



Wooster City School District

ISTE Standards Alignment to Academic Content Standards

March 2025

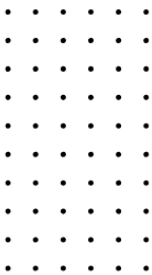


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Adoption Statement

Goal One Objective 3 of the Wooster City School District's Strategic Plan for the 2023-2025 school years state that we will "provide continuing professional development to improve instructional strategies aimed at advancing teaching practices that include a more purposeful use of technology: consider the infusion of 1:1 technology for all students with established district-wide standards for best practices and use of all technology". This document serves as guidance for pedagogical implementation in the classroom while meeting the internationally recognized educational technology standards in alignment with the state of Ohio Academic State Standards for English Language Arts, Mathematics, Science, Social Studies and Technology as of March, 2025.

In this document, the Wooster City School District is adopting the [2024 Technology Standards for Students by the International Society of Technology in Education \(ISTE\)](#). The ISTE Standards provide a comprehensive framework for promoting innovation and excellence in education. They offer a holistic approach to enhancing educator practice and professional development in the effective integration of technology for learning. Furthermore, these standards support strategic planning for digital learning initiatives, curriculum mapping, and overall school improvement.

These standards underscore the potential of technology to elevate and transform educational practices, aligning with our district's objective to cultivate a network of interconnected learners. Furthermore, they reinforce district-wide initiatives aimed at bolstering digital citizenship and media literacy instruction, which are pivotal in equipping our students for future careers, post-secondary pursuits, and lifelong success.

Alex Garey
Director of Technology
Wooster City School District

Technology Integration: The Why

Technology has emerged as an undeniable force in society, influencing nearly every facet of our lives, including education. The effective integration of technology within learning environments holds the potential to transform the educational landscape, enhancing both student learning and teaching methodologies. However, the mere inclusion of technology in the classroom does not ensure success. Genuine technology integration occurs when these tools are regarded as essential components of the learning process, seamlessly integrated into the overall educational experience.

One critical element of successful technology integration is the perception of technology as a tool. Both students and educators must understand that technology is intended to enhance and enrich the learning process. This perspective requires moving beyond using technology merely for entertainment or as a replacement for traditional instructional methods. Instead, technology should be strategically utilized to support pedagogical objectives, such as fostering collaboration, promoting critical thinking, and providing personalized learning experiences.

The effectiveness of technology integration is maximized when it becomes a routine and seamless aspect of the educational experience. Technology should not be confined to special events or isolated tasks; instead, it ought to be an essential component of daily instruction. Just as students regularly utilize textbooks and writing instruments, they should also consistently engage with technology to access information, produce content, and communicate their ideas. When technology is readily available and seamlessly integrated, it evolves into a natural extension of the learning process rather than a disruptive addition.

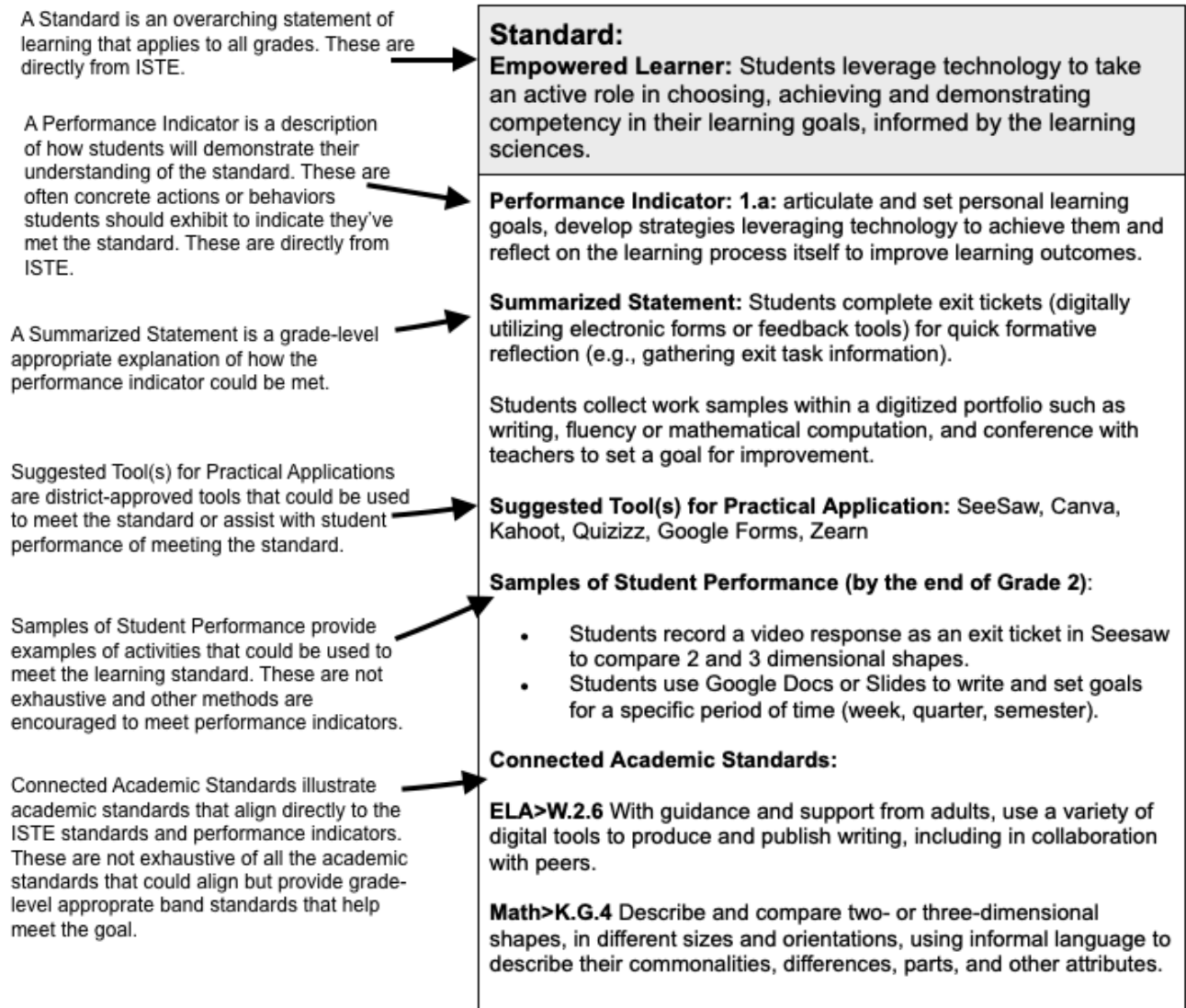
Accessibility is a vital component of effective technology integration. It is essential that all students, irrespective of their backgrounds or abilities, have equitable access to technology and the opportunities it affords. By prioritizing accessibility, we can guarantee that every student reaps the benefits of technology's transformative potential.

Beyond access and integration, digital proficiency is critical for student success in the modern world. Students must develop the skills to not only use technology, but also to critically evaluate information found online, understand digital ethics and safety, and

create digital content effectively. Digital proficiency is not just about knowing how to use a device; it's about understanding the implications of technology and using it responsibly and effectively to learn, communicate, and participate in society.

The integration of technology has the potential to transform education fundamentally; however, its success relies on a significant shift in perspective. Technology should be regarded as an essential tool for learning, seamlessly woven into the educational experience and made accessible to all students. By adopting this mindset, and prioritizing digital proficiency we can empower students to become active and engaged learners in the digital age, equipping them for success in an ever-evolving world.

Understanding the Alignment



Connected Ohio Academic Standards Codes

ELA> [English Language Arts Ohio Learning Standards](#)

Math> [Mathematics Ohio Learning Standards](#)

Sci> [Science Ohio Learning Standards and Model Curriculum](#)

SS> [Social Studies Ohio Learning Standards](#)

Tech> [Technology Ohio Learning Standards](#)

Considerations for using this alignment document

The ISTE Standards for Students are organized by grade bands, with each band outlining specific learning objectives and performance indicators. To efficiently locate content-based standards within a grade band, users can utilize the find function (Ctrl + F, or Command + F) and search for the following codes:

- ELA>
- Math>
- Sci>
- SS>
- Tech>

These codes represent the Ohio Learning Standards for English Language Arts, Mathematics, Science, Social Studies, and Technology, respectively.

It is important to note that while the document may specify standards "by the end of" a particular grade level, this does not necessarily imply that those standards are exclusively applicable to that specific grade. Many academic content standards are progressive in that they build upon each other from one grade to the next. You are encouraged to apply your knowledge of the standards for your specific grade level to fit within the represented grade bands.

The standards are designed to be cumulative, meaning that students in earlier grades may be progressively working towards achieving those standards as well. This cumulative approach ensures a comprehensive and developmental progression of learning across grade levels.

ISTE Standards for Students

The ISTE Standards for Students are set up based on 7 overarching standards with 4 performance indicators for each standard.

1. **Empowered Learner:** Students leverage technology to take an active role in choosing, achieving and demonstrating competency in their learning goals, informed by the learning sciences.
2. **Digital Citizen:** Students recognize the responsibilities and opportunities for contributing to their digital communities.
3. **Knowledge Constructor:** Students critically curate a variety of resources using digital tools to construct knowledge, produce creative artifacts and make meaningful learning experiences for themselves and others.
4. **Innovative Designer:** Students use a variety of technologies within a design process to identify and solve problems by creating new, useful or imaginative solutions.
5. **Computational Thinker:** Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions.
6. **Creative Communicator:** Students communicate clearly and express themselves creatively for a variety of purposes using the platforms, tools, styles, formats and digital media appropriate to their goals.
7. **Global Collaborator:** Students use digital tools to broaden their perspectives and enrich their learning by collaborating with others and working effectively in teams locally and globally.

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Grades K-2 Standards for Digitally Proficient Students

Standard:

Empowered Learner: Students leverage technology to take an active role in choosing, achieving and demonstrating competency in their learning goals, informed by the learning sciences.

Performance Indicator: 1.a: Set learning goals, develop strategies leveraging technology to achieve them and reflect on the learning process to improve learning outcomes.

Summarized Statement: Students complete exit tickets (digitally utilizing electronic forms or feedback tools) for quick formative reflection (e.g., gathering exit task information).

Students collect work samples within a digitized portfolio such as writing, fluency or mathematical computation, and conference with teachers to set a goal for improvement.

Suggested Tool(s) for Practical Application: SeeSaw, Canva, Kahoot, Quizizz, Google Forms, Zearn

Samples of Student Performance (by the end of Grade 2):

- Students record a video response as an exit ticket in Seesaw to compare 2 and 3 dimensional shapes.
- Students use Google Docs or Slides to write and set goals for a specific period of time (week, quarter, semester).

Connected Academic Standards:

ELA>W.2.6 With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers.

Math>K.G.4 Describe and compare two- or three-dimensional shapes, in different sizes and orientations, using informal language to describe their commonalities, differences, parts, and other attributes.

Performance Indicator: 1.b: build networks and customize their learning environments in ways that support the learning process.

Summarized Statement: Students will use accessibility features of digital learning tools to make content accessible.

Suggested Tool(s) for Practical Application: Seesaw, Canva, Kahoot, Quizizz, Google

Forms, Zearn

Samples of Student Performance (by the end of Grade 2):

- Students use assistive technology tools to make learning materials more accessible, with support from adults.
- Students are able to find the main points and supporting information in online texts.

Connected Academic Standards:

ELA>RL.2.7 Use information gained from the illustrations and words in a print or digital text to demonstrate understanding of its characters, setting, or plot.

ELA>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.

Performance Indicator: 1.c: Use technology to seek feedback that informs and improves their practice and to demonstrate their learning in a variety of ways.

Summarized Statement: Turn in assignments in a digital format and get feedback from teachers or peers.

Suggested Tool(s) for Practical Application: Seesaw, Google Classroom, Google Slides, Book Creator

Samples of Student Performance (by the end of Grade 2):

- Students partner with another grade-level to create and publish an ebook on the classroom or building website and receive feedback from other students on how to make improvements prior to publishing the final product.
- Students take pictures of work with manipulatives, work on a whiteboard, etc.

Connected Academic Standards:

Math>MP 3 Construct viable arguments and critique the reasoning of others.

Math>2.G.2 Partition rectangles into rows of the same size, count to find the total.

ELA>W.2.6 With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers.

ELA>W.2.2 Write informative/explanatory texts that introduce a topic, use facts and definitions to develop points, and provide a concluding statement or section.

Performance Indicator: 1.d: Understand fundamental concepts of how technology works, demonstrate the ability to choose and use current technologies effectively, and are adept at thoughtfully exploring emerging technologies.

Summarized Statement: Students will choose the appropriate app/tool on their devices to facilitate their learning based on previous knowledge.

Suggested Tool(s) for Practical Application: iPads, Chromebooks, Google Search, Google Workspace

Samples of Student Performance (by the end of Grade 2):

- Students learn to find and use information from digital sources like databases, videos, and e-books.
- Students know how to select and move information between different digital tools, like copying images from one website to another.
- Students can demonstrate an understanding of a specific content standard by choosing a technology tool from a choice board.

Connected Academic Standards:

ELA>W.2.2 Write informative/explanatory texts that introduce a topic, use facts and definitions to develop points, and provide a concluding statement or section.

ELA>W.2.6 With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers.

ELA>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).

Tech>K-2.ICT.4.c. With guidance, select appropriate digital learning tools and resources to produce and publish information.

Standard:

Digital Citizen: Students recognize the responsibilities and opportunities for contributing to their digital communities.

Performance Indicator: 2.a: Manage their digital identity and understand the lasting impact of their online behaviors on themselves and others and make safe, legal and ethical decisions in the digital world.

Suggested Tool(s) for Practical Application: Digital Citizenship Lessons

Samples of Student Performance (by the end of Grade 2):

- Students understand that information they post online creates a digital record that

can be seen by others.

- Students identify both positive and negative impacts technology can have on them.

Connected Academic Standards:

Tech>K-2.ST.1.a. Demonstrate appropriate and identify inappropriate uses of technology required to be a responsible user.

Tech>K-2.ST.1.b. Identify positive and negative impacts one's use of technology can have on oneself and one's family.

Tech>K-2.ST.3.a. State the advantages and disadvantages of technology in one's life.

Performance Indicator: 2.b: Demonstrate empathetic, inclusive interactions online and use technology to responsibly contribute to their communities.

Suggested Tool(s) for Practical Application: Digital Citizenship Lessons

Samples of Student Performance (by the end of Grade 2):

- Students understand the possible consequences of communicating with others online.
- Students know the difference between information that is okay to share online and information that should be kept secret.

Connected Academic Standards:

Tech>K-2.ST.2.a. Communicate and collaborate using several digital methods.

Tech>K-2.ST.3.c. Identify how the use of technology affects self and others in various ways.

Performance Indicator: 2.c: Safeguard their well-being by being intentional about what they do online and how much time they spend online.

Suggested Tool(s) for Practical Application: Digital Citizenship Lessons

Samples of Student Performance (by the end of Grade 2):

- Students understand and can articulate the importance of respecting others' property, including digital content and information.
- Students can find the author or title of a digital resource.
- Students know that some digital content is created by companies, not just individuals.

Connected Academic Standards:

Tech>K-2.ST.3.a. State the advantages and disadvantages of technology in one's life.
Tech>K-2.ST.3.c. Identify how the use of technology affects self and others in various ways.

Performance Indicator: 2.d: Take action to protect their digital privacy on devices and manage their personal data and security while online.

Suggested Tool(s) for Practical Application: Digital Citizenship Lessons

Samples of Student Performance (by the end of Grade 2):

- Students know how to choose a safe website when using it personally
- Students understand and can explain why they shouldn't share personal information online.

Connected Academic Standards:

Tech>K-2.ST.3.d. Define and discuss digital identity and digital footprints.

Standard:

Knowledge Constructor: Students critically curate a variety of resources using digital tools to construct knowledge, produce creative artifacts and make meaningful learning experiences for themselves and others.

Performance Indicator: 3.a: Use effective research strategies to find resources that support their learning needs, personal interests and creative pursuits.

Summarized Statement: Students will use digital research tools to locate information about a given topic.

Suggested Tool(s) for Practical Application: Digital Reader, Seesaw, InfOhio

Samples of Student Performance (by the end of Grade 2):

- Students use digital pictures to show how families are both alike and different.
- Students can think of simple search words to find information in digital sources like libraries.
- Students know how to use simple search tools in digital resources that are right for their age.

Connected Academic Standards:

ELA>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).

ELA>W.2.8 Recall information from experiences or gather information from provided sources to answer a question.

ELA>RI.2.9 Compare and contrast the most important points presented by two texts on the same topic.

Performance Indicator: 3.b: Evaluate the accuracy, validity, bias, origin, and relevance of digital content.

Summarized Statement: Students can apply basic questions to help them evaluate whether a digital resource or e-book is a good fit for them (e.g., the correct reading level). Students can distinguish between nonfiction and fiction digital resources.

Suggested Tool(s) for Practical Application: Digital Reader, ReadWorks, Seesaw, Screencastify, Google Forms

Samples of Student Performance (by the end of Grade 2):

- Assign students a fiction and nonfiction text on Digital Reader. Students record video responses on SeeSaw or Screencastify to distinguish the difference between their own fiction and nonfiction text.
- Students choose a book of interest and complete a digital rubric on a Google Form to evaluate the text.

Connected Academic Standards:

ELA>RI.2.9 Compare and contrast the most important points presented by two texts on the same topic.

ELA>RF.2.3 Know and apply grade-level phonics and word analysis skills in decoding words.

ELA>RF.2.4 Read with sufficient accuracy and fluency to support comprehension.

ELA>RF.1.2 Demonstrate understanding of spoken words, syllables, and phonemes (sounds).

Performance Indicator: 3.c: Curate information from digital resources using a variety of tools and methods to create collections of artifacts that demonstrate meaningful connections or conclusions.

Summarized Statement: With guidance, students use digital learning tools to add audio or visual media to clarify information.

Suggested Tool(s) for Practical Application: InfOhio, Digital Reader, Seesaw, Book Creator

Samples of Student Performance (by the end of Grade 2):

- K-1 students use Book Creator to create a nonfiction class book that includes animations and text features. Example: Class Noise Book
- 2nd grade students use Google Slides or Book Creator to create a nonfiction book that includes animations and text features.

Connected Academic Standards:

ELA>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.

ELA>RI.2.7 Explain how specific images (e.g., a diagram showing how a machine works) contribute to and clarify a text.

Math>MP.3 Construct viable arguments and critique the reasoning of others.

Math>MP.4 Model with mathematics.

Sci>K.ESS.1 Weather changes are long-term and short-term.

Sci>K.PS.2 Some objects and materials can be made to vibrate and produce sound.

Performance Indicator: 3.d: Build knowledge by actively exploring real-world issues and problems, developing ideas and theories and pursuing answers and solutions.

Summarized Statement: Students utilize diverse media formats (e.g., Audio, or Visual) to report on a topic, then participate in a classroom discussion on the topic using digital tools.

Suggested Tool(s) for Practical Application: Google Workspace, Canva, Seesaw

Samples of Student Performance (by the end of Grade 2):

- Students create a video to share their opinion writing piece and their ideas and theories to make a change.

Connected Academic Standards:

ELA>W.2.1 Write opinion pieces that introduce the topic or book being written about, express an opinion, supply reasons that support the opinion, use linking words (e.g., because, and, also) to connect opinion and reasons, and provide a concluding statement or section.

ELA>RL.2.10 By the end of the year, read and comprehend literature, including stories and poetry, in the grades 2–3 text complexity band proficiently, with scaffolding as needed at the high end of the range. Activate prior knowledge and draw on previous experiences in order to make text-to-self or text-to-text connections and comparisons.

Math>MP.3 Construct viable arguments and critique the reasoning of others.

Tech>ATP.A.2.a Model a real-world process by constructing and following step-by-step instructions (i.e., algorithms) to complete tasks.

Sci>2.LS.1 Living things cause changes on Earth.

Sci>1.LS.1 Living things have basic needs, which are met by obtaining materials from the physical environment.

Sci>1.LS.2 Living things survive only in environments that meet their needs.

Standard:

Innovative Designer: Students use a variety of technologies within a design process to identify and solve problems by creating new, useful or imaginative solutions.

Performance Indicator: 4.a: Know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts or solving authentic problems.

Summarized Statement: Students use their own digital tools, and shared digital tools to record/save questions, draw, and share solutions.

Suggested Tool(s) for Practical Application: Google Workspace, Canva, Seesaw

Samples of Student Performance (by the end of Grade 2):

- Students create their own ‘What’s My Number?’ then post on Canva Whiteboard for others to solve.
- Students record themselves reading on Digital Reader and share their thinking and questions throughout the book.

Connected Academic Standards:

Sci>K.LS.2 Living things have physical traits and behaviors, which influence their survival.

Sci>2.PS.1 Forces change the motion of an object.

SS>2.HS.2 Change over time can be shown with artifacts, maps, and photographs.

Tech>K-2.DT.2.b. Demonstrate the ability to follow a simple design process: identify a problem,

Tech>K-2.DT.2.c. Explain that a design process is a plan to find solutions to problems.

Math>1.NBT.2 Understand that the two digits of a two-digit number represent amounts of tens and ones.

Math>1.NBT.4 Add within 100

Math>2.NBT.1 Understand that the three digits of a three-digit number represent different amounts

Math>2.NBT.5 Fluently add and subtract within 100

Math>2.NBT.6 Add up to four two-digit numbers using strategies based on place value and properties of operations.

Math>MP.1 Make sense of problems and persevere in solving them.

Performance Indicator: 4.b: Select and use digital tools to plan and manage a design process that considers design constraints and calculated risks.

Summarized Statement: Students will record their step-by-step process using digital tools and/or participating in STEM Activities.

Suggested Tool(s) for Practical Application: Google Workspace, Seesaw

Samples of Student Performance (by the end of Grade 2):

- Students create a video highlighting their design process with how force changes the motion of an object.
- Students complete a poster on Canva with each step of their design process and their final product.

Connected Academic Standards:

Tech>K-2.DT.2.a. Observe and describe details of an object's design.

Tech>K-2.DT.2.b. Demonstrate the ability to follow a simple design process: identify a problem, think about ways to solve the problem, develop possible solutions, and share and evaluate solutions with others.

Tech>K-2.DT.2.c. Explain that a design process is a plan to find solutions to problems.

Tech>K-2.DT.2.d. Demonstrate that there are many possible solutions to a design problem.

Tech>K-2.DT.2.e. Communicate design plans and solutions using drawings and descriptive language.

Sci>1.PS.2 Objects can be moved in a variety of ways, such as straight, zigzag, circular and back and forth.

Sci>1.LS.2 Living things survive only in environments that meet their needs.

Performance Indicator: 4.c: Develop, test and refine prototypes as part of a cyclical

design process.

Summarized Statement: Students use planning and revision through journaling, podcasting, or vlogging and/or participating in STEM Activities.

Suggested Tool(s) for Practical Application: Google Workspace, Seesaw, Canva

Samples of Student Performance (by the end of Grade 2):

- Classes create a shared podcast that shares specific traits and characteristics of living things. Share the podcasts with other classes.

Connected Academic Standards:

Sci>K.LS.1 Living things have specific characteristics and traits.

Sci>K.ESS.2 The moon, sun and stars can be observed at different times of the day or night.

Sci>2.ESS.3 Long- and short-term weather changes occur due to changes in energy.

Performance Indicator: 4.d: Exhibit a tolerance for ambiguity, perseverance and the capacity to work with open-ended problems.

Summarized Statement: Students complete digital exit tickets to reflect and show understanding of the topic.

Suggested Tool(s) for Practical Application: Google Workspace, Seesaw, Screencastify

Samples of Student Performance (by the end of Grade 2):

- Students create a video on Seesaw or Screencastify to identify the main idea and key details of a text.
- Students create a video on Seesaw or Screencastify to retell a story including key details.

Connected Academic Standards:

ELA>RI.K.1 With prompting and support, identify the main topic and retell key details of a text.

ELA>RI.1.1 Analyze informational text development. **a.** Identify the main topic. **b.** Retell key details of a text.

ELA>RI.2.1 Analyze informational text development.

a. Identify the main topic of a multi-paragraph text.

b. Identify the focus of specific paragraphs within the text.

ELA>RL.K.1 With prompting and support, retell familiar stories, including key details.

ELA>RL.1.2.b Analyze literary text development. Retell stories, including key details.
ELA>RL.2.2.b Analyze literary text development. Retell stories, including fables and folktales from diverse cultures.
ELA>SL.2.5 Create audio recordings of stories or poems; add drawings or other visual displays to stories or recounts of experiences when appropriate to clarify ideas, thoughts, and feelings.

Math>MP.1 Make sense of problems and persevere in solving them.
Math>MP.5 Use appropriate tools strategically.

Standard:

Computational Thinker: Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions.

Performance Indicator: 5.a: Formulate problem definitions suited for technology-assisted methods such as data analysis, abstract models and algorithmic thinking in exploring and finding solutions.

Summarized Statement: Identify a problem and choose or explore an appropriate technology tool to find a solution.

Suggested Tool(s) for Practical Application: SMART/Lumio, Seesaw, Canva, Google Workspace

Samples of Student Performance (by the end of Grade 2):

- Students sort shapes based on their attributes and complete a SeeSaw assignment demonstrating how they chose to sort their shapes.
- Students will be provided with different number patterns on 10 Google Slides and then continue the number pattern to demonstrate an understanding of extending patterns.

Connected Academic Standards:

Sci>K.PS.1 Objects and materials can be sorted and described by their properties.

Math>MP.5 Use appropriate tools strategically.

Math>2.MD.6 Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2, ..., and represent whole

number sums and differences within 100 on a number line diagram.

SS>2.ES.13 Information displayed on bar graphs can be used to compare quantities.

Tech>DA.DCS.2.a Collect and organize data to store, retrieve and modify.

Tech>DA.DCS.2.b Manipulate data to perform various tasks.

Tech>ATP.VDR.2.a Construct a model that shows the way programs store and manipulate data by using numbers or other symbols to represent information.

Performance Indicator: 5.b: Collect data or identify relevant data sets, use digital tools to analyze them, and represent data in various ways to facilitate problem-solving and decision-making.

Summarized Statement: Students analyze age-appropriate data and look for similarities in order to identify patterns and categories.

Suggested Tool(s) for Practical Application: SMART/Lumio, Google Workspace, Canva

Samples of Student Performance (by the end of Grade 2):

- Students will collect a data set from a class poll and as a group they will create a digital bar graph and picture graph on Canva that the class will analyze/ask and answer questions about.

Connected Academic Standards:

Sci> 2.LS.2 All organisms alive today result from their ancestors, some of which may be extinct. Not all kinds of organisms that lived in the past are represented by living organisms today.

Sci>1.LS.2 Living things survive only in environments that meet their needs.

Sci>K.PS.1 Objects and materials can be sorted and described by their properties.

Math>MP.7 Look for and make use of structure.

Math>MP.8 Look for and express regularity in repeated reasoning.

SS>2.HS.1 Time can be shown graphically on calendars and timelines.

Performance Indicator: 5.c: Break problems into component parts, extract key information, and develop descriptive models to understand complex systems or facilitate problem-solving.

Summarized Statement: Students break a problem into parts and identify ways to solve the problem.

Suggested Tool(s) for Practical Application: SMART/Lumio, Google Workspace

Samples of Student Performance (by the end of Grade 2):

- Students take a picture on Seesaw of how they solved a two-step word problem. Then, complete a video explaining the process they used to solve the problem.

Connected Academic Standards:

Sci>2.ESS.3 Long- and short-term weather changes occur due to changes in energy.

Math>MP.1 Make sense of problems and persevere in solving them.

Math>MP.6 Attend to precision.

Math>2.OA.1 Use addition and subtraction within 100 to solve one- and two step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions

Tech>ATP.A.2.a Model a real-world process by constructing and following step-by-step instructions (i.e., algorithms) to complete tasks.

Performance Indicator: 5.d: Understand how automation works and use algorithmic thinking to develop a sequence of steps to create and test automated solutions.

Summarized Statement: Students can identify digital tools used to make tasks easier, while applying these tools to real-life examples.

Suggested Tool(s) for Practical Application: Keyboard Shortcuts, QR Codes, Duplicating items in software

Samples of Student Performance (by the end of Grade 2):

- Students can identify and explain how tools and materials (like computers, books, or building supplies) are used to solve problems or complete tasks.
- Students can describe how systems (like a bicycle, a school, or a computer) are made up of parts that work together to achieve a purpose.

Connected Academic Standards:

Math>MP.5 Use appropriate tools strategically.

SS>2.HS.3 Science and technology have changed daily life.

Tech>ATP.M.2.a Break down (i.e., decompose) a series of steps and separate the necessary from the unnecessary steps to create a precise sequence of instructions to solve a problem or express an idea.

Standard:

Creative Communicator: Students communicate clearly and express themselves creatively for a variety of purposes using the platforms, tools, styles, formats and digital media appropriate to their goals.

Performance Indicator: 6.a: Choose the appropriate platforms and digital tools for meeting the desired objectives of their creation or communication.

Summarized Statement: Students choose appropriate applications to create and publish their work.

Suggested Tool(s) for Practical Application: Seesaw, Canva, Book Creator, Google Workspace

Samples of Student Performance (by the end of Grade 2):

- Students are provided with a choice board where they may pick one digital tool to share their opinion writing in a different platform. The choice board could include making a persuasive poster on canva, creating a video on screencastify explaining their opinion and reasons, creating a slides presentation, or using Book Creator to publish their writing.

Connected Academic Standards:

Math>MP.3 Construct viable arguments and critique the reasoning of others.

Math>MP.5 Use appropriate tools strategically.

Math>2.MD.10 Organize, represent, and interpret data with up to four categories; complete picture graphs when single -unit scales are provided; complete bar graphs when single -unit scales are provided; solve simple put -together, take -apart, and compare problems in a graph.

ELA>SL.2.2 Retell or describe key ideas or details from a text read aloud or information presented in various media and other formats

ELA>SL.2.5 Create audio recordings of stories or poems; add drawings or other visual displays to stories or recounts of experiences when appropriate to clarify ideas, thoughts, and feelings.

ELA>W.2.6 With guidance and support from adults, use a variety of digital tools to produce

and publish writing, including in collaboration with peers.

Tech>NI.N.2.b Use computing devices that are connected to share and receive information from the global community.

Performance Indicator: 6.b: Create original works or responsibly repurpose or remix digital resources into new creations.

Summarized Statement: Students can use digital tools to create and remix work.

Suggested Tool(s) for Practical Application: Seesaw, Canva

Samples of Student Performance (by the end of Grade 2):

- Students can express themselves creatively by making videos, songs, or artwork using digital tools.
- Students can design and animate moving images using digital software.

Connected Academic Standards:

ELA>W.2.1 Write opinion pieces that introduce the topic or book being written about, express an opinion, supply reasons that support the opinion, use linking words (e.g., because, and, also) to connect opinion and reasons, and provide a concluding statement or section.

ELA>SL.2.5 Create audio recordings of stories or poems; add drawings or other visual displays to stories or recounts of experiences when appropriate to clarify ideas, thoughts, and feelings.

Tech>K-2.ICT.3.d. With guidance, create artifacts using digital learning tools and resources to demonstrate knowledge.

Performance Indicator: 6.c: Use digital tools to visually communicate complex ideas to others.

Summarized Statement: Students understand how to communicate ideas using multiple types of media.

Suggested Tool(s) for Practical Application: Seesaw

Samples of Student Performance (by the end of Grade 2):

- Students can share their work with the class using a document camera to highlight important details.
- Students can visualize data by creating electronic graphs.

- Students can bring their stories to life by drawing and animating illustrations using digital tools.
- Students can explore and understand how systems work by using digital simulations.
- Students can present their learning in a variety of creative formats, like slideshows, movies, or book trailers.

Connected Academic Standards:

Sci>1.ESS.1 The sun is the principal source of energy.

Sci>2.ESS.1 The atmosphere is primarily made up of air.

Sci>2.ESS.2 Water is present in the atmosphere.

Math>MP.3 Construct viable arguments and critique the reasoning of others.

Math>MP.4 Model with mathematics.

Math>2.MD.10 Organize, represent, and interpret data with up to four categories; complete picture graphs when single -unit scales are provided; complete bar graphs when single -unit scales are provided; solve simple put -together, take -apart, and compare problems in a graph.

ELA>SL.2.2 Retell or describe key ideas or details from a text read aloud or information presented in various media and other formats

Performance Indicator: 6.d: Publish or present content that customizes the message and medium for their intended audiences.

Summarized Statement: Students create and publish content to share with others.

Suggested Tool(s) for Practical Application: Book Creator, Canva, Seesaw, Google Workspace

Samples of Student Performance (by the end of Grade 2):

- Students can choose the best digital tools to make their projects and presentations.
- Students can think carefully about how to communicate effectively online, based on the task, audience, and information they want to share.

Connected Academic Standards:

ELA>W.2.6 With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers

Math>MP.3 Construct viable arguments and critique the reasoning of others.

Tech>K-2.ICT.4.c. With guidance, select appropriate digital learning tools and resources to produce and publish information.

Standard:

Global Collaborator: Students use digital tools to broaden their perspectives and enrich their learning by collaborating with others and working effectively in teams locally and globally.

Performance Indicator: 7.a: Use digital tools to connect with peers from a variety of backgrounds recognizing diverse viewpoints and broadening mutual understanding.

Summarized Statement: Students participate in the use of tools to connect with others from a variety of different backgrounds and cultures.

Suggested Tool(s) for Practical Application: Google Meet

Samples of Student Performance (by the end of Grade 2):

- Students can learn from others around the world by connecting online through video or voice calls (like when an author talks about writing or an expert shares their knowledge).

Connected Academic Standards:

Math>MP.3 Construct viable arguments and critique the reasoning of others.

ELA>RL.2.2 Analyze literary text development.(b). Retell stories, including fables and folktales from diverse cultures.

SS>2.HS.4 Biographies can show how peoples' actions have shaped the world in which we live.

SS>2.GS.7 Human activities alter the physical environment, both positively and negatively.

SS>2.GS.8 Cultures develop in unique ways, in part through the influence of the physical environment.

SS>2.GS.9. Interactions among cultures lead to sharing ways of life.

Tech>NI.N.2.b Use computing devices that are connected to share and receive information from the global community.

Performance Indicator: 7.b: Use collaborative technologies to work with others, including peers, experts or community members, to examine issues and problems from multiple viewpoints.

Summarized Statement: Students record and share their perspectives with supporting reasoning using digital tools.

Suggested Tool(s) for Practical Application: Google Workspace, Seesaw

Samples of Student Performance (by the end of Grade 2):

- Students can work together online to share and combine different ideas and viewpoints.
- Students can work with people from all over the world on online projects using video or voice calls.
- Students can express their opinions and explain why they believe something using digital tools.

Connected Academic Standards:

Math>MP.1 Make sense of problems and persevere in solving them.

Math>MP.3 Construct viable arguments and critique the reasoning of others.

Sci>2.LS.1 Living things cause changes on Earth.

Tech>K-2.ST.2.a. Communicate and collaborate using several digital methods.

Performance Indicator: 7.c: Contribute constructively to project teams, assuming various roles and responsibilities to work effectively toward a common goal.

Summarized Statement: Students assume various team roles and leverage age-appropriate technologies to successfully execute and finalize projects.

Suggested Tool(s) for Practical Application: Google Workspace, Seesaw

Samples of Student Performance (by the end of Grade 2):

- Students can work together to create digital projects (like slideshows, mind maps, videos, posters, or documents) and take on different roles like writer, note-taker, editor, artist, or designer.

Connected Academic Standards:

Math>MP.1 Make sense of problems and persevere in solving them.

ELA>W.2.5 With guidance and support from adults and peers, focus on a topic and strengthen writing as needed by revising and editing.

ELA>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).

Tech>K-2.ICT.1.b. With guidance, identify a goal and determine how digital learning tools can help accomplish that goal.

Performance Indicator: 7.d: Explore local and global issues and use collaborative technologies to work with others to investigate solutions.

Summarized Statement: Learn about problems in your community and around the world. Use tools like computers to team up with others and figure out ways to fix those problems.

Suggested Tool(s) for Practical Application: Google Workspace, Canva

Samples of Student Performance (by the end of Grade 2):

- Students can watch images from around the world and share their thoughts and ideas about them using digital tools.

Connected Academic Standards:

Math>MP.1 Make sense of problems and persevere in solving them.

SS>2.GS.6 The work that people do is impacted by the distinctive human and physical characteristics in the place where they live.

SS>2.GovS.10 Respect for the rights of self and others includes making responsible choices and being accountable for personal actions.

SS>2.GovS.11 Groups are accountable for choices they make and actions they take.

SS>2.GovS.12 There are different rules and laws that govern behavior in different settings.

[Grades 3-5 Standards for Digitally Proficient Students](#)

Standard:

Empowered Learner: Students leverage technology to take an active role in choosing, achieving and demonstrating competency in their learning goals, informed by the learning sciences.

Performance Indicator: 1.a: Set learning goals, develop strategies leveraging technology to achieve them and reflect on the learning process to improve learning outcomes.

Summarized Statement: Students use technology tools for a specific task such as reading, mathematical computation, or science experiments and evaluate themselves using a rubric.

Suggested Tool(s) for Practical Application: Google Workspace

Samples of Student Performance (by the end of Grade 5):

- Provide students with a Google Slide template with choices of math goals and a tracking sheet.
- Students track their reading comprehension scores throughout the school year on a Google Slide.

Connected Academic Standards:

Math>5.NBT.5 Fluently multiply multi-digit whole numbers using a standard algorithm.(3.OA.3, 4.OA.4)

ELA>RL.5.10 By the end of the year, read and comprehend literature, including stories, dramas, and poetry, at the high end of the grades 4–5 text complexity band independently and proficiently. Activate prior knowledge and draw on previous experiences in order to make text-to-self or text-to-text connections and comparisons.

Performance Indicator: 1.b: Build networks and customize their learning environments in ways that support the learning process.

Summarized Statement: Students will use accessibility features of digital learning tools to make content accessible.

Suggested Tool(s) for Practical Application: Select to Speak, Extensions, Google Workspace

Samples of Student Performance (by the end of Grade 5):

- Students produce writing pieces on Google Slides collaboratively
- Students work collaboratively via a shared Google doc or slideshow to demonstrate their unique methods of solving problems.

Connected Academic Standards:

Math>5.NBT.7 Solve real-world problems by adding, subtracting, multiplying, and dividing decimals using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction, or multiplication and division; relate the strategy to a written method and explain the reasoning used.

ELA>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. (Editing for conventions should demonstrate command of Language standards 1–3 up to and including grade 5.)

ELA>W.5.6 With some guidance and support from adults, use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others,

while demonstrating sufficient command of keyboarding skills.

Performance Indicator: 1.c: Use technology to seek feedback that informs and improves their practice and to demonstrate their learning in a variety of ways.

Summarized Statement: Turn in assignments in a digital format using available feedback tools such as software features including spellcheck, adding comments or creating audio or video responses.

Suggested Tool(s) for Practical Application: Google Workspace, Typing.com

Samples of Student Performance (by the end of Grade 5):

- Students complete individual math tasks, constructing an argument they believe is correct, on their own Google doc or slide, potentially using videos, drawing, etc. Peers critique the reasoning of others (SMP 3) by leaving feedback as to whether they agree or disagree and tell why/not.
- Students produce writing pieces on Google Slides collaboratively and provide feedback to help in the editing process (video, drawings, pictures and typing)

Connected Academic Standards:

Math>5.NF.2 Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators

ELA>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. (Editing for conventions should demonstrate command of Language standards 1–3 up to and including grade 5.)

ELA>W.5.6 With some guidance and support from adults, use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others, while demonstrating sufficient command of keyboarding skills.

Performance Indicator: 1.d: Understand fundamental concepts of how technology works, demonstrate the ability to choose and use current technologies effectively, and are adept at thoughtfully exploring emerging technologies.

Summarized Statement: Students will choose the appropriate app/tool on their devices to facilitate their learning based on previous knowledge.

Suggested Tool(s) for Practical Application: TinkerCAD, Google Workspace, Chromebooks, Canva

Samples of Student Performance (by the end of Grade 5):

- Students choose the appropriate websites to complete accurate research about a topic and choose an appropriate tool for presenting the information.
- Using Canva or Google Sheets, students create picture graphs, bar graphs or line plots to display data they have collected.

Connected Academic Standards:

Math>5.MD.2 Display and interpret data in graphs (picture graphs, bar graphs, and line plots) to solve problems using numbers and operations

ELA>W.5.7 Conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic.

ELA>W.5.8 Recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work and provide a list of sources.

ELA>RI.5.9 Integrate information from several texts on the same topic in order to write or speak about the subject knowledgeably.

Standard:

Digital Citizen: Students recognize the responsibilities and opportunities for contributing to their digital communities.

Performance Indicator: 2.a: Manage their digital identity and understand the lasting impact of their online behaviors on themselves and others and make safe, legal and ethical decisions in the digital world.

Suggested Tool(s) for Practical Application: Digital Citizenship Lessons

Samples of Student Performance (by the end of Grade 5):

- Technology Safety Lesson about their digital footprint. Talking about what information is out there and available about them. Where have they been and what that trail says about them. How will their behavior online affect their future.

Connected Academic Standards:

Tech>3-5.ST.1.a. Demonstrate appropriate use of technology and explain the importance of responsible and ethical technology use.

Tech>3-5.ST.1.b. Describe legal and responsible practices when utilizing technology.

Tech>3-5.ST.3.c. Identify and discuss how the use of technology affects self and others in

various ways.

Tech>3-5.ST.3.d. Identify the components of one's digital identity and one's digital footprint.

Performance Indicator: 2.b: Demonstrate empathetic, inclusive interactions online and use technology to responsibly contribute to their communities.

Suggested Tool(s) for Practical Application: Digital Citizenship Lessons

Samples of Student Performance (by the end of Grade 5):

- Technology Lesson on how the power of words on the internet can directly impact others. Also cover how to use the STOP method.

Connected Academic Standards:

Tech>3-5.ST.1.a. Demonstrate appropriate use of technology and explain the importance of responsible and ethical technology use.

Tech>3-5.ST.1.b. Identify positive and negative impacts one's use of personal technology and technology systems (e.g., agriculture, transportation, energy generation, water treatment) can have on one's community.

Tech>3-5.ST.1.c. Describe legal and responsible practices when utilizing technology.

Performance Indicator: 2.c: Safeguard their well-being by being intentional about what they do online and how much time they spend online.

Suggested Tool(s) for Practical Application: Digital Citizenship Lessons

Samples of Student Performance (by the end of Grade 5):

- Discussions within the TRT lessons about screen time and a daily media balance.

Connected Academic Standards:

Tech>3-5.ICT.4.a. With guidance, discuss and identify communication needs considering goals, audience and content.

Tech>3-5.ST.2.c. Identify the positive and negative impact the use of technology can have on relationships, communities and self.

Tech>3-5.ST.3.a. Describe the advantages and disadvantages of technology (past, present, future) to understand the relationship between technology, society and the individual.

Performance Indicator: 2.d: Take action to protect their digital privacy on devices and manage their personal data and security while online.

Suggested Tool(s) for Practical Application: Digital Citizenship Lessons

Samples of Student Performance (by the end of Grade 5):

- TRT teaching lesson about not sharing private information online. Also discuss the difference between personal information and private information.

Connected Academic Standards:

Tech>3-5.ST.3.d. Identify the components of one’s digital identity and one’s digital footprint.

Standard:

Knowledge Constructor: Students critically curate a variety of resources using digital tools to construct knowledge, produce creative artifacts and make meaningful learning experiences for themselves and others.

Performance Indicator: 3.a: Use effective research strategies to find resources that support their learning needs, personal interests and creative pursuits.

Summarized Statement: Students gather, organize and summarize information from multiple digital learning tools and resources to build knowledge of a topic.

Suggested Tool(s) for Practical Application: InfOhio, Search Engines, Scholastic, Digital Reader, Studies Weekly

Samples of Student Performance (by the end of Grade 5):

- Students can use various websites and resources to gather information about a topic and integrate the information collected to create a digital presentation.
- Students can gather data, such as amounts of precipitation in a particular area, and create a table (digitally) in which they represent the data in two different units.

Connected Academic Standards:

Sci>5.ESS.1 The solar system includes the sun and all celestial bodies that orbit the sun. Each planet in the solar system has unique characteristics.

Sci>1.LS.1 Organisms perform a variety of roles in an ecosystem.

Sci>1.LS.2 All of the processes that take place within organisms require energy.

ELA>W.5.9 Draw evidence from literary or informational texts to support analysis, reflection, and research.

- **b.** Apply grade 5 Reading standards to informational texts (e.g., “Explain how an author uses reasons and evidence to support particular points in a text, identifying which reasons and evidence support which point[s]”).

ELA>RI.5.9 Integrate information from several texts on the same topic in order to write or speak about the subject knowledgeably.

Math>5.MD.1 Know relative sizes of these U.S. customary measurement units (and convert): pounds, ounces, miles, yards, feet, inches, gallons, quarts, pints, cups, fluid ounces, hours, minutes, and seconds.

Performance Indicator: 3.b: Evaluate the accuracy, validity, bias, origin, and relevance of digital content.

Summarized Statement: Students learn about appropriate apps and tools on their devices to facilitate their learning based on previous knowledge.

Suggested Tool(s) for Practical Application: InfOhio, Search Engines, Scholastic, Digital Reader, Studies Weekly

Samples of Student Performance (by the end of Grade 5):

- Students evaluate a variety of digital resources including articles and websites to determine the accuracy, validity, bias, origin, and relevance of digital content.
- Students use shapes, drawing tools, etc. to demonstrate knowledge of fractions.

Connected Academic Standards:

ELA>W.5.8 Recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work and provide a list of sources.

ELA>RI.5.9 Integrate information from several texts on the same topic in order to write or speak about the subject knowledgeably.

Math>5.NF.1 Add and subtract fractions with unlike denominators (including mixed numbers and fractions greater than 1) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators.

Performance Indicator: 3.c: Curate information from digital resources using a variety of tools and methods to create collections of artifacts that demonstrate meaningful connections or conclusions.

Summarized Statement: Students utilize collected knowledge and use digital tools to demonstrate their learning through the creation of various media and artifacts.

Suggested Tool(s) for Practical Application: Google Docs, Sites, Slides, Canva

Samples of Student Performance (by the end of Grade 5):

- Students find examples of arrays in their surroundings (window panes, rows of desks, computers in cart, etc.) , take pictures and put them on Google Slides. Teacher brings students together to view and discuss the students' discoveries.
- Students work in small groups using mathlearningcenter.org/apps to create a design on a digital geoboard that they can use to lead a fraction talk.

Connected Academic Standards:

Sci>1.PS.2 Light and sound are forms of energy that behave in predictable ways.

Sci>1.LS.2 All of the processes that take place within organisms require energy.

Sci>5.ESS.3 Most of the cycles and patterns of motion between the Earth and sun are predictable.

Sci>4.LS.2 Fossils can be compared to one another and to present-day organisms according to their similarities and differences.

Math>3.OA.1 understand multiplication as 'groups of'

Math>3.OA.2 Interpret whole number quotients of whole numbers,

Math>3.NF.3 Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size.

Performance Indicator: 3.d: Build knowledge by actively exploring real-world issues and problems, developing ideas and theories and pursuing answers and solutions.

Summarized Statement: Students work collaboratively using technology to identify and analyze a solution to a problem.

Suggested Tool(s) for Practical Application: Google Docs, Sites, Slides, Canva

Samples of Student Performance (by the end of Grade 5):

- Students will determine relevant and accurate online research information to complete an opinion writing piece on a real word issue and develop ideas/solutions on how to resolve or improve the issue.

Connected Academic Standards:

Sci>4.LS.1 Changes in an organism's environment are sometimes beneficial to its survival and sometimes harmful.

Sci>3.ESS.3 Some of Earth's resources are limited.

Sci>3.LS.2 Individuals of the same kind of organism differ in their inherited traits. These differences give some individuals an advantage in surviving and/or reproducing.

ELA>W.5.1 Write opinion pieces on topics or texts, supporting a point of view with reasons and information.

ELA>RI.5.6 Analyze multiple accounts of the same event or topic, noting important similarities and differences in the perspectives they represent.

Standard:

Innovative Designer: Students use a variety of technologies within a design process to identify and solve problems by creating new, useful or imaginative solutions.

Performance Indicator: 4.a: Know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts or solving authentic problems.

Summarized Statement: Students learn and apply the design process to come up with ideas, find solutions, and plan for solving problems or creating innovative products that they can share with others.

Suggested Tool(s) for Practical Application: Google Docs, Sites, Slides, Canva, Video/Audio Recording, TinkerCAD

Samples of Student Performance (by the end of Grade 5):

- Students work with a partner or small group. Use Google Slides, specifically inserting tables, to find all the factor pairs of a number. *Teacher could create one slideshow with 100 slides, one slide for each number 1 - 100. Students work within this slideshow, randomly “grabbing” a slide to insert tables representing all factor pairs of that number. Follow-up conversation could include discussing prime vs. composite, the commutative and identity property, and so much more!

Connected Academic Standards:

Sci>1.LS.1 Organisms perform a variety of roles in an ecosystem.

Sci>3.ESS.2 Earth’s resources can be used for energy.

Math>4.OA.4 Find all factor pairs for a whole number in the range 1-100. (explore composite, prime, square)

Performance Indicator: 4.b: Select and use digital tools to plan and manage a design process that considers design constraints and calculated risks.

Summarized Statement: Students generate ideas for projects using digital storyboard tools.

Suggested Tool(s) for Practical Application: Google Docs, Slides, Canva

Samples of Student Performance (by the end of Grade 5):

- Students leverage digital storyboard tools to generate and refine project ideas for book talks, informational videos, narrative stories, and more.
- Students harness the power of digital storytelling tools to craft compelling narratives, incorporating elements like voiceovers, music, and images to enhance their creative expression.
- Students utilize digital mind-mapping tools as a strategy for generating and organizing ideas.
- Students utilize digital platforms and collaborative tools to generate and refine project ideas, fostering teamwork and communication skills.

Connected Academic Standards:

ELA>RL.5.3- Compare and contrast two or more characters, settings, or events in a story or drama, drawing on specific details in the text (e.g., how characters interact).

ELA>RL.5.5- Explain how a series of chapters, scenes, or stanzas fits together to provide the overall structure of a particular story, drama, or poem.

ELA>W.5.1- Write opinion pieces on topics or texts, supporting a point of view with reasons and information.

ELA>W.5.2- Write informative/explanatory texts to examine a topic and convey ideas and information clearly.

ELA>W.5.7- Conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic.

Tech>3-5.DT.2.c. Generate, develop and communicate design ideas and decisions using appropriate terms and graphical representations.

Performance Indicator: 4.c: Develop, test and refine prototypes as part of a cyclical design process.

Summarized Statement: Students come up with, work on, test, and share their design ideas using trial and error.

Suggested Tool(s) for Practical Application: Google Docs, Canva, Video/Audio Recording, TinkerCAD

Samples of Student Performance (by the end of Grade 5):

- Students collaborate on a Google Doc to brainstorm ideas, plan steps, and

document their trials and errors. They can use the document to record observations, take notes, and share their progress with the class.

- Students use Canva to design an interactive storybook. They can experiment with different layouts, fonts, colors, and images to create engaging visuals.
- Students use TinkerCAD to design a 3D model of a building, such as a skyscraper, a castle, or a futuristic home.

Connected Academic Standards:

Sci>3.LS.1 Offspring resemble their parents and each other.

ELA>W.5.1- Write opinion pieces on topics or texts, supporting a point of view with reasons and information.

ELA>W.5.2- Write informative/explanatory texts to examine a topic and convey ideas and information clearly.

Math>MP.4- Students experiment with representing problem situations in multiple ways including numbers, words (mathematical language), drawing pictures, using objects, making a chart, list, or graph, creating equations, etc.

Tech>3-5.DT.2.b. Plan and implement a design process: identify a problem, think about ways to solve the problem, develop possible solutions, test and evaluate solution(s), present a possible solution, and redesign to improve the solution.

Tech>IC.Cu.5.b Develop, test and refine digital artifacts to improve accessibility and usability.

Performance Indicator: 4.d: Exhibit a tolerance for ambiguity, perseverance and the capacity to work with open-ended problems.

Summarized Statement: Students show the capacity to work effectively on projects to reach a provided goal.

Suggested Tool(s) for Practical Application: Google Docs, Sites, Slides, Canva, Video/Audio Recording, TinkerCAD

Samples of Student Performance (by the end of Grade 5):

- Students apply mathematical concepts, such as measurements, calculations, and data analysis, to solve engineering design challenges.
- Students effectively communicate their design ideas, collaborate with peers, and provide and receive constructive feedback throughout the engineering design process.
- Students document their engineering design process through written reports, presentations, and other forms of written communication.

Connected Academic Standards:

Math>MP.1 Make sense of problems and persevere in solving them.

Math>MP.5 Use appropriate tools strategically.

ELA>SL.5.5- Include multimedia components (e.g., graphics, sound) and visual displays in presentations when appropriate to enhance the development of main ideas or themes.

ELA>W.5.7- Conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic.

Standard:

Computational Thinker: Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions.

Performance Indicator: 5.a: Formulate problem definitions suited for technology-assisted methods such as data analysis, abstract models and algorithmic thinking in exploring and finding solutions.

Summarized Statement: Students compare data to create visually appropriate graphical representation of the data (e.g., line graphs, circle graphs, bar graphs, etc.).

Suggested Tool(s) for Practical Application: Canva, Sheets

Samples of Student Performance (by the end of Grade 5):

- Conduct a class survey on a topic of interest, enter the survey data into a Google Sheet and use functions to analyze data and create clear graphical representations of the findings.
- Students use Canva to create visually appealing and informative graphs and charts to represent gathered information.

Connected Academic Standards:

Math>MP.5 Use appropriate tools strategically.

Math>5.MD.2- Display and interpret data in graphs (picture graphs, bar graphs, and line plots) to solve problems using numbers and operations for this grade.

SS>5GS.PR.6- Regions can be determined using data related to various criteria including landform, climate, population, and cultural and economic characteristics.

SS>5.GS.11- Individuals can better understand public issues by gathering, interpreting and

checking information for accuracy from multiple sources. Data can be displayed graphically to effectively and efficiently communicate information.

Tech>DA.DCS.5.a Gather and organize multiple quantitative data elements using a tool to perform various tasks.

Performance Indicator: 5.b: Collect data or identify relevant data sets, use digital tools to analyze them, and represent data in various ways to facilitate problem-solving and decision-making.

Summarized Statement: Students analyze age-appropriate data and look for similarities in order to identify patterns and categories.

Suggested Tool(s) for Practical Application: Forms, Sheets, Canva

Samples of Student Performance (by the end of Grade 5):

- Students will be able to collect and organize data related to a specific characteristic of the Western Hemisphere (landforms, climate, population, or economic characteristics). They will chart this data using Google sheets and present their findings through graphs made from Sheets or Canva.

Connected Academic Standards:

Math>MP.3- Construct viable arguments and critique the reasoning of others.

Math>MP.5 Use appropriate tools strategically.

Math>5.MD.2- Display and interpret data in graphs (picture graphs, bar graphs, and line plots) to solve problems using numbers and operations for this grade.

SS>5.GS.6- Regions can be determined using data related to various criteria including landform, climate, population, and cultural and economic characteristics.

SS>5.ES.13- Information displayed in circle graphs can be used to show relative proportions of segments of data to an entire body of data.

Tech>DA.DCS.5.a Gather and organize multiple quantitative data elements using a tool to perform various tasks.

Performance Indicator: 5.c: Break problems into component parts, extract key information, and develop descriptive models to understand complex systems or facilitate problem-solving.

Summarized Statement: Students break down problems into smaller parts, identify key information and propose solutions.

Suggested Tool(s) for Practical Application: Docs, Sheets

Samples of Student Performance (by the end of Grade 5):

- Students can use Google Sheets to organize and analyze data to solve a multi-step word problem, breaking down the problem into smaller parts, identifying key information, and proposing solutions. An example would be planning a bake sale to raise money for a good cause.
- Students can use Google Docs to brainstorm and outline solutions to a complex problem, such as a local environmental issue, breaking down the problem into smaller parts, identifying key information, and proposing potential solutions. An example would be observing and noting how litter can be reduced in a city park.

Connected Academic Standards:

Math>MP.5 Use appropriate tools strategically.

Math>5.MD. 1 Know relative sizes of these U.S. customary measurement units: pounds, ounces, miles, yards, feet, inches, gallons, quarts, pints, cups, fluid ounces, hours, minutes, and seconds. Convert between pounds and ounces; miles and feet; yards, feet, and inches; gallons, quarts, pints, cups, and fluid ounces; hours, minutes, and seconds in solving multi-step, real-world problems.

ELA>W.5.6 - With some guidance and support from adults, use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others, while demonstrating sufficient command of keyboarding skills.

Tech>ATP.A.5.a Evaluate a multi-step process to diagram the proper steps to solve a problem.

Performance Indicator: 5.d: Understand how automation works and use algorithmic thinking to develop a sequence of steps to create and test automated solutions.

Summarized Statement: Students grasp fundamental concepts related to sequencing and automation, such as patterns and cause and effect.

Suggested Tool(s) for Practical Application: Code.org, Google CSFirst, Sheets

Samples of Student Performance (by the end of Grade 5):

- Students create a simple dance routine for a cartoon character using Code.org's block-based coding interface.
- Students use weather data collected over a week in a Google Sheets then in CSFirst create a simple script that automatically calculates the average temperature for each day of the week, demonstrating cause and effect.

Connected Academic Standards:

Math>5.OA.3 Generate two numerical patterns using two given rules.

ELA>SL.5.4 Report on a topic or text or present an opinion, sequencing ideas logically and using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace.

Tech>DA.DCS.5.a Gather and organize multiple quantitative data elements using a tool to perform various tasks.

Standard:

Creative Communicator: Students communicate clearly and express themselves creatively for a variety of purposes using the platforms, tools, styles, formats and digital media appropriate to their goals.

Performance Indicator: 6.a: Choose the appropriate platforms and digital tools for meeting the desired objectives of their creation or communication.

Summarized Statement: Students choose appropriate applications to create and publish their work.

Suggested Tool(s) for Practical Application: Google Workspace, Canva, Audio/Video Recording

Samples of Student Performance (by the end of Grade 5):

- Students are provided with a choice board where they may pick one digital tool to share their opinion writing in a different platform. The choice board could include creating a digital newsletter, developing a presentation about a given topic, or tell a creative story using a combination of text, images, and sounds.

Connected Academic Standards:

Math>MP.3 Construct viable arguments and critique the reasoning of others.

Math>MP.5 Use appropriate tools strategically.

ELA>W.5.4 Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience.

ELA>W.5.6 With some guidance and support from adults, use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others, while demonstrating sufficient command of keyboarding skills.

ELA>SL.5.4 Report on a topic or text or present an opinion, sequencing ideas logically and

using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace.
ELA>SL.5.5 Include multimedia components (e.g., graphics, sound) and visual displays in presentations when appropriate to enhance the development of main ideas or themes.

Performance Indicator: 6.b: Create original works or responsibly repurpose or remix digital resources into new creations.

Summarized Statement: Students can use digital tools to create and remix work using templates and citing sources.

Suggested Tool(s) for Practical Application: InfOhio, Google Workspace, Canva, Audio/Video Recording

Samples of Student Performance (by the end of Grade 5):

- Students use Canva templates and InfOhio to research and create an informative brochure about a local historical figure or event.
- Students use Google Workspace (Docs, Slides, Drive) to plan and script a short documentary on a chosen topic (e.g., the impact of pollution on a local ecosystem). They utilize audio/video recording to capture interviews and footage.

Connected Academic Standards:

ELA>W.5.2- Write informative/explanatory texts to examine a topic and convey ideas and information clearly.

ELA>SL.5.4 Report on a topic or text or present an opinion, sequencing ideas logically and using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace.

ELA>SL.5.5 Include multimedia components (e.g., graphics, sound) and visual displays in presentations when appropriate to enhance the development of main ideas or themes.

SS>5.GS.8 American Indians developed unique cultures with many different ways of life. American Indian tribes and nations can be classified into cultural groups based on geographic and cultural similarities.

Tech>3-5.ICT.4.d. Produce and publish information appropriate for a target audience using digital learning tools and resources.

Sci>3-5.NS.SI Think critically and ask questions about the observations and explanations of others.

Performance Indicator: 6.c: Use digital tools to visually communicate complex ideas to others.

Summarized Statement: Students understand how to communicate ideas using multiple types of media.

Suggested Tool(s) for Practical Application: Google Workspace, Canva, Audio/Video Recording

Samples of Student Performance (by the end of Grade 5):

- Students use Google Slides to create an interactive presentation on a scientific topic (e.g., the water cycle, the solar system). They incorporate multimedia elements such as images, videos, and audio recordings to enhance their presentation.
- Students use Canva to design an informative poster about a social issue (e.g., environmental conservation). They incorporate text, images, and potentially short video clips or audio recordings to convey their message effectively.

Connected Academic Standards:

ELA>W.5.2- Write informative/explanatory texts to examine a topic and convey ideas and information clearly.

ELA>SL.5.4 Report on a topic or text or present an opinion, sequencing ideas logically and using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace.

ELA>SL.5.5 Include multimedia components (e.g., graphics, sound) and visual displays in presentations when appropriate to enhance the development of main ideas or themes.

SS>5.GovS.11 Individuals can better understand public issues by gathering, interpreting and checking information for accuracy from multiple sources. Data can be displayed graphically to effectively and efficiently communicate information.

Tech>3-5.ICT.4.d. Produce and publish information appropriate for a target audience using digital learning tools and resources.

Sci>3-5.NS.SI Think critically and ask questions about the observations and explanations of others.

Performance Indicator: 6.d: Publish or present content that customizes the message and medium for their intended audiences.

Summarized Statement: Students create and publish content to share with others.

Suggested Tool(s) for Practical Application: Google Workspace, Canva, Audio/Video Recording

Samples of Student Performance (by the end of Grade 5):

- Students will create an infographic in Canva to summarize a specific historical event (e.g., the American Revolution or Ohio's state history). They will use appropriate visuals, text, and data to highlight key information while considering the audience's needs.
- Students will research a specific scientific topic (e.g., the water cycle or a specific animal habitat) and create a Google Slides presentation. They will tailor their presentation to a younger audience (elementary school students) by simplifying complex concepts, using engaging visuals, and adding voice narration.

Connected Academic Standards:

ELA>W.5.2- Write informative/explanatory texts to examine a topic and convey ideas and information clearly.

ELA>W.5.4 Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience.

Sci>1.PS.1 The amount of change in movement of an object is based on the mass of the object and the amount of force exerted.

SS>5.HS.1 Events can be arranged in order of occurrence using the conventions of B.C. and A.D. or B.C.E. and C.E.

Tech>3-5.ICT.3.d. Create artifacts using digital learning tools and resources to demonstrate knowledge.

Standard:

Global Collaborator: Students use digital tools to broaden their perspectives and enrich their learning by collaborating with others and working effectively in teams locally and globally.

Performance Indicator: 7.a: Use digital tools to connect with peers from a variety of backgrounds recognizing diverse viewpoints and broadening mutual understanding.

Summarized Statement: Students participate in the use of tools to connect with others from a variety of different backgrounds and cultures.

Suggested Tool(s) for Practical Application: Google Workspace

Samples of Student Performance (by the end of Grade 5):

- Students collaborate on a creative writing project using Google Docs with students from another school. Each group writes a short story, with each class contributing to specific parts of the plot. At the end, they use Google Sites to publish their stories.

Connected Academic Standards:

ELA>W.5.3- Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences.

ELA>W.5.4 Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience.

Tech>3-5.ICT.3.d. Create artifacts using digital learning tools and resources to demonstrate knowledge.

Performance Indicator: 7.b: Use collaborative technologies to work with others, including peers, experts or community members, to examine issues and problems from multiple viewpoints.

Summarized Statement: Students record and share their perspectives with supporting reasoning using digital tools.

Suggested Tool(s) for Practical Application: Junior Achievement, Google Workspace, Canva

Samples of Student Performance (by the end of Grade 5):

- Students use Google Docs to draft an opinion piece on a current event or historical topic, providing supporting reasoning and evidence. They then use Google Slides to create visuals and Google Vids to record a podcast-style presentation, sharing their perspectives with classmates or a broader audience.
- Students research an environmental issue, such as deforestation or climate change, using Google Docs to organize their findings and arguments. They then create a presentation using Google Slides to support their perspective with facts and reasoning.

Connected Academic Standards:

ELA>W.5.1- Write opinion pieces on topics or texts, supporting a point of view with reasons and information.

ELA>W.5.4 Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience.

Tech>3-5.ICT.3.d. Create artifacts using digital learning tools and resources to demonstrate

knowledge.

Performance Indicator: 7.c: Contribute constructively to project teams, assuming various roles and responsibilities to work effectively toward a common goal.

Summarized Statement: Students assume various team roles and leverage age-appropriate technologies to successfully execute and finalize projects.

Suggested Tool(s) for Practical Application: Google Workspace

Samples of Student Performance (by the end of Grade 5):

- Students form teams to plan a class event (e.g., a school fair). Roles include event planner, budget manager, and advertiser. Using Google Sheets, students create a budget and track expenses. They design an event flyer using Google Docs or Google Drawings and present their proposal to the class.

Connected Academic Standards:

Math>5.OA Analyze patterns and relationships, and use them to solve real-world problems.

ELA>SL.5.4 Report on a topic or text or present an opinion, sequencing ideas logically and using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace.

Tech> 5.DA.10 Organize and present data in meaningful ways using digital tools.

Performance Indicator: 7.d: Explore local and global issues and use collaborative technologies to work with others to investigate solutions.

Summarized Statement: Students collaborate with peers using technology to investigate both local and global issues.

Suggested Tool(s) for Practical Application: Junior Achievement, Google Workspace, Canva

Samples of Student Performance (by the end of Grade 5):

- Students use Google Docs to collaboratively research a local environmental issue, such as pollution in a nearby river. Each group member is responsible for a specific aspect (e.g., causes, effects, or solutions). Students summarize their findings in a shared document and create a Google Slides presentation to share their research with the class.

Connected Academic Standards:

Sci>5.ESS.3 Analyze how individual and group decisions impact the environment and contribute to or alleviate environmental problems.

ELA>W.5.7 Conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic.

Tech>IC.5.2.a Identify real-world issues that can be solved using technology and share information responsibly.

[Grades 6-8 Standards for Digitally Proficient Students](#)

Standard:

Empowered Learner: Students leverage technology to take an active role in choosing, achieving and demonstrating competency in their learning goals, informed by the learning sciences.

Performance Indicator: 1.a: Set learning goals, develop strategies leveraging technology to achieve them and reflect on the learning process to improve learning outcomes.

Summarized Statement: Students set personal learning goals and use digital tools and reflect on their learning.

Suggested Tool(s) for Practical Application: Google Workspace, Canva, IXL, Seesaw

Samples of Student Performance (by the end of Grade 8):

- Students use a digital journal to track their progress on a long-term project, reflecting on their strengths, weaknesses, and areas for improvement.
- Students create a digital portfolio showcasing their best work, using a self-assessment rubric to evaluate their own performance and identify future learning goals.
- Students use a learning management system to complete self-reflection surveys, providing feedback on their learning experiences and suggesting ways to enhance future instruction.

Connected Academic Standards:

ELA>W.8.6 Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas efficiently, as well as to interact and collaborate with others.

Performance Indicator: 1.b: Build networks and customize their learning environments in ways that support the learning process.

Summarized Statement: Students will use accessibility features of digital learning tools to make content accessible.

Suggested Tool(s) for Practical Application: Google Workspace, Extensions

Samples of Student Performance (by the end of Grade 8):

- Use the built-in text-to-speech function in Google Docs to read aloud their assignments and provide audio feedback to peers.
- Use the closed captioning feature in YouTube to make educational videos accessible to students who are deaf or hard of hearing.
- Create alternative text descriptions for images and diagrams in their digital presentations, making their work accessible to students with visual impairments.

Connected Academic Standards:

Math>MP.1 Make sense of problems and persevere in solving them.

Math>MP.5 Use appropriate tools strategically.

ELA>W.8.6 Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas efficiently, as well as to interact and collaborate with others.

Performance Indicator: 1.c: Use technology to seek feedback that informs and improves their practice and to demonstrate their learning in a variety of ways.

Summarized Statement: Turn in assignments in a digital format using available feedback tools such as software features including spellcheck, adding comments or creating audio or video responses.

Suggested Tool(s) for Practical Application: Google Workspace

Samples of Student Performance (by the end of Grade 8):

- Students will write a persuasive essay on a current social issue using Google Docs on their Chromebooks, leveraging tools like spellcheck and comments for peer and teacher feedback. They will revise their essays based on the feedback and submit the final version digitally.
- Students will create a presentation using Google Slides to analyze data from a math-based project, such as tracking and visualizing statistical trends in a real-world dataset. They will incorporate peer and teacher feedback via comments in Google Slides to refine their work before presenting.

Connected Academic Standards:

Math>MP.5 Use appropriate tools strategically.

Math>8.SP.4 Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects.

ELA>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, focusing on how well purpose and audience have been addressed.

ELA>W.8.6 Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas efficiently, as well as to interact and collaborate with others.

Performance Indicator: 1.d: Understand fundamental concepts of how technology works, demonstrate the ability to choose and use current technologies effectively, and are adept at thoughtfully exploring emerging technologies.

Summarized Statement: Students apply their knowledge and skills from existing technologies and devices to successfully use new technologies.

Suggested Tool(s) for Practical Application: TinkerCAD, Google Workspace, Chromebooks, Canva

Samples of Student Performance (by the end of Grade 8):

- Students will research a historical event and create a collaborative multimedia presentation using Google Slides and Canva. They will integrate visuals, citations, and text to present their findings to the class, demonstrating how to use existing tools to enhance communication and creativity.
- Students will use Tinkercad on Chromebooks to design a 3D model of a structure or object that addresses a real-world problem, such as creating an eco-friendly building. They will then analyze the measurements and dimensions of their design to ensure accuracy and functionality.

Connected Academic Standards:

Math>MP.5 Use appropriate tools strategically.

ELA>W.8.2 Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.

ELA>RI.8.7 Evaluate the advantages and disadvantages of using different mediums (e.g.,

print or digital text, video, multimedia) to present a particular topic or idea.

ELA>SL.8.5 Integrate multimedia and visual displays into presentations to clarify information, strengthen claims and evidence, and add interest.

ELA>Presentation of Knowledge and Ideas Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations.

Standard:

Digital Citizen: Students recognize the responsibilities and opportunities for contributing to their digital communities.

Performance Indicator: 2.a: Manage their digital identity and understand the lasting impact of their online behaviors on themselves and others and make safe, legal and ethical decisions in the digital world.

Summarized Statement: Learn how to take care of your online identity and recognize how your actions on the internet can affect you and others. Make safe, legal, and ethical choices when using digital tools and social media.

Suggested Tool(s) for Practical Application: Digital Citizenship Lessons- Common Sense Media, Google Slides

Samples of Student Performance (by the end of Grade 8):

- Students will research what a digital footprint is and create a reflective presentation on Google Slides about how their online actions can impact their future. They will include examples of both positive and negative online behaviors and discuss ways to maintain a positive online identity.

Connected Academic Standards:

SS>GOVERNMENT.Civic Participation and Skills Civic participation embraces the ideal that an individual actively engages in his or her community, state or nation for the common good. Students need to practice effective communication skills including negotiation, compromise and collaboration. Skills in accessing and analyzing information are essential for citizens in a democracy.

ELA>SL.8.4 Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant

Tech>6-8.ST.1.a. Advocate and exhibit ethical, legal and responsible practices when

utilizing technology.

Tech>6-8.ST.1.b. Explore the advantages and disadvantages of widespread use, accessibility and reliance on technology in one's world.

Tech>6-8.ST.1.c. Review and demonstrate ethical considerations and legal requirements involved in the creation and use of digital technologies.

Tech>6-8.ST.1.d. Analyze an environmental concern and investigate technology solutions to that problem.

Performance Indicator: 2.b: Demonstrate empathetic, inclusive interactions online and use technology to responsibly contribute to their communities.

Summarized Statement: Show kindness and understanding in your online interactions, and use technology to positively support and engage with your community.

Suggested Tool(s) for Practical Application: Digital Citizenship Lessons- Common Sense Media, Google Slides

Samples of Student Performance (by the end of Grade 8):

- Students will create a digital kindness campaign using social media platforms or Google Slides, where they share positive messages, quotes, and stories that promote kindness and understanding. They will also encourage their peers to participate by sharing their own acts of kindness online.

Connected Academic Standards:

SS>GOVERNMENT.Civic Participation and Skills Civic participation embraces the ideal that an individual actively engages in his or her community, state or nation for the common good. Students need to practice effective communication skills including negotiation, compromise and collaboration. Skills in accessing and analyzing information are essential for citizens in a democracy.

Tech>6-8.ST.2.b. Explain the positive and negative impact the use of technology can have on personal, professional and community relationships.

Tech>6-8.ST.2.c. Investigate how social media impacts society and the digital identities of individuals and organizations.

Tech>6-8.DT.2.d. Apply appropriate interactions and digital etiquette in varying contexts, reflecting upon potential impacts in both digital and physical environments.

ELA>W.8.6 Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas efficiently, as well as to interact and collaborate with others.

Performance Indicator: 2.c: Safeguard their well-being by being intentional about what they do online and how much time they spend online.

Summarized Statement: Take care of yourself by being thoughtful about your online activities and paying attention to how much time you spend on the internet.

Suggested Tool(s) for Practical Application: Digital Citizenship Lessons- Common Sense Media, Google Sheets, Google Slides

Samples of Student Performance (by the end of Grade 8):

- Students will create a personal online time management plan using Google Sheets, where they track their daily online activities and set limits for recreational screen time. They will reflect on their usage and adjust their plan to ensure a healthy balance between online and offline activities.
- Students will create a newsletter where they share tips and strategies for maintaining a healthy online presence with their classmates. They will create a presentation using Google Slides that covers topics such as setting boundaries, recognizing signs of too much screen time, and finding alternative activities.

Connected Academic Standards:

Math>8.F.1 Understand that a function is a rule that assigns to each input exactly one output.

Tech>6-8.ST.2.b. Explain the positive and negative impact the use of technology can have on personal, professional and community relationships.

Tech>6-8.ST.2.c. Investigate how social media impacts society and the digital identities of individuals and organizations.

Tech>6-8.DT.2.d. Apply appropriate interactions and digital etiquette in varying contexts, reflecting upon potential impacts in both digital and physical environments.

Performance Indicator: 2.d: Take action to protect their digital privacy on devices and manage their personal data and security while online.

Summarized Statement: Take steps to keep your personal information safe on your devices and be smart about how you manage your online privacy and security.

Suggested Tool(s) for Practical Application: Digital Citizenship Lessons- Common Sense Media, Google Slides

Samples of Student Performance (by the end of Grade 8):

- Students will research and create a guide on how to adjust privacy settings on various social media platforms and devices. They will present their findings to the class, highlighting important strategies for protecting personal information online.

- Students will develop a personal data management plan using Google Docs, where they list the types of personal information they share online and strategies for minimizing exposure. They will reflect on their online habits and set goals for improving their digital privacy.

Connected Academic Standards:

ELA>SL.8.4 Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant

ELA>W.8.8 Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others, while avoiding plagiarism and following a standard format for citation.

Tech>6-8.ST.2.b. Explain the positive and negative impact the use of technology can have on personal, professional and community relationships.

Tech>6-8.ST.2.c. Investigate how social media impacts society and the digital identities of individuals and organizations.

Tech>6-8.DT.2.d. Apply appropriate interactions

Standard:

Knowledge Constructor: Students critically curate a variety of resources using digital tools to construct knowledge, produce creative artifacts and make meaningful learning experiences for themselves and others.

Performance Indicator: 3.a: Use effective research strategies to find resources that support their learning needs, personal interests and creative pursuits.

Summarized Statement: Students showcase and refine their skills in effectively employing research strategies to find relevant digital resources that support their learning.

Suggested Tool(s) for Practical Application: InfOhio, Search Engines, Scholastic

Samples of Student Performance (by the end of Grade 8):

- Students will use INFOhio and search engines to research a significant historical event, evaluating the credibility of sources and collecting key details. They will organize their findings into a detailed outline, ensuring all information is supported by reliable digital resources.
- Students will explore a scientific concept, using Scholastic's resources and search engines to gather digital articles, videos, and infographics. They will refine their research by synthesizing the information into a multimedia presentation, ensuring each resource supports their learning goals.

Connected Academic Standards:

Sci>8.LS.1 Diversity of species, a result of variation of traits, occurs through the process of evolution and extinction over many generations. The fossil records provide evidence that changes have occurred in number and types of species.

ELA>SL.8.5 Integrate multimedia and visual displays into presentations to clarify information, strengthen claims and evidence, and add interest.

ELA> Presentation of Knowledge and ideas- Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations.

SS>8.HS.1 Primary and secondary sources are used to examine events from multiple perspectives and to present and defend a position.

Math>MP.2 Reason abstractly and quantitatively.

Performance Indicator: 3.b: Evaluate the accuracy, validity, bias, origin, and relevance of digital content.

Summarized Statement: Students choose appropriate apps and tools on their devices to facilitate their learning based on previous knowledge.

Suggested Tool(s) for Practical Application: InfOhio, Search Engines, Scholastic

Samples of Student Performance (by the end of Grade 8):

- Students will use INFOhio and search engines to research a significant historical event in Ohio, evaluating the credibility of sources and collecting key details. They will organize their findings into a detailed outline, ensuring all information is supported by reliable digital resources.
- Students use a search engine to find data related to scientific topics (eg. climate change, biodiversity) then critically evaluate the accuracy, and relevance of the data sources found through the search engine by comparing them with data from reputable scientific databases like those available through Scholastic.

Connected Academic Standards:

ELA>W.8.8 Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others, while avoiding plagiarism and following a standard format for citation.

SS>8.GS.21 Informed citizens understand how media and communication technology influence public opinion.

Sci>8.ESS.3 A combination of constructive and destructive geologic processes formed Earth's surface.

Tech>6-8.ICT.1 Identify and use appropriate digital learning tools and resources to accomplish a defined task.

Performance Indicator: 3.c: Curate information from digital resources using a variety of tools and methods to create collections of artifacts that demonstrate meaningful connections or conclusions.

Summarized Statement: Students use research and pre-knowledge with the use digital tools to demonstrate their learning through the creation of various media and artifacts.

Suggested Tool(s) for Practical Application: Google Docs, Sites, Slides, Canva

Samples of Student Performance (by the end of Grade 8):

- Students will use Google Docs to research and write summaries on key events in U.S. history, such as the American Revolution or the Civil Rights Movement. They will then curate their research findings into a Google Sites portfolio, organizing it with images, text, and external resources to demonstrate meaningful connections between the events and their broader impact.
- Students will research inherited genetics, using Google Docs and online resources. They will curate information using Canva to design visuals and Google Slides to create a multimedia presentation that conveys their findings, connecting the issue to broader environmental, social, and scientific contexts.

Connected Academic Standards:

ELA>SL.8.5 Integrate multimedia and visual displays into presentations to clarify information, strengthen claims and evidence, and add interest.

ELA>W.8.8 Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others, while avoiding plagiarism and following a standard format for citation.

Sci>8.LS.3 The characteristics of an organism are a result of inherited traits received from parent(s).

SS>8.HS.6 Key events and significant figures in American history influenced the course and outcome of the American Revolution.

Performance Indicator: 3.d: Build knowledge by actively exploring real-world issues and problems, developing ideas and theories and pursuing answers and solutions.

Summarized Statement: Students work collaboratively using technology to identify and analyze a solution to a problem. Then actively pursue an understanding of them and solutions for them.

Suggested Tool(s) for Practical Application: Google Docs, Sites, Slides, Canva

Samples of Student Performance (by the end of Grade 8):

- Students self select a real-world problem that can be solved by ratio/rate and present a solution ([Best pizza in town](#))
- In teams, students will design a sustainable city by researching solutions to environmental issues such as waste management, energy use, and green infrastructure. They will curate their research and design ideas on Google Sites, while using Canva to create infographics that visually represent their proposed solutions.

Connected Academic Standards:

Math>MP.1, MP.2, MP.4

Math>6.RP.3 Use ratio and rate reasoning to solve real-world and mathematical problems

Math>8.G.9 Solve real-world and mathematical problems involving volumes of cones, cylinders, and spheres.

ELA>W.8.2 Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.

ELA>W.8.6 Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas efficiently, as well as to interact and collaborate with others.

Sci> Scientific and Engineering Practices: 1. Asking questions (for science) and defining problems (for engineering); Planning and carrying out investigations; Analyzing and interpreting data

Standard:

Innovative Designer: Students use a variety of technologies within a design process to identify and solve problems by creating new, useful or imaginative solutions.

Performance Indicator: 4.a: Know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts or solving authentic problems.

Summarized Statement: Students engage in a design process and employ it to generate ideas, create innovative products or solve authentic problems.

Suggested Tool(s) for Practical Application: Google Docs, Sites, Slides, Canva, Video/Audio Recording, TinkerCAD

Samples of Student Performance (by the end of Grade 8):

- Students pose a real-world problem and research effective solutions.
- Students will work in teams to identify a local community issue or challenge, and use Google Sites to document their design process. They will create an informative and visually appealing presentation with Canva, including text, images, and audio/video explanations of their solution and how it can be implemented in the community.

Connected Academic Standards:

Math>8.SP.4 Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table.

ELA>W.8.7 Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.

Tech>6-8.DT.1.c. Define and categorize the requirements of a design as either criteria or constraints.

Tech>6-8.DT.2.a. Apply a complete design process to solve an identified individual or community problem: research, develop, test, evaluate and present several possible solutions, and redesign to improve the solution.

Performance Indicator: 4.b: Select and use digital tools to plan and manage a design process that considers design constraints and calculated risks.

Summarized Statement: Students plan and manage the design process by identifying constraints and risks.

Suggested Tool(s) for Practical Application: Google Docs, Sites, Slides, Canva, TinkerCAD

Samples of Student Performance (by the end of Grade 8):

- Students will use TinkerCAD to design a blueprint for an accessible public space, such as a park or community center, considering design constraints like space, budget, and materials. They will document their design process, including risks and alternative solutions, in Google Docs, and create a written explanation of how their

design meets community needs.

- Students will use Google Sites to create a website outlining the details of a hypothetical community event, such as a fundraiser or clean-up drive, incorporating elements like schedules, goals, and a risk assessment. They will use Google Slides to present their planning process, including their methods for managing constraints like budget, time, and resources.

Connected Academic Standards:

ELA>W.8.2 Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.

ELA>W.8.7 Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.

Tech>6-8.DT.2.a. Apply a complete design process to solve an identified individual or community problem: research, develop, test, evaluate and present several possible solutions, and redesign to improve the solution.

Performance Indicator: 4.c: Develop, test and refine prototypes as part of a cyclical design process.

Summarized Statement: Students will engage in the design process through trial and errors to understand problems and setbacks.

Suggested Tool(s) for Practical Application: Google Docs, Canva, Video/Audio Recording, TinkerCAD

Samples of Student Performance (by the end of Grade 8):

- Students use criteria developed with guidance to evaluate a new or improved product for its functional, aesthetic and creative elements.
- Students will design a multimedia campaign addressing a local issue, such as littering or water conservation, using Canva to create visuals and an audio/video recording to present their process. They will reflect on challenges they faced during the design process, documenting their trial-and-error experiences and lessons learned in a collaborative Google Docs file.

Connected Academic Standards:

ELA>W.8.2 Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.

ELA>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, focusing on how well purpose and audience have been addressed.

Tech>6-8.ICT.4.a. Use digital learning tools and resources to identify communication needs considering goals, audience and content.

Math>MP.5 Use appropriate tools strategically.

Performance Indicator: 4.d: Exhibit a tolerance for ambiguity, perseverance and the capacity to work with open-ended problems.

Summarized Statement: Students use their learned experiences to achieve a desired outcome with open ended questions.

Suggested Tool(s) for Practical Application: Google Docs, Sites, Slides, Canva, Video/Audio Recording, TinkerCAD

Samples of Student Performance (by the end of Grade 8):

- Students will use TinkerCAD to design a personalized workspace that accommodates their learning needs and preferences, addressing open-ended challenges such as space limitations, ergonomics, and organization. They will document their iterative process in Google Docs, explaining how they managed ambiguities and refined their design based on trial and error.
- Students will create a solution to a fictional problem, using Google Slides to present their research and ideas. They will use Canva to create visuals showcasing their solution, documenting their perseverance and strategies for addressing ambiguities in the design process.

Connected Academic Standards:

ELA>W.8.2 Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.

ELA>W.8.6 Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas efficiently, as well as to interact and collaborate with others.

Math>MP.5 Use appropriate tools strategically.

Math>8.G.9 Solve real-world and mathematical problems involving volumes of cones, cylinders, and spheres.

Standard:

Computational Thinker: Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions.

Performance Indicator: 5.a: Formulate problem definitions suited for technology-assisted methods such as data analysis, abstract models and algorithmic thinking in exploring and finding solutions.

Summarized Statement: Students analyze data to create graphical representations (e.g., line graphs, circle graphs, bar graphs, etc.).

Suggested Tool(s) for Practical Application: Canva, Sheets, Vernier Graphical Analysis, Desmos/Graphing Calculators

Samples of Student Performance (by the end of Grade 8):

- Students will compare a distance-time graph to a distance-time equation to determine which of two moving objects has greater speed.
- Students will collect data on a topic of interest (e.g., favorite fruits among classmates) and input this data into Google Sheets. They will then analyze the data and create various graphical representations, such as bar graphs and pie charts, to visually depict their findings.
- Using Desmos, students will analyze a set of data related to temperature changes over a week and create a line graph to represent the data visually. After creating the graph, they will interpret the graph to identify trends and patterns in temperature fluctuations.

Connected Academic Standards:

Math>MP.4 Model with mathematics.

Math>8.EE.5 Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways.

Math>8.SP.1 Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities.

Tech>6-8.ICT.3.a. Analyze and integrate textual, visual and quantitative information (e.g., images, diagrams, maps, graphs, infographics, videos, animations, interactives) from multiple digital learning tools and resources.

Sci> Scientific Inquiry, Practice and Applications: Analyze and interpret data.

Sci> Science is a Way of Knowing: Science should carefully consider and evaluate all data including outliers.

Performance Indicator: 5.b: Collect data or identify relevant data sets, use digital tools to analyze them, and represent data in various ways to facilitate problem-solving and decision-making.

Summarized Statement: Students analyze data and identify similarities of patterns and/or categories.

Suggested Tool(s) for Practical Application: Forms, Sheets, Canva, Vernier Graphical Analysis, Desmos/Graphing Calculators

Samples of Student Performance (by the end of Grade 8):

- Students will create a Google Form to collect data on a topic, such as favorite school subjects or study habits, and analyze the results in Google Sheets to identify patterns and categories. They will create charts or graphs to visually represent their findings and write a brief summary explaining the patterns observed.
- Students will use Vernier Graphical Analysis to collect and analyze data from a simple science experiment, such as measuring temperature changes over time or the speed of a rolling object. They will use Canva to create a report featuring graphs, patterns identified, and an explanation of the categories or relationships in the data.

Connected Academic Standards:

Tech>DA.VC.6.a Identify and label patterns in models or representations to infer connections between data sets.

Tech>DA.IM.6.a Identify and utilize data sets to support or refute a hypothesis.

Math>MP.4 Model with Mathematics

Math>8.EE.8 Analyze and solve pairs of simultaneous linear equations graphically.

Math>8.SP.1 Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities.

Sci>Science is a Way of Knowing Science assumes that objects and events occur in consistent patterns that are understandable through measurement and observation.

Sci>Scientific Inquiry, Practice and Applications Use appropriate mathematics, tools and techniques to gather data and information.

SS> Economic Decision Making and Skills Effective economic decision making requires students to be able to reason logically about key economic issues that affect their lives as consumers, producers, savers, investors and citizens. Economic decision-making and skills engage students in the practice of analyzing costs and benefits, collecting and organizing economic evidence and proposing alternatives to economic problems.

Performance Indicator: 5.c: Break problems into component parts, extract key information, and develop descriptive models to understand complex systems or facilitate

problem-solving.

Summarized Statement: Students break down problems into manageable parts, identify key information and develop solutions.

Suggested Tool(s) for Practical Application: Docs, Sheets, Vernier Graphical Analysis, Desmos/Graphing Calculators

Samples of Student Performance (by the end of Grade 8):

- Students will use Google Sheets to break down the costs of organizing a school event, such as a dance or fundraiser, into manageable categories like venue, food, and decorations. They will then use Google Docs to write a proposal summarizing their findings, identifying key budget constraints, and offering solutions to optimize expenses.
- Students will use Vernier Graphical Analysis to collect data on the motion of an object, such as the distance traveled over time, and break the problem into parts by analyzing the relationships between variables. They will use Desmos to graph the data, identify patterns, and propose solutions to optimize the motion or address constraints in the system.

Connected Academic Standards:

ELA>W.6-8.2 Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.

Math>8.EE.5 Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways.

Math>8.F.5 Describe qualitatively the functional relationship between two quantities by analyzing a graph,

Tech>6-8.DT.2.a. Apply a complete design process to solve an identified individual or community problem: research, develop, test, evaluate and present several possible solutions, and redesign to improve the solution.

Sci>Scientific Inquiry, Practice and Applications: Think critically and logically to connect evidence and explanations.

Performance Indicator: 5.d: Understand how automation works and use algorithmic thinking to develop a sequence of steps to create and test automated solutions.

Summarized Statement: Students develop fundamental concepts about sequencing and automation, such as patterns and cause and effect.

Suggested Tool(s) for Practical Application: Code.org, Google CS First, Sheets, Vernier

Graphical Analysis, Desmos/Graphing Calculators

Samples of Student Performance (by the end of Grade 8):

- Using Google Sheets, students create an automated budgeting spreadsheet that tracks income and expenses. They develop formulas to calculate totals, percentages, and balances, identifying patterns in spending and saving.

Connected Academic Standards:

SS> Economics.6 Competition among sellers lowers costs and prices, and encourages producers to produce more of what consumers are willing and able to buy. Competition among buyers increases prices and allocates goods and services to those people who are willing and able to pay the most for them.

Tech>DA.VC.6.a Identify and label patterns in models or representations to infer connections between data sets.

Tech>DA.VC.6.b Create a spreadsheet utilizing formulas, functions and graphs to represent and analyze data.

Standard:

Creative Communicator: Students communicate clearly and express themselves creatively for a variety of purposes using the platforms, tools, styles, formats and digital media appropriate to their goals.

Performance Indicator: 6.a: Choose the appropriate platforms and digital tools for meeting the desired objectives of their creation or communication.

Summarized Statement: Students select appropriate platforms and tools to create, share and communicate their work effectively.

Suggested Tool(s) for Practical Application: Google Workspace, Canva, Audio/Video Recording, Adobe Suite

Samples of Student Performance (by the end of Grade 8):

- Students use Google Docs to design a step-by-step tutorial explaining a mathematical concept, such as calculating slope or interpreting scatter plots. They create a complementary Google Form quiz with interactive questions to assess their classmates' understanding.

Connected Academic Standards:

Sci>Scientific Inquiry, Practice and Applications:

- Use appropriate mathematics, tools and techniques to gather data and information.
- Communicate scientific procedures and explanations.

ELA>W.6-8.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience

Tech>6-8.ICT.4.b. Select and use a variety of media formats to communicate information to a target audience.

Performance Indicator: 6.b: Create original works or responsibly repurpose or remix digital resources into new creations.

Summarized Statement: Students create original works or responsibly repurpose other digital resources into new creative works.

Suggested Tool(s) for Practical Application: InfOhio, Google Workspace, Canva, Audio/Video Recording

Samples of Student Performance (by the end of Grade 8):

- Using Google Slides or Google Sites, students create a multimedia PSA that addresses a current social issue, such as internet safety or mental health. They integrate repurposed videos, images, and audio clips while maintaining proper attribution.

Connected Academic Standards:

ELA>SL.8.2 Analyze the purpose of information presented in diverse media and formats (e.g., visually, quantitatively, orally) and evaluate the motives (e.g., social, commercial, political) behind its presentation.

ELA>SL.8.5 Integrate multimedia and visual displays into presentations to clarify information, strengthen claims and evidence, and add interest.

Performance Indicator: 6.c: Use digital tools to visually communicate complex ideas to others.

Summarized Statement: Students communicate complex ideas clearly using various digital tools to convey the concepts textually, visually, graphically, etc.

Suggested Tool(s) for Practical Application: Google Workspace, Canva, Audio/Video Recording

Samples of Student Performance (by the end of Grade 8):

- Students will use Google Drawings or Canva to design an interactive timeline showing key historical events and their impacts on societies. They will integrate links, images, and short descriptions. The timeline will be embedded into a collaborative file for sharing.

Connected Academic Standards:

Connected Academic Standards:

Math>MP.4 Model with mathematics.

ELA>SL.8.5 Integrate multimedia and visual displays into presentations to clarify information, strengthen claims and evidence, and add interest.

Tech>6-8.ICT.4.a Use digital learning tools and resources to identify communication needs considering goals, audience and content.

Tech>6-8.ICT.4.b. Select and use a variety of media formats to communicate information to a target audience.

Tech>6-8.ICT.4.c. Discuss and identify ways to communicate and disseminate information so that users with varied needs can access information.

Tech>6-8.ICT.4.d. Evaluate the effectiveness of a digital tool to communicate information with multiple audiences.

Performance Indicator: 6.d: Publish or present content that customizes the message and medium for their intended audiences.

Summarized Statement: Students create and publish content to share with others.

Suggested Tool(s) for Practical Application: Google Workspace, Canva, Audio/Video Recording

Samples of Student Performance (by the end of Grade 8):

- Students will research a specific volcano and create an interactive presentation using Google Slides. They will include text, images, animations, and hyperlinks to external resources. Each slide will address different aspects of their volcano, such as its history, geography, impact on the environment, and role in human history. The completed presentations will be shared with classmates via Google Classroom.

Connected Academic Standards:

Connected Academic Standards:

ELA>W.8.6 Use technology, including the Internet, to produce and publish writing and

present the relationships between information and ideas efficiently, as well as to interact and collaborate with others.

ELA>SL.8.5 Integrate multimedia and visual displays into presentations to clarify information, strengthen claims and evidence, and add interest.

SS>8.HS.1 Primary and secondary sources are used to examine events from multiple perspectives and to present and defend a position.

Standard:

Global Collaborator: Students use digital tools to broaden their perspectives and enrich their learning by collaborating with others and working effectively in teams locally and globally.

Performance Indicator: 7.a: Use digital tools to connect with peers from a variety of backgrounds recognizing diverse viewpoints and broadening mutual understanding.

Summarized Statement: Students use different digital tools to allow for interactions with others to broaden their understanding of different cultures.

Suggested Tool(s) for Practical Application: Google Workspace

Samples of Student Performance (by the end of Grade 8):

- Students can learn from others around the world by connecting online through video or voice calls (like when an author talks about writing or an expert shares their knowledge).
- Students will work in pairs or small groups to research a specific culture of their choice using Google Docs. They will create a shared document where they compile key information, including customs, traditions, and languages, and then present their findings to the class to promote understanding and discussion about various cultures.

Connected Academic Standards:

Math>MP.3 Construct viable arguments and critique the reasoning of others.

ELA>SL.8.1 Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners

SS>Civic Participation and Skills: Civic participation embraces the ideal that an individual actively engages in his or her community, state or nation for the common good. Students need to practice effective communication skills including negotiation, compromise and

collaboration. Skills in accessing and analyzing information are essential for citizens in a democracy.

Performance Indicator: 7.b: Use collaborative technologies to work with others, including peers, experts or community members, to examine issues and problems from multiple viewpoints.

Summarized Statement: Students use collaborative digital tools to connect with others to gain broader viewpoints on different topics.

Suggested Tool(s) for Practical Application: Google Workspace, Canva

Samples of Student Performance (by the end of Grade 8):

- Students work in pairs or small groups to research the impact of a natural disaster (e.g., volcanic eruptions) on communities around the world. Using Google Docs, students collaboratively write a report, inserting multimedia elements such as images, charts, and videos. Each group shares their document with a classroom in another state or country to gain insights and feedback on their work.
- In small groups, students will use Google Docs to collaboratively research and prepare arguments for a debate on a current social issue. Each group will compile their findings, create an outline of their main points, and then present their arguments to the class, encouraging discussion and diverse viewpoints.

Connected Academic Standards:

ELA>SL.8.1 Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners

SS>8.GS.15 Modern and historical maps and other geographic tools are used to analyze how historic events are shaped by geography.

Tech>6-8.ICT.4.a. Use digital learning tools and resources to identify communication needs considering goals, audience and content.

Tech>6-8.ST.1.a. Advocate and exhibit ethical, legal and responsible practices when utilizing technology.

Performance Indicator: 7.c: Contribute constructively to project teams, assuming various roles and responsibilities to work effectively toward a common goal.

Summarized Statement: Students effectively work on a team to collaborate towards a common goal.

Suggested Tool(s) for Practical Application: Google Workspace, Canva

Samples of Student Performance (by the end of Grade 8):

- Design a sustainable community garden, considering factors like landscaping, botany, engineering, business management, and community outreach.
- Create a digital storytelling project using video editing software, incorporating historical research, scriptwriting, and voice acting.
- Collaborate with peers on a virtual whiteboard to brainstorm ideas, solve problems, and develop a shared document.
- Discuss the advantages and disadvantages of using a blog post, infographic, or podcast to share personal experiences and opinions.

Connected Academic Standards:

ELA>W.8.6 Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas efficiently, as well as to interact and collaborate with others.

ELA>RI.8.7 Evaluate the advantages and disadvantages of using different mediums (e.g., print or digital text, video, multimedia) to present a particular topic or idea.

Tech>6-8.DT.3.a. Collaborate to solve a problem as an interdisciplinary team modeling different roles and functions.

Performance Indicator: 7.d: Explore local and global issues and use collaborative technologies to work with others to investigate solutions.

Summarized Statement: Students collaborate with peers using technology to investigate both local and global issues as well as solutions to these issues.

Suggested Tool(s) for Practical Application: Google Workspace, Canva

Samples of Student Performance (by the end of Grade 8):

- Students collaborate with peers on a group project, using a shared Google Doc to brainstorm ideas, write drafts, and provide feedback in real-time.

Connected Academic Standards:

ELA>W.8.6 Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas efficiently, as well as to interact and collaborate with others.

SS>7.Civic Participation and Skills: Analyzing individual and group perspectives is essential to understanding historic and contemporary issues. Opportunities for civic engagement exist for students to connect real-world issues and events to classroom learning.

Grades 9-12 Standards for Digitally Proficient Students

Standard:

Empowered Learner: Students leverage technology to take an active role in choosing, achieving and demonstrating competency in their learning goals, informed by the learning sciences.

Performance Indicator: 1.a: Set learning goals, develop strategies leveraging technology to achieve them and reflect on the learning process to improve learning outcomes.

Summarized Statement: Students create study guides, flashcards, and digital portfolios to monitor, show and reflect on their personal learning goals.

Suggested Tool(s) for Practical Application: Google Workspace, Canva

Samples of Student Performance (by the end of Grade 12):

- Students can use Google Sites to create a digital portfolio to showcase their best work and track their progress.
- Students can create and share study guides on a classroom website using Google Docs or Slides, focusing on a specific topic or historical event.
- Students can use Google Slides or Canva to create digital flashcards for a specific mathematical concept or formula, testing themselves or quizzing each other.
- Students can write a reflective essay in Google Docs, outlining their learning goals for a specific class or their high school career, and track their progress.

Connected Academic Standards:

ELA>W.11-12.2b. Introduce a topic; organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia to aid comprehension, if needed.

Math> N.RN.1. Explain how the definition of the meaning of rational exponents follows from extending the properties of integer exponents to those values, allowing for a notation for radicals in terms of rational exponents.

SS>AH.1 The use of primary and secondary sources of information includes an examination of the credibility of each source.

Tech>9-12.ST.1.a. Interpret, and practice, ethical considerations and legal requirements involved in the creation and use of digital technologies.

Tech>9-12.ICT.3.c. Create artifacts using digital learning tools and resources to demonstrate knowledge.

Performance Indicator: 1.b: Build networks and customize their learning environments in ways that support the learning process.

Summarized Statement: Students work collaboratively on projects using digital tools.

Suggested Tool(s) for Practical Application: Google Workspace, Canva, InfOhio, Design Lab

Samples of Student Performance (by the end of Grade 12):

- Students can work in groups to research a topic using Google Search and online resources, then use Google Slides or Canva to collaboratively create and present their findings.
- Students can work in groups to research a topic using Google Search and InfOhio, then collaboratively write a research paper in Google Docs.
- Students can work in groups to research organelles within cells, then create a digital poster in Canva, and print it for classroom display.

Connected Academic Standards:

ELA> 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.

ELA> WHST.9-10.7 Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.

Sci> B.C.1 Cell Structure and Function

Tech>9-12.ST.2.a. Demonstrate and advocate effective collaboration strategies and techniques using technology.

Performance Indicator: 1.c: Use technology to seek feedback that informs and improves their practice and to demonstrate their learning in a variety of ways.

Summarized Statement: Students interact and collaborate with others using a variety of digital tools to seek out feedback and comments.

Suggested Tool(s) for Practical Application: Google Workspace, Canva

Samples of Student Performance (by the end of Grade 12):

- Students can use Google Docs to write a collaborative story or essay. They can use

the commenting and suggestion features to get feedback from their peers and make improvements to their work.

- Students can use Google Slides or Canva to create presentations on a topic of their choice. They can then share their presentations with others and get feedback through the commenting features.
- Students can use Google Docs and Canva to create a digital newspaper. They can then publish their newspaper online or print it out to share with the school community. Students can solicit feedback on their newspaper from their peers, teachers, and members of the community.

Connected Academic Standards:

ELA> 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.

ELA> SL.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.

Math>MP.5 Use appropriate tools strategically.

Tech>9-12.ICT.4.a. Use digital learning tools and resources to identify communication needs considering goals, audience, content, access to tools or devices, timing of communication (e.g., time zones), etc.

Tech>9-12.ICT.4.b. Based on communication needs, develop, implement and evaluate a communication plan to disseminate information to multiple audiences.

Performance Indicator: 1.d: Understand fundamental concepts of how technology works, demonstrate the ability to choose and use current technologies effectively, and are adept at thoughtfully exploring emerging technologies.

Summarized Statement: Students demonstrate understanding of technology operations and apply that understanding to choose the correct device and software to match their needs.

Suggested Tool(s) for Practical Application: Tinkercad, Google Workspace, Chromebooks, Canva, Design Lab

Samples of Student Performance (by the end of Grade 12):

- Students can use Tinkercad to design a 3D model of a product or structure. They can then share their model with others and get feedback through the commenting features. Students can use the feedback to improve their design and learn more about the design process.

- Students can use Google Sites to create a collaborative blog on a topic of their choice. They can then share their blog with others and get feedback through the commenting features. Students can use the feedback to improve their writing and learn more about the topic.
- Students can use Google Sheets to analyze a data set, create a histogram or box plot, and calculate the mean and standard deviation.

Connected Academic Standards:

Math>S.ID.4 Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve.

ELA>W.11-12.6 Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.

Tech>9-12.DT.2.a. Evaluate a design solution using conceptual, physical, digital and mathematical models at various intervals of a design process to check for proper design and note areas where improvements are needed.

Standard:

Digital Citizen: Students recognize the responsibilities and opportunities for contributing to their digital communities.

Performance Indicator: 2.a: Manage their digital identity and understand the lasting impact of their online behaviors on themselves and others and make safe, legal and ethical decisions in the digital world.

Summarized Statement: Students analyze how social media impacts society and cultivate their presence for the future.

Suggested Tool(s) for Practical Application: Common Sense Media, Google Workspace, Canva

Samples of Student Performance (by the end of Grade 12):

- Students can use Canva to create an infographic about digital identity. The infographic could include information about the different aspects of digital identity, the impact of online behavior on one's digital identity, and tips for managing one's digital identity.
- Students can develop a digital citizenship campaign that focuses on promoting safe,

legal, and ethical online behavior. The campaign could include a variety of activities, such as creating a website or social media page, writing blog posts or articles, or giving presentations to their peers.

Connected Academic Standards:

ELA>W.9-10.6 Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.

Tech>9-12.ST.3.e. Analyze and influence one's digital identity and digital footprint while considering past, present and future implications.

Performance Indicator: 2.b: Demonstrate empathetic, inclusive interactions online and use technology to responsibly contribute to their communities.

Summarized Statement: Students participate in the online components of their classes using the expected behavior which leads to positive interactions and learning.

Suggested Tool(s) for Practical Application: Common Sense Media, Google Workspace, Canva

Samples of Student Performance (by the end of Grade 12):

- Students can use Google Classroom or a similar platform to participate in online discussions. They can share their ideas and respond to the comments of others in a respectful and professional manner.
- Students can use Google Docs to create a collaborative document, such as a research paper or a story. They can work together to plan, draft, and revise the document, following agreed-upon rules for collaboration.

Connected Academic Standards:

ELA>SL.9-10.1.b. Work with peers to set rules for collegial discussions and decision-making (e.g., informal consensus, taking votes on key issues, presentation of alternate views), clear goals and deadlines, and individual roles as needed.

Tech>9-12.ST.2.b. Describe and demonstrate professionalism and civility in communications and collaborative environments.

Performance Indicator: 2.c: Safeguard their well-being by being intentional about what they do online and how much time they spend online.

Summarized Statement: Students practice Fair Use, Licensing, and Copyright Law when using and sharing digital projects/property.

Suggested Tool(s) for Practical Application: Common Sense Media, Google Workspace, Canva

Samples of Student Performance (by the end of Grade 12):

- Students can develop an educational campaign to promote fair use, creative commons licensing, and copyright law. The campaign could include a variety of activities, such as creating a website or social media page, writing blog posts or articles, or giving presentations to their peers.
- Students can use Canva to create a copyright tutorial in the form of a presentation or infographic. The tutorial could include information about different types of copyright licenses, how to determine if a work is copyrighted, and how to use copyrighted material legally and ethically.

Connected Academic Standards:

ELA> SL.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.

Tech>9-12.ST.1.a. Interpret, and practice, ethical considerations and legal requirements involved in the creation and use of digital technologies.

Performance Indicator: 2.d: Take action to protect their digital privacy on devices and manage their personal data and security while online.

Summarized Statement: Students understand the privacy issues around their personal information and how that information is collected and archived.

Suggested Tool(s) for Practical Application: Common Sense Media, Google Workspace, Canva

Samples of Student Performance (by the end of Grade 12):

- Students can use Google Slides or Canva to create a presentation on the topic of online privacy. The presentation could include information about how personal data is collected and archived, the potential risks associated with online data collection, and strategies for protecting one's privacy online.
- Students can use Google Sites to create an informative website about online privacy and the protection of personal information. They can research topics like data collection practices, cookies, targeted advertising, and the implications of sharing personal information online. The website can include text, images, videos, and links to external resources to enhance understanding and demonstrate the dynamic nature of online information.

Connected Academic Standards:

ELA>W.9-10.6 Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.

Tech>9-12.ST.3.e. Analyze and influence one's digital identity and digital footprint while considering past, present and future implications.

Standard:

Knowledge Constructor: Students critically curate a variety of resources using digital tools to construct knowledge, produce creative artifacts and make meaningful learning experiences for themselves and others.

Performance Indicator: 3.a: Use effective research strategies to find resources that support their learning needs, personal interests and creative pursuits.

Summarized Statement: Students apply learned online search strategies using keywords and/or filters to locate meaningful resources.

Suggested Tool(s) for Practical Application: InfOhio, Search Engines, Scholastic

Samples of Student Performance (by the end of Grade 12):

- Students can use INFOhio to research a topic related to their class. They can use keywords and filters to refine their search and find relevant, high-quality sources.
- Students can use search engines to find information on a current event. They can use different keywords and search strategies to find a variety of sources, including news articles, blog posts, and videos. Students can then compare and contrast the information they find in different sources.
- Students can use Scholastic or another search tool to find a book that is relevant to their interests or a specific topic they are studying. They can use keywords and filters to find books that are appropriate for their reading level and interests.

Connected Academic Standards:

ELA>W.9-10.7, W.11-12.7 Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.

ELA>W.9-10.8, W.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.

ELA>W.9-10.9, W.11-12.9 Draw evidence from literary or informational texts to support analysis, reflection, and research.

Tech>9-12.ICT.2.a. Use advanced search and filtering techniques to locate needed information using digital learning tools and resources.

Performance Indicator: 3.b: Evaluate the accuracy, validity, bias, origin, and relevance of digital content.

Summarized Statement: Students effectively evaluate online resources for bias, fairness, and point of view.

Suggested Tool(s) for Practical Application: InfOhio, Search Engines, Scholastic

Samples of Student Performance (by the end of Grade 12):

- Students can use INFOhio or search engines to find websites on a controversial topic. They can then evaluate the websites for evidence of bias, such as one-sided arguments, the use of loaded language, or the omission of important information.
- Students can analyze news articles on a current event from different sources. They can compare and contrast the articles, looking for evidence of bias, such as the use of persuasion, the selection of sources, or the framing of the issue.
- Students can use search engines and other resources to research the ethical considerations surrounding modern genetic engineering practices like CRISPR. They can use Google Slides or Canva to create a presentation explaining different perspectives on the issue, including potential benefits and risks.

Connected Academic Standards:

ELA> RI.9-10.8. Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is valid and the evidence is relevant and sufficient; identify false statements and fallacious reasoning.

ELA>W.9-10.7, W.11-12.7 Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.

ELA>RI.11-12.7 Integrate and evaluate multiple sources of information presented in different media or formats (e.g., visually, quantitatively) as well as in words in order to address a question or solve a problem.

Sci>B.H.5: Modern Genetics

Tech>9-12.ST.1.a. Interpret, and practice, ethical considerations and legal requirements involved in the creation and use of digital technologies.

Performance Indicator: 3.c: Curate information from digital resources using a variety of

tools and methods to create collections of artifacts that demonstrate meaningful connections or conclusions.

Summarized Statement: Students collect and organize information to demonstrate their learning through the creation of various media and artifacts.

Suggested Tool(s) for Practical Application: Google Docs, Sites, Slides, Canva

Samples of Student Performance (by the end of Grade 12):

- Students can research a historical event, explain the causes and effects, and the sequence and correlation of events, then they can create a presentation using Google Slides or Canva to present their learning.
- Research and analyze a natural event and make a model to demonstrate how the different spheres (e.g., atmosphere, biosphere, lithosphere, hydrosphere) are impacted. Students can use Google Earth to create a 3D model of a geological event, such as a volcano or earthquake. Use Google Slides or Docs to create a presentation or report that explains the event and its impact on the environment.
- Students can use Google Sites or Canva to develop a digital scrapbook. The scrapbook can be about a specific topic, such as a book they read or a current event. Students can use images, text, and videos to illustrate their scrapbook.

Connected Academic Standards:

SS>MWH.1 The use of primary and secondary sources of information includes an examination of the credibility of each source.

Sci>ENV.ES.3 Lithosphere: Geologic events and processes

ELA> W.9-10.6 Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.

ELA>RH.11-12.7 Integrate and evaluate multiple sources of information presented in different media or formats (e.g., visually, quantitatively) as well as in words in order to address a question or solve a problem.

Performance Indicator: 3.d: Build knowledge by actively exploring real-world issues and problems, developing ideas and theories and pursuing answers and solutions.

Summarized Statement: Students collect online media to address and compare solutions to global problems.

Suggested Tool(s) for Practical Application: Google Docs, Sites, Slides, Canva

Samples of Student Performance (by the end of Grade 12):

- Students can use Google Workspace (Docs, Slides, etc.) or Canva to create a PSA about a global problem.
- Research a severe water-related environmental problem (and its root causes) that faces the local community, Ohio, the United States, or the world, and propose ways to mitigate the problem. Then use Google Workspace or Canva to create a presentation, infographic, or even a video that explains the problem and proposes solutions.

Connected Academic Standards:

ELA>SL.11-12.2 Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.

Sci>ENV.GP.2 Potable water quality, use and availability
Sci>B.DI.3 Loss of Diversity

Standard:

Innovative Designer: Students use a variety of technologies within a design process to identify and solve problems by creating new, useful or imaginative solutions.

Performance Indicator: 4.a: Know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts or solving authentic problems.

Summarized Statement: Students implement, document and present the design process as applied to a particular product, process or problem.

Suggested Tool(s) for Practical Application: Google Docs, Sites, Slides, Canva, Video/Audio Recording, TinkerCAD

Samples of Student Performance (by the end of Grade 12):

- Students can use TinkerCAD to design a 3D model solution to a problem. Students will document each step of the design process using a presentation tool such as Google Slides or Canva. Students will present their design and explain how it solves the problem.
- Students can record a podcast discussing and reflecting on the writing process. Students can plan, draft, and revise the podcast. Students can use video/audio recording to document the process from the planning stage to the presentation of the podcast.
- Students use TinkerCAD to design 3D models of a cell structure and use Google

Docs or Canva to describe cell functions.

- Students will design and create a 3D model of a container that must meet specific size, volume, and material usage constraints. They will document their design process, from brainstorming and sketching to creating the final 3D model in TinkerCAD, and present their solutions.

Connected Academic Standards:

ELA>SL.11-12.4 Present information, findings, and supporting evidence, conveying a clear and distinct perspective, 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.

Sci>B.C.1 Cell structure and function

Math>G.MG.3: Apply geometric methods to solve design problems, e.g., designing an object or structure to satisfy physical constraints or minimize cost; working with typographic grid systems based on ratios.

Tech>9-12.DT.2.b Implement, document and present a design process as applied to a particular product, process or problem.

Performance Indicator: 4.b: Select and use digital tools to plan and manage a design process that considers design constraints and calculated risks.

Summarized Statement: Students present the necessary criteria in the design process to account for fluctuations and problems.

Suggested Tool(s) for Practical Application: Google Docs, Sites, Slides, Canva, TinkerCAD

Samples of Student Performance (by the end of Grade 12):

- Have students recreate geometric constructions (like bisecting an angle or creating a perpendicular line) using the drawing tools in Canva.
- Students can use TinkerCAD to design a 3D model of a product or structure. They can then use the design to identify specific criteria that must be present to account for possible problems or fluctuations. Students can then present their findings.

Connected Academic Standards:

Math>G.GPE.6 Find the point on a directed line segment between two given points that partitions the segment in a given ratio.

Tech>9-12.DT.2.a. Evaluate a design solution using conceptual, physical, digital and mathematical models at various intervals of a design process to check for proper design

and note areas where improvements are needed (e.g., check the design solutions against criteria and constraints).

Performance Indicator: 4.c: Develop, test and refine prototypes as part of a cyclical design process.

Summarized Statement: Students will adjust elements of the design process based on results from testing.

Suggested Tool(s) for Practical Application: Google Docs, Canva, Video/Audio Recording, TinkerCAD, Desmos, Geogebra

Samples of Student Performance (by the end of Grade 12):

- Students design a roller coaster using Desmos or GeoGebra, incorporating specific features (loops, hills, curves) and ensuring it meets safety and functionality requirements. They will test their designs using simulations, analyze the results, and refine their prototypes based on the data collected.

Connected Academic Standards:

Math>G.MG.3 Apply geometric concepts in modeling situations.

Math>S.IC.2 Decide if a specified model is consistent with results from a given data-generating process, e.g., using simulation.

Performance Indicator: 4.d: Exhibit a tolerance for ambiguity, perseverance and the capacity to work with open-ended problems.

Summarized Statement: Students will show resolve when testing prototypes/ideas during open-ended problems.

Suggested Tool(s) for Practical Application: Google Docs, Sites, Slides, Canva, Video/Audio Recording, TinkerCAD

Samples of Student Performance (by the end of Grade 12):

- Students will design and 3D-print a functional product (e.g., a phone stand, a key holder, or a simple tool) in TinkerCAD, documenting each stage of the design process. They will test their prototypes, identify potential flaws or areas for improvement, and redesign their products based on user feedback and testing outcomes, demonstrating perseverance and problem-solving skills.

Connected Academic Standards:

Math>G.MG.3 Apply geometric concepts in modeling situations.

Math>S.IC.2 Decide if a specified model is consistent with results from a given

data-generating process, e.g., using simulation.

Tech>9-12.DT.2.a. Evaluate a design solution using conceptual, physical, digital and mathematical models at various intervals of a design process to check for proper design and note areas where improvements are needed (e.g., check the design solutions against criteria and constraints).

Standard:

Computational Thinker: Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions.

Performance Indicator: 5.a: Formulate problem definitions suited for technology-assisted methods such as data analysis, abstract models and algorithmic thinking in exploring and finding solutions.

Summarized Statement: Students analyze data to create graphical representations (e.g., line graphs, circle graphs, bar graphs, etc.). and are challenged to design and prototype technology based solutions.

Suggested Tool(s) for Practical Application: Canva, Sheets

Samples of Student Performance (by the end of Grade 12):

- Students can use Google Forms to create a survey on a topic of their choice. They can then use Google Sheets to collect and analyze the survey data. Students can create a graphical representation of the data using Google Sheets or Canva. They can then use their graph to draw conclusions about the survey results.
- Students can use Google Forms to survey their peers or community members on a specific issue (e.g., preferred modes of transportation, recycling habits, or technology usage). They can then analyze the collected data to create two-way frequency tables and graphical representations in Google Sheets, identifying trends and potential areas for improvement.

Connected Academic Standards:

Math>S.ID.1 Represent data with plots on the real number line (dot plots, histograms, and box plots) in the context of real-world applications using the GAISE model.

Math>S.ID.5 Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data.

Tech>9-12.ICT.3: Use digital learning tools and resources to construct knowledge.

Tech>9-12.DT.2: Identify a problem and use an engineering design process to solve the problem.

Performance Indicator: 5.b: Collect data or identify relevant data sets, use digital tools to analyze them, and represent data in various ways to facilitate problem-solving and decision-making.

Summarized Statement: Students connect and analyze data using multiple spreadsheets and workbooks and identify similarities of patterns and/or categories within those spreadsheets.

Suggested Tool(s) for Practical Application: Forms, Sheets, Canva

Samples of Student Performance (by the end of Grade 12):

- Use data on birth rates, death rates, life expectancy, average income and literacy rates of various countries to develop a plan that could contribute to a change in the fertility and death rates. Students can use Google Forms to collect data on these variables for several countries. They can then use Google Sheets to create multiple spreadsheets and workbooks to analyze the data. Finally, they can use Canva to create a presentation or infographic that presents their findings and recommendations.
- Analyze data from different historical periods to identify trends and make predictions about future trends. Students can use Google Sheets to analyze and create a graphical representation of data, then compare and contrast data from different time periods to identify trends and make predictions about future trends.
- Students can explore datasets related to social media trends, consumer behavior, or political preferences using multiple spreadsheets in Google Sheets. They can identify categories and patterns within the data, create two-way frequency tables to analyze relationships between categories, and design infographics or presentations in Canva to communicate their findings and illustrate the connections between the datasets.

Connected Academic Standards:

Sci>ENV.GP.1 Human Population

Math>S.ID.5 Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data.

Tech>9-12.ICT.2 Use digital learning tools and resources to locate, evaluate and use information.

Performance Indicator: 5.c: Break problems into component parts, extract key information, and develop descriptive models to understand complex systems or facilitate

problem-solving.

Summarized Statement: Students break down problems into manageable parts, identify key information and develop solutions.

Suggested Tool(s) for Practical Application: Docs, Sheets, Whiteboarding

Samples of Student Performance (by the end of Grade 12):

- Students can use Google Docs to collaboratively analyze complex word problems, breaking them down into smaller parts and identifying the key information needed to solve them. They can then use Canva whiteboarding tools to brainstorm solution strategies and visualize the problem-solving process.
- Students can work in groups using Google Docs and Google Sheets to analyze real-world problems involving quantities (e.g., calculating the cost of a school event, planning a fundraising campaign, or designing a budget). They can break down the problems into smaller steps, identify the relevant units and formulas needed, and develop solutions using spreadsheets and whiteboarding tools to organize their work and visualize the relationships between different quantities.

Connected Academic Standards:

Math> A.SSE.1 Interpret expressions that represent a quantity in terms of its context.

Math> N.Q.1 Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.

Tech>9-12.ST.2.a. Demonstrate and advocate effective collaboration strategies and techniques using technology.

Performance Indicator: 5.d: Understand how automation works and use algorithmic thinking to develop a sequence of steps to create and test automated solutions.

Summarized Statement: Students develop fundamental concepts about sequencing and automation, such as patterns, cause and effect, and IF THEN Statements

Suggested Tool(s) for Practical Application: Programming Courses, Google CS First, Sheets

Samples of Student Performance (by the end of Grade 12):

- Students can then use Canva to create a visual representation of the flowchart and present it to the class, explaining the steps involved in a series of events showing how earlier events caused later ones.
- Students can explore the concept of functions and algorithms by designing a

flowchart or visual representation in Canva to illustrate the steps involved in a specific automated process.

Connected Academic Standards:

ELA>RH.9-10.3 Analyze in detail a series of events described in a text; determine whether earlier events caused later ones or simply preceded them.

Math>F.IF.1 Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If f is a function and x is an element of its domain, then $f(x)$ denotes the output of f corresponding to the input x . The graph of f is the graph of the equation $y = f(x)$.

Tech>9-12.ICT.2: Use digital learning tools and resources to locate, evaluate and use information.

Standard:

Creative Communicator: Students communicate clearly and express themselves creatively for a variety of purposes using the platforms, tools, styles, formats and digital media appropriate to their goals.

Performance Indicator: 6.a: Choose the appropriate platforms and digital tools for meeting the desired objectives of their creation or communication.

Summarized Statement: Students identify digital tools/resources when communicating with others to consider the audience, content and goals.

Suggested Tool(s) for Practical Application: Google Workspace, Canva, Audio/Video Recording

Samples of Student Performance (by the end of Grade 12):

- Students will research various digital tools and resources available for communication, then create a Google Slides presentation highlighting these tools explaining the pros and cons of each while highlighting the appropriateness of each tool for different audiences. Students will present their slides.
- Students will work in groups to research a topic and develop a thesis statement, the group will then determine the best platform to communicate their information.

Connected Academic Standards:

SS>CWI.3 Individuals can evaluate media messages that are constructed using particular tools, characteristics and conventions for unique purposes. Different communication

methods affect how people define and act on issues.

ELA>SL.11-12.5 Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.

Tech> 9-12.ICT.4.b: Based on communication needs, develop, implement and evaluate a communication plan to disseminate information to multiple audiences.

Performance Indicator: 6.b: Create original works or responsibly repurpose or remix digital resources into new creations.

Summarized Statement: Students develop digital originals or responsibly reuse other resources into new creative projects.

Suggested Tool(s) for Practical Application: InfOhio, Google Workspace, Canva, Audio/Video Recording

Samples of Student Performance (by the end of Grade 12):

- Students create interactive timelines using Canva. Students can create timelines that illustrate the chronology of historical events, the evolution of a particular topic, or the steps involved in a particular process.
- Students will use InfOhio to research a topic. They will gather information from various sources, including articles, images, and videos. They will create a Google Slides presentation or Canva infographic to share their findings and present it to the class.

Connected Academic Standards:

SS>CWI.Civic Participation and Skills Individuals and groups have the capacity to engage with others to impact global issues.

ELA>W.11-12.6 Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.

Tech> 9-12.ICT.4.a Use digital learning tools and resources to identify communication needs considering goals, audience, content, access to tools or devices, timing of communication (e.g., time zones), etc.

Performance Indicator: 6.c: Use digital tools to visually communicate complex ideas to others.

Summarized Statement: Students use various digital media to explain complex problems/ideas.

Suggested Tool(s) for Practical Application: Google Workspace, Canva, Audio/Video

Recording

Samples of Student Performance (by the end of Grade 12):

- Students will research a complex topic from their ELA curriculum such as the historical and cultural context of a specific literary work or period. They will create an infographic in Canva that presents the topic in a clear and accessible manner, incorporating visuals, text, and data as needed. They will present their infographics to the class.
- Students can create a Canva infographic to explain the process of creating a budget.

Connected Academic Standards:

ELA>SL.11-12.5 Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.

Math>S.ID.2 In the context of real-world applications by using the GAISE model, use statistics appropriate to the shape of the data distribution to compare center (median and mean) and spread (mean absolute deviation, interquartile range, and standard deviation) of two or more different data sets.

Tech> 9-12.ICT.4.a Use digital learning tools and resources to identify communication needs considering goals, audience, content, access to tools or devices, timing of communication (e.g., time zones), etc.

Performance Indicator: 6.d: Publish or present content that customizes the message and medium for their intended audiences.

Summarized Statement: Students create and publish content to share with others.

Suggested Tool(s) for Practical Application: Google Workspace, Canva, Audio/Video Recording

Samples of Student Performance (by the end of Grade 12):

- Students will create a digital story using Google Slides or Canva, incorporating text, images, and audio. They will share their digital stories with the class or publish them on a class website or platform.
- Students can use InfOhio to research a current event and then create a Google Sites website to share their findings with the world. Students can create a Canva presentation about a social issue they are passionate about and then share it.

Connected Academic Standards:

ELA>W.11-12.6: Use technology, including the Internet, to produce, publish, and update

individual or shared writing products in response to ongoing feedback, including new arguments or information.

ELA>SL.11-12.5 Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.

Tech> 9-12.ICT.4.b: Based on communication needs, develop, implement and evaluate a communication plan to disseminate information to multiple audiences.

Standard:

Global Collaborator: Students use digital tools to broaden their perspectives and enrich their learning by collaborating with others and working effectively in teams locally and globally.

Performance Indicator: 7.a: Use digital tools to connect with peers from a variety of backgrounds recognizing diverse viewpoints and broadening mutual understanding.

Summarized Statement: Students connect with students from a variety of backgrounds using various online tools.

Suggested Tool(s) for Practical Application: Google Workspace

Samples of Student Performance (by the end of Grade 12):

- Students work with peers from diverse backgrounds. They will collaboratively write a research paper or essay in a shared Google Doc, exploring a topic related to their ELA curriculum that allows for multiple perspectives and viewpoints.
- Students can use Google Meet to have a video conference with students from another school.
- Participate in online discussion forums where students can discuss global issues with students from other schools or countries. Students can share their thoughts and opinions on a variety of topics, such as climate change, human rights, and economic development.

Connected Academic Standards:

ELA>SL.11-12.1 Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11-12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.

SS>CWI.1 Trade, alliances, treaties and international organizations contribute to the increasing interconnectedness of nations and peoples in the 21st century.

Tech>9-12.ST.2.a Demonstrate and advocate effective collaboration strategies and techniques using technology.

Performance Indicator: 7.b: Use collaborative technologies to work with others, including peers, experts or community members, to examine issues and problems from multiple viewpoints.

Summarized Statement: Students lead digital discussions to gain various perspectives on a pressing issue.

Suggested Tool(s) for Practical Application: Google Workspace, Canva

Samples of Student Performance (by the end of Grade 12):

- Teachers will pose a question using the “Ask a question” feature on Google Classroom. Students will be assigned a position to debate a side of the issue with their classmates.
- Students will organize and lead a panel discussion on a pressing issue such as deforestation using Google Meet. They will invite guest speakers or experts to join the discussion and answer questions from the audience.

Connected Academic Standards:

ELA>SL.11-12.1 Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11-12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.

Sci>ENV.GP.8 Deforestation and loss of biodiversity

Tech>9-12.ST.2.a Demonstrate and advocate effective collaboration strategies and techniques using technology.

Performance Indicator: 7.c: Contribute constructively to project teams, assuming various roles and responsibilities to work effectively toward a common goal.

Summarized Statement: Students assign individual and group tasks in order to share responsibilities and solve a problem.

Suggested Tool(s) for Practical Application: Google Workspace

Samples of Student Performance (by the end of Grade 12):

- Students will be divided into project teams and assigned a task related to their ELA

curriculum. They will use a shared Google Doc to plan and manage their project, assigning roles and responsibilities, setting deadlines, and tracking progress.

- Students work together to plan and implement a community service project. Each student can be responsible for a different task, such as fundraising, organizing volunteers, or publicizing the event.

Connected Academic Standards:

ELA>SL.11-12.1 Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11-12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.

SS>CWI.6 Effective civic participation involves identifying problems or dilemmas, proposing appropriate solutions, formulating action plans, and assessing the positive and negative results of actions taken.

Tech>9-12.ST.2.a Demonstrate and advocate effective collaboration strategies and techniques using technology.

Performance Indicator: 7.d: Explore local and global issues and use collaborative technologies to work with others to investigate solutions.

Summarized Statement: Students work together using digital resources and content to investigate various problems in the world.

Suggested Tool(s) for Practical Application: Google Workspace, Canva

Samples of Student Performance (by the end of Grade 12):

- Students will use Google Earth to explore a geographical region affected by a specific problem. They will gather information and data from various sources, including news articles, videos, and images. They will create a Google Slides presentation or Google Doc report to present their findings and propose solutions.
- Students will form groups and choose a real-world problem to research. They will use Google Sites to create a collaborative website, organizing their research, embedding multimedia content, and publishing their findings.

Connected Academic Standards:

ELA>W.11-12.7: Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.

Tech>9-12.ST.2.a Demonstrate and advocate effective collaboration strategies and

techniques using technology.

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References

Large Language Models were used to assist in the development of examples of student performance. Each recommendation was carefully read and modified to ensure appropriateness of each suggestion.

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