.learningforjustice.org/classroom-resources/lessons/evaluating-online-sources

Families in Schools

Families in Schools has curated a library of free resources, ranging from subject-specific digital tools, as well as tips for parents/caregivers to build positive technology habits and skills with young students.

https://www.familiesinschools.org/coronavirus-learning-resources-for-families/

ISTE Standards for Educators

A collection of research-based standards based on best practices in digital learning to guide teachers in creating learning environments that empower and engage students by leveraging technology. Teachers can also watch videos of the ISTE Standards in classroom practice through the ISTE YouTube playlist.

https://www.iste.org/standards/for-educators

https://www.youtube.com/playlist?list=PL6aVN_9hcQEH6D0zMdylQbDkSrV-MNOwD

Khan Academy

Khan Academy provides free math lessons that are organized by grade level from Pre-K through eighth grade as well as by concept. For high school, specific courses are organized by subject area (e.g., Algebra 1, Geometry, Algebra 2) and by concept. This website also offers “Get Ready Courses” that prepare students for upcoming grade-level and course-based math concepts.

https://www.khanacademy.org/

Library of Congress Education Resources

The Library of Congress provides a collection of vetted educational resources and professional development for use in online and blended learning settings.

https://www.loc.gov/education

Math Learning Center

This website provides free access to digital manipulatives that students can use to visualize mathematics concepts.

https://www.mathlearningcenter.org/apps

National Archives Education Resources

The National Archives provide a collection of vetted educational resources, including primary historical documents, for use in online and blended learning settings.

https://www.archives.gov/education

National Standards for Quality Online Teaching

A collection of research-based standards developed via collaboration between the Virtual School Leadership Alliance and Quality Matters. These standards provide indicators for best practices in online learning to guide teachers in designing and facilitating online learning environments that cultivate meaningful learning.

https://www.nsqol.org/the-standards/quality-online-teaching/

News Literacy Must Include Social Emotional Learning

This article from the *School Library Journal* discusses how social-emotional learning competencies can be reinforced via news literacy instruction.

https://www.slj.com/?detailStory=News-media-literacy-must-include-social-emotional-learning-SEL-librarians

PBS Videos

PBS provides free access to a wide array of video content ranging from historical documentaries to news and public affairs.

https://www.pbs.org/video/

Smithsonian Open Access Resources

The Smithsonian provides millions of open access images that educators can download, share, and reuse for their classroom activities.

https://www.si.edu/openaccess

U.S. Department of Education: *Educator and Developer Toolkits on Using Digital Learning Resources to Support English Learners*

This toolkit offers guidance on designing educational technology with EL students in mind. It also includes vignettes and matrices of distance learning resources and digital support features relevant for EL students.

https://tech.ed.gov/edtech-english-learner-toolkits/

U.S. Department of Education: *Supporting English Learners through Technology: What Districts and Teachers Say about Digital Learning Resources for English Learners*

This report focuses on how districts and teachers identified digital learning resources (DLRs); how teachers have used DLRs; supports for and barriers to DLR use; and suggestions for improving the usefulness of DLRs in EL student instruction.

https://www2.ed.gov/about/offices/list/opepd/ppss/reports.html#ells

WestEd Webinar Series: Supporting Multilingual and English Learner Students During Distance Learning

Sponsored by the Region 15 Comprehensive Center at WestEd in collaboration with the California Teachers Association (CTA) and CDE, the webinar series includes topics, such as How to Support Young English Learners at Home with Language and Literacy Development, Lesson Planning for English Learners in Distance Learning Environments for Elementary and Secondary Educators, Communicating with Families of Newcomer English Learners During Distance Learning for Elementary and Secondary Educators, The Development of Oral Language in a Distance Learning Environment, Supporting Secondary English Learners in the Social Studies Classroom in a Distance Learning Environment, and Supporting Secondary English Learners in the Science Classroom.

https://www.wested.org/wested_event/supporting-multilingual-english-learners-during-distance-learning-webinar-series/

A Vision for California's Schools this Fall: Equity for Dual Language and English Learners in an Unprecedented Moment

This resource was developed by a collaboration between Californians Together, The Education Trust-West, Early Edge California, Loyola Marymount University's Center for Equity for English Learners, Sobrato Early Academic Language (SEAL), Advancement Project California, and California Association for Bilingual Education (CABE). This brief report focuses on providing state education leaders, local education leaders, and educators focus points for better supporting EL students. The expectations for California educators include maximizing live instructional time for EL students, prioritizing relationship building, differentiating assessments, committing to strategic and consistent family communication and engagement, adding time to educator schedules for

additional support of EL students, as well as grouping in non-segregationary ways and in small groups to personalize language needs.

https://west.edtrust.org/wp-content/uploads/2017/11/A-Vision-for-California's-Schools-this-Fall.pdf

Section B

CODAP

CODAP, or Common Online Data Analysis Platform, includes many data sets and distributions that students can examine and analyze as they consider measures of center and variability.

https://codap.concord.org/

Desmos

This free suite of math software tools includes graphic and scientific calculators and digital classroom activities.

https://www.desmos.com/

District-Curated Number Talks Resources

San Francisco Unified School District compiles a comprehensive page of resources for using number talks strategies in instruction.

http://www.sfusdmath.org/math-talks-resources.html

Esri GeoInquiries

Esri provides a number of free modules highlighting geometric applications in geospatial data analysis.

https://www.esri.com/en-us/industries/education/schools/geoinquiries-mathematics

How Does Project-Based Learning Work?

This Edutopia resource provides a step-by-step framework by which educators may approach the incorporation of project-based learning opportunities.

https://www.edutopia.org/project-based-learning-guide-implementation

Learning Variability Navigator

Digital Promise's free online tool translates the science of learner variability into easily accessible learner factor maps and strategies to improve classroom practice. The navigator suggests a number of research-based, technology-empowered practices for both mathematics and reading.

https://lvp.digitalpromiseglobal.org/

Math Visuals

This page allows students to use and reference visuals that allow them to make direct links to materials and spaces they have immediate access to.

https://mathvisuals.wordpress.com/

NASA JPL

NASA's Jet Propulsion Laboratory (JPL) provides a number of modules, lesson plans, and data activities premised on the geometry of detecting wildfires from space with remote sensing and satellite imagery.

https://www.jpl.nasa.gov/edu/teach/activity/fired-up-over-math-studying-wildfires-from-space/

NRICH

The NRICH Project from the University of Cambridge provides free access to a number of digital resources educators can use to facilitate mathematical reasoning and develop problem-solving skills.

https://nrich.maths.org

Number Paths

This page provides an overview of the number paths strategy to help younger students develop foundational mathematics concepts.

https://www.tapfun.com/blog/number-paths-a-fabulous-tool-for-kindergarten-and-first-grade-math#:~:text=A%20number%20path%20is%20a,confidence%20and%20accurately%20solve%20problems

Number Talks Video Resources

Inside Mathematics includes video examples of number talks from classrooms in grade one through grade seven.

https://www.insidemathematics.org/

Project-Based Learning for Remote Learning

PBLWorks provides strategies, sample projects, and digital tool suggestions for adapting project-based learning opportunities in online learning settings.

https://www.pblworks.org/pbl-remote-learning

Real World Math

This website provides a series of lesson plans and activities using Google Earth and Geometer's Sketchpad for teaching many mathematical concepts.

http://www.realworldmath.org/lesson-downloads.html

Scratch

Developed by the Scratch Foundation, this online tool allows students of varying grade levels to program their own interactive stories, games, and animations.

https://scratch.mit.edu/

Slow Reveal Graphs

Educators can use various visualizations featured on this website to facilitate discourse about data and their implications.

https://slowrevealgraphs.com/

Spurious Correlations

Educators can use various visualizations featured on this website to show how seemingly correlating sets of data do not necessarily imply causal relationships.

www.tylervigen.com/spurious-correlations

Strategies for Using Digital Choice Boards in the Classroom

This article provides several strategies for using choice boards in online and blended learning spaces to offer students multiple ways of demonstrating their learning.

https://www.teachthought.com/pedagogy/strategies-for-using-digital-choice-boards-in-the-classroom/

Teach InCtrl

Educators may use the strategies on this page to help students build media literacy skills through mathematics instruction.

https://teachinctrl.org/math/

Toy Theater

Educators have many virtual manipulatives to choose from on Toy Theater to help students actively understand math concepts.

https://toytheater.com/category/teacher-tools/virtual-manipulatives/

What's Going on in This Graph?

The *New York Times* provides various visualizations of real data, from vaccination rates to food preferences, that educators and students can discuss to foster a mathematics discourse.

https://www.nytimes.com/column/whats-going-on-in-this-graph

Wolfram Alpha

Among other features, Wolfram Alpha offers tools for students to create visual mathematical representations.

https://www.wolframalpha.com/

YouCubed

Youcubed is a platform for teachers and parents to find information on how to approach math from a very different angle by focusing on addressing the myths of the "math brain" and how to transform the latest research on math into accessible and practical forms to promote high levels of student engagement and achievement. The website includes: Ideas, Tasks, Data Science, Films, Courses, Evidence, Books, and News. YouCubed also provides activities, videos, and research findings for number talks and data talks.

https://www.youcubed.org/

Section C

Apps and Websites for Special Education Programs

Common Sense Education has curated digital tools and resources for use with students with specific disabilities.

https://www.commonsense.org/education/top-picks/apps-and-websites-for-special-education-programs

AVID One-Pager

AVID suggests a strategy that students may use to process their reading through multiple modalities. This may be conducted in digital or analog environments.

https://www.alvordschools.org/site/handlers/filedownload.ashx?moduleinstanceid=18523&dataid=30429&FileName=One_Pager_Overview.pdf

Embedded Supports to Differentiate Instruction for Struggling Students

LD OnLine, a national education service organization working in partnership with the National Joint Committee on Learning Disabilities (NJCLD), shares a number of key

technology-empowered approaches grounded in the Universal Design for Learning framework.

http://www.ldonline.org/article/61304/

Fostering Collaboration in a Remote Learning Environment

This article from the International Literacy Association provides recommendations for encouraging authentic collaboration in online learning environments.

https://www.literacyworldwide.org/blog/literacy-now/2020/08/25/together-apart-fostering-collaboration-in-a-remote-learning-environment

Resources For Virtual Instruction and Online Learning

The National Council of Teachers of English provides several focused resources—including books, articles, and journals—to build ELA/ELD teachers' knowledge of new digital tools and strategies they can use in online or blended learning settings.

https://ncte.org/resources/resources-virtual-instruction-online-learning/

Socratic Seminars

This webpage from the National Council of Teaching of English suggests ways that Socratic seminars for varying grade levels may be conducted in an online space.

http://www.readwritethink.org/professional-development/strategy-guides/socratic-seminars-30600.html

Teach InCtrl

Educators may use the strategies on this page to help students build media literacy skills through English language arts instruction.

https://teachinctrl.org/english-language-arts/

Teaching Adolescents How to Evaluate the Quality of Online Information

Educators may use the strategies on this page to help middle and high school students identify relevance, accuracy, bias, and reliability in the content they read.

https://www.edutopia.org/blog/evaluating-quality-of-online-info-julie-coiro

Virtual Field Trips

To help bring stories to life, teachers can create virtual field trips for their students using resources from Discovery Education to explore a setting in which a story takes place.

https://www.discoveryeducation.com/community/virtual-field-trips/

Virtual Literature Circles Create a Safe Space for Students

This Edutopia article shows how to conduct discussions centered in students' experiences that spark more text-to-self connections.

https://www.edutopia.org/article/virtual-literature-circles-create-safe-space-students

Word Prediction Technology: What It Is and How It Works

Understood.org provides an overview of how digital tools provide word-prediction ability that can help students with suggested words or phrases.

https://www.understood.org/en/school-learning/assistive-technology/assistive-technologies-basics/word-prediction-technology-what-it-is-and-how-it-works

Appendix D: Mathematics Rubric Samples

This tool gives an overview of the priority standards for grade 3. It connects the Drivers of Investigation to both the big ideas and the standards for mathematical practice (SMP). Periodically and throughout the school year, teachers can use a tool like this to assess and give feedback to students around their strengths and areas for growth. The teacher notes those indicators that the student has shown mastery, and which ones the student should focus on to further student learning. The final two columns are meant to be filled in by the teacher.

Considerations for the final two columns to be completed by the teacher (TBT):

Student Strength: What does the student understand in terms of this standard? What linguistic and cultural assets possessed by the students can I tap into to support all students, including those on the road to English proficiency, in their mastery of the content?

Student Area for Growth: What should the student focus on to strengthen their understanding of this standard?

Content Connections	Big ideas	Mathematical Practice Standards	Indicators: The student...	Student Strength	Student area for Growth
Communicating Stories with Data	Represent Multivariate Data	**SMP1**: Make sense of problems and persevere in solving them. **SMP4**: Model with mathematics **SMP6**: Attend to precision	-Interprets appropriate meaning from graphs -Strategically organizes multivariable data -Creates graphs that clearly communicate information from data	TBT	TBT
Communicating Stories with Data	Fractions of Shape and Time	**SMP4**: Model with mathematics **SMP5**: Use appropriate tools strategically. **SMP6**: Attend to precision	-Creates data visualizations that clearly capture and communicate about data collected over time	TBT	TBT

Content Connections	Big ideas	Mathematical Practice Standards	Indicators: The student...	Student Strength	Student area for Growth
Exploring Changing Quantities	Addition and Subtraction problems	**SMP3**: Construct viable arguments and critique the reasoning of others. **SMP5**: Use appropriate tools strategically. **SMP7**: Look for and make use of structure.	-Computes sums and differences within 1000 -Justifies solutions using appropriate tools or models -Constructs arguments with clear reasoning to support solutions	TBT	TBT
Exploring Changing Quantities	Number Flexibility to 100	**SMP3**: Construct viable arguments and critique the reasoning of others. **SMP4**: Model with mathematics. **SMP5**: Use appropriate tools strategically.	-Computes products and quotients within 100 -Justifies solutions using appropriate tools or models -Constructs arguments with clear reasoning to support solutions	TBT	TBT
Taking Wholes Apart, Putting Parts Together	Square Tiles	**SMP2**: Reason abstractly and quantitatively. **SMP5**: Use appropriate tools strategically.	-Measures area using square tiles as tools -Connects the area of individual square tiles to area of entire shape's area using fractions.	TBT	TBT
Taking Wholes Apart, Putting Parts Together	Fractions of shape and time	**SMP2**: Reason abstractly and quantitatively. **SMP4**: Model with mathematics **SMP7**: Look for and make use of structure	-Collects and organizes multivariable data in relationship to time -Creates connections that highlight the relationship between measures of time including minutes, quarter, and half hours.	TBT	TBT
Taking Wholes Apart, Putting Parts Together	Fractions as relationships	**SMP2**: Reason abstractly and quantitatively. **SMP7**: Look for and make use of structure	-Interprets the relationship between the numerator and denominator of fractions-- especially in context -Recognizes and connects equivalent fractions to one another.	TBT	TBT

Content Connections	Big ideas	Mathematical Practice Standards	Indicators: The student...	Student Strength	Student area for Growth
Taking Wholes Apart, Putting Parts Together	Unit Fraction Models	**SMP3**: Construct viable arguments and critique the reasoning of others. **SMP4**: Model with mathematics	-Uses visual models to compare unit fractions -Justifies arguments about unit fractions using visual models	TBT	TBT
Discovering Shape and Space	Analyze Quadrilaterals	**SMP2**: Reason abstractly and quantitatively. **SMP4**: Model with mathematics	-Compares quadrilaterals based on various features -Investigates how area and perimeter change when side lengths change. -Solves real world problems involving area and perimeter of quadrilaterals through modeling.	TBT	TBT
Discovering Shape and Space	Fractions as Relationships	**SMP2**: Reason abstractly and quantitatively. **SMP4**: Model with mathematics	-Creates visual representations that model fractions -Justifies how a model represents a fractional quantity by relating the numerator, denominator and visual.	TBT	TBT
Discovering Shape and Space	Unit Fraction Models	**SMP3**: Construct viable arguments and critique the reasoning of others. **SMP4**: Model with mathematics	-Uses visual models to compare unit fractions by attending to differences in scale -Justifies arguments about unit fractions using visual models	TBT	TBT

Example Rubric based around YouCubed's Halving task.[240]

- This investigation gives opportunity for students to: Make sense of the world, using content from Taking Wholes Apart, Putting Parts Together, and Discovering Shape and Space and related standards of mathematical practice.
- The rubric is meant to encourage reflection and metacognition in students by providing space for them to show evidence of understanding and also pinpoint areas where they can still grow. Teachers use this rubric as a tool for formative assessment and feedback.
- Columns to be completed by teacher (TBT); Columns to be completed by student (TBS)

Teacher feedback for area of growth: *To keep growing, focus on...*	Student reflection for area to grow: *A question I have or something I still need to work on is...*	Big Idea	Student reflection for material learned: *I can show that I understand by...*	Teacher feedback: *A strength you have shown is…*
TBT	TBS	**Fractions as relationships:** I understand that a fraction is a relationship between numerators and denominators – and I connect this understanding to the visuals in this task. (NF.1, NF.3 a,b, MP2 MP7)	TBS	TBT
TBT	TBS	**Unit Fraction Models:** I can compare unit fraction using different visual models. (NF.2, MP4, MP5)	TBS	TBT
TBT	TBS	I can justify my comparisons to convince myself and others. (NF.3d, MP1, MP3)	TBS	TBT

[240] https://www.youcubed.org/wp-content/uploads/2019/08/WIM-Halving-Grades-3-5.pdf

Teacher feedback for area of growth: *To keep growing, focus on...*	Student reflection for area to grow: *A question I have or something I still need to work on is...*	Big Idea	Student reflection for material learned: *I can show that I understand by...*	Teacher feedback: *A strength you have shown is…*
TBT	TBS	**Analyze Quadrilaterals:** I can describe, analyze, and compare quadrilaterals (4-sided shapes) and the ways the area changes when it is cut in different ways. (MD.8, G.1, G.2. MP2, MP4)	TBS	TBT
TBT	TBS	**Square Tiles:** I can think about fractions with shape and space, expressing the base unit as a unit fraction of the whole. (NF.1, G.2)	TBS	TBT