

GHMS

**HUMBOLDT UNIFIED
SCHOOL DISTRICT #22**

**DISTRICT SPONSORED
CHARTER SCHOOL
APPLICATION**

**Glassford Hill
Middle School**

The Need for Glassford Hill Middle School Charter Conversion

Glassford Hill Middle School (prior to charter school conversion) has established a strong curricular focus on the Arizona State Standards through its participation in the AdvancEd System Accreditation Process®. The school is in Yavapai County where parents have choices and they vote with their feet by leaving the state, leaving the area, or choosing another school.

Glassford Hill Middle School's choice to convert to a charter school will enable it to offer parents and students choices within a competitive environment.

Education Plan

Educational Philosophy

Glassford Hill Middle (sometimes referred to herein as the "Charter School") is intended to offer families a high quality education with rigorous expectations for academic performance. Further, the school is intended to be a reflection of the local community; in particular, the parents, students, staff and community members who choose to participate in the school. This Charter seeks to provide a solid foundation and framework upon which participants can build.

Purpose. The purpose of the Charter School is to improve student achievement by providing an option for parents who would like to send their children to an outstanding school with high expectations and a signature program.

Need. In a highly competitive, global, technology-driven world, families need a school that provides the highest level of academic instruction within a safe, supportive community and a family-oriented environment.

Support. The Charter School will be sponsored by the highly-regarded Humboldt Unified School District (sometimes referred to herein as the "District"). The Charter School will be able to rely on assistance from well-established instruction, business, technology, special education, and facilities departments of the District.

Goals of the School.

1. To graduate students who are prepared for local and global opportunities.
2. To create a 21st Century learning community that maximizes student achievement and success.
3. To implement research-based curricula, best instructional practices and assessments to increase student engagement and support 21st Century learning.
4. To support student learning of 21st Century skills through improved facilities and technology infrastructure.

The guiding educational philosophy of the school flows from the district's shared purpose:

- **To educate** our students with rigor, dedication, depth, and the application of innovative technology.
- **To involve** our students along with their parents and community, in a cooperative vision of education as a key to responsible and productive citizenship.
- **To prepare** our students to meet the events of their lives with knowledge, insight, and perseverance.
- **To inspire** our students to believe that, with hard work, they can achieve great things in whatever career they choose, and thus help to make a better world.

Target Population

The student population of the school consists primarily of children residing within the Humboldt Unified School District enrollment boundaries.

Number of Students to be Served.

The number of students to be served in the initial year of the Charter School is expected to be 400. In subsequent years the enrollment capacity is expected to be determined by the Charter School's Governing Board.

Grades to be Served.

The Charter School will serve grades seven and eight.

Program of Instruction

The program of instruction at Glassford Hill Middle School will be aligned with Arizona Common Core State Standards and based on the AdvancEd Standards for Quality© (Appendix B).

The Standards are research-based, comprehensive quality statements that describe conditions that are necessary for schools to achieve quality student performance and organizational effectiveness. These Standards support an education process that is visionary; characterizing how schools should operate to promote a culture of continuous learning that is fluid – engaging leaders, staff and students. The indicators and related performance levels give thorough descriptions of exemplary practices and processes, together providing a comprehensive picture of each standard. The five Standards and accompanying indicators and performance levels focus on systems within a school and systematic methods of driving excellence in student performance and organizational effectiveness. These Standards are not isolated, but systemic and intentionally aligned to address major themes across all Standards. Major embedded themes include: continuous improvement, stakeholder involvement, alignment, student engagement, collaboration, equity, and personalization.

The Humboldt Unified School District is using the RtI (Response to Intervention) philosophy. RtI is the practice of (1) providing high quality instruction/intervention matched to student needs and (2) using learning rate over time and level of performance to (3) make important educational decisions.

The Humboldt Unified School District uses pacing guides, aligned to the state standards, to guide instruction. The Humboldt Unified School District uses the Galileo benchmarking system as its assessment system. Use of Galileo benchmarks enable teachers to inform their instruction and make adjustments as required to enhance student learning. All schools use teacher generated formative assessments to make in course adjustments based on students learning.

School Calendar

The school calendar (Appendix A) will offer the state mandated days of instruction and will be in alignment with all Humboldt Unified schools.

Professional Development

School staffs are engaged in professional development on Early Release Wednesdays. Professional Development is determined based on the needs of the staff and state required trainings (Appendix C).

Performance Framework

The performance framework used by the Humboldt Unified Governing Board (which serves as the Board for Glassford Hill Middle School), focuses on three key components of school performance and accountability.

- Framework 1 - Alignment with the HUSD Board Goals through the creation of a comprehensive School Goals Plan based on the AdvancEd Standards for Quality Schools©
- Framework #2 – Qualitative data from the District’s student, staff and parent surveys with demonstrated progress toward goals
- Framework #3 - Quantitative data which provides demonstrated progress toward goals

Framework 1:

The Standards are research-based, comprehensive quality statements that describe conditions that are necessary for schools to achieve quality student performance and organizational effectiveness. These Standards support an education process that is visionary; characterizing how schools should operate to promote a culture of continuous learning that is fluid – engaging leaders, staff and students. The indicators and related performance levels give thorough descriptions of exemplary practices and processes, together providing a comprehensive picture of each standard. The five Standards and accompanying indicators and performance levels focus on systems within a school and systematic methods of driving excellence in student performance and organizational effectiveness. These Standards are not isolated, but systemic and intentionally aligned to address major themes across all Standards. Major embedded themes include: continuous improvement, stakeholder involvement, alignment, student engagement, collaboration, equity, and personalization. The Standards include:

Standard 1: Purpose and Direction

The school maintains and communicates a purpose and direction that commit to high expectations for learning as well as shared values and beliefs about teaching and learning.

Standard 2: Governance and Leadership

The school operates under governance and leadership that promote and support student performance and school effectiveness.

Standard 3: Teaching and Assessing for Learning

The school’s curriculum, instructional design, and assessment practices guide and ensure teacher effectiveness and student learning.

Standard 4: Resources and Support Systems

The school has resources and provides services that support its purpose and direction to ensure success for all students.

Standard 5: Using Results for Continuous Improvement

The school implements a comprehensive assessment system that generates a range of data about student learning and school effectiveness and uses the results to guide continuous improvement.

Framework 2:

HUSD Schools use valid and reliable parent, student and staff surveys to provide qualitative data regarding each school on the five AdvancEd Standards for Quality Schools©. Each spring the surveys are administered and data is provided to the campus leadership teams to create goals for the following year.

Framework 3:

HUSD Schools review multiple performance data throughout the year to determine school and district goals including distributed achievement data on the state report card, district assessments during the year, and walk through data.

The HUSD Governing Board will review the district sponsored charter school every five years using the adopted performance framework and as part of the AdvancEd System Accreditation process. All district policies relating to intervention and improvement will apply to the district sponsored charter school.

Operational Plan

Polices including Fingerprint Clearance and Background Checks

Glassford Hill Middle School will function under the same guidelines and governing board policies as other district schools operating under the authority of the Humboldt Unified School District and HUSD will have oversight and administrative responsibility for the district sponsored charter school. This will include all applicable fingerprint and background check related statutes and guidelines to include, but not necessarily limited to, Section 41-1750; Public Law 92-544; Title 41, chapter 12; article 3.1 and Section 15-512.

Governing Body

The Humboldt Unified School District Superintendent and the Charter School administration are responsible for the organization, planning and operation of the Charter School. The Humboldt Unified School District Governing Board will be the governing body of the Charter School.

Parent/Community Involvement.

The Charter School will operate in an environment that provides parents and the community with the opportunity for participating and input in decision-making and the learning process.

Site Council.

A Site Council for the Charter School will be established, according to Humboldt Unified School District Governing Board policy.

Community Partnerships.

Partnerships with the community-at-large will be aggressively pursued by the Charter School.

District/School Relations.

The District under the direction of the Governing Board is sponsoring the Charter School. The Charter School is subject to the same requirements and conditions as any school within the District School Accountability. The Charter School administration and staff, in coordination with the Site Council, shall be responsible for the development of an annual school improvement plan and regular reports to the Governing Board of the District and school community, including the school report card.

Expectations of Sponsoring District.

The Charter School shall be subject to and governed as provided in the policies of the Humboldt Unified School District.

Requested Rules Exceptions.

The Charter School will not be exempted from any current Humboldt Unified School District Governing Board Policies.

Nondiscrimination:

Students will be considered for admission without regard to race, ethnicity, national origin, gender, religion, disability or achievement level.

Nonsectarian Practices:

The Charter School is nonsectarian in its programs, admission policies and employment practices, and all other operations.

Compliance with Law; Non-Exemption from Laws:

The Charter School shall comply with all federal, state and local rules, regulations and statutes relating to health, safety, civil rights and insurance to the same extent as required of Humboldt Unified School District schools. The Charter School shall comply with all federal and state laws relating to the education of children with disabilities in the same manner as any other Arizona public school educating elementary school aged students. In addition, the Charter School shall not be exempt from statutes and rules relating to schools, governing boards and school districts unless a specific exemption is requested and granted by the Governing Board.

Management and Operation

The day-to-day operation of the school will be handled by the school's principal with the support of the district administration. The principal will receive support and guidance from the superintendent and the leaders of various departments within the HUSD organization. The school will contract with HUSD to receive full support for its management and operation functions. Examples of these services are outlined below.

- Business office support
 - Payroll services
 - Accounting services
 - Benefits services
 - Purchasing and procurement services
 - State reporting
- Human resources support
 - Recruitment and hiring
 - Employee discipline
 - Fingerprinting
 - State reporting
- Special education services
 - Identification and testing
 - IEP support and training
 - Related services support
 - State reporting
- Maintenance, facilities and grounds services
 - Maintain all aspects of the facility and grounds
 - Lease the facility to the school
 - Address needed repairs in a timely and efficient manner
- Custodial services
 - Provide day and night time custodial services
 - Purchase all custodial supplies and equipment
 - Hire and maintain a quality custodial staff
 - Work in conjunction with the school's unique custodial needs

Business Plan

As budgeting, reporting and facilities are integral to the school's success, the district sponsored charter school will work closely with the Humboldt Unified School District's Business Department. The Business Department has many years of experience overseeing successful budget oversight (Appendix E).

Advertising and Promotion

The signature program of the school is determined by the community to provide parents and students choices within the Humboldt Unified School District. This will attract parents and students from the surrounding areas as parents choose to vote with their feet. HUSD will develop promotional material focusing on the school's signature program and how it meets the needs of the community.

Enrollment

- Enrollment preference shall be given to resident transfer pupils who were enrolled in the school the previous year and any sibling who would be enrolled concurrently with such pupils. If capacity is not sufficient to enroll all of these pupils, they shall be selected through a random selection process adopted by regulation of the Superintendent.
- Enrollment preference shall be given to nonresident pupils who were enrolled in the school the previous year and any sibling who would be enrolled concurrently with such pupils. If capacity is not sufficient to enroll all of these pupils, they shall be selected through a random selection process adopted by regulation of the Superintendent.
- Enrollment preference shall be given to resident transfer pupils who were not enrolled in the school the previous year. If capacity is not sufficient to enroll all of these pupils, they shall be selected through a random selection process adopted by regulation of the Superintendent.
- Enrollment preference shall be given to nonresident pupils who were not enrolled in the school the previous year. If capacity is not sufficient to enroll all of these pupils, they shall be selected through a random selection process adopted by regulation of the Superintendent.

Personnel

All personnel will follow the policies and procedures set forth by the HUSD Governing Board. The Charter School will follow the Humboldt Unified School District's hiring procedures and standards. The Humboldt Unified School District will oversee salary and benefits structure to ensure compliance with the law. All individuals employed by the Charter School must possess the personal characteristics, expertise and qualifications identified in the posted job description. The Charter School will accept applications through the personnel department of the Humboldt Unified School District.

Budget

The budgeting process for the district sponsored charter school will be completed in conjunction with the HUSD Business Office. The school and HUSD have chosen to follow the charter school financing statutes, as they apply to district sponsored charter schools for both funding and student count.

Start-Up Budget (Appendix E)

The Charter School's budget is formulated by Humboldt Unified School District and the Charter School's administration. Financial approval and control shall be handled by the District's Governing Board in the same fashion as other HUSD schools and general operations. Humboldt Unified School District and the Charter School's administration shall be responsible for following all legal requirements. The budget shall outline federal and state revenues and expenditures necessary to operate the Charter School.

Appendix B

AdvancEd Standards for Quality[®] and HUSD Curriculum Guide

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AdvancED®
Standards
for Quality

SCHOOLS





AdvancED® Standards for Quality

STANDARDS FOR QUALITY SCHOOLS

Commitment to continuous improvement is a dynamic effort, consistently requiring attention and revision. We expect this commitment from the educational institutions we serve, and we expect it from ourselves. To that end, we are proud and excited to unveil the new AdvancED Standards for Quality Schools.

The new AdvancED Standards for Quality Schools not only provide the foundation for the AdvancED Accreditation Process, but also represent the continued evolution of accreditation as a powerful tool for driving effective practices in support of student learning.

ANATOMY OF A STANDARD

The AdvancED Standards for Quality Schools include the standard, indicator, and related performance level.

The **Standards** are research-based, comprehensive quality statements that describe conditions that are necessary for schools to achieve quality student performance and organizational effectiveness. These Standards support an education process that is truly visionary; characterizing how schools should operate to promote a culture of continuous learning that is fluid – engaging leaders, staff and students.

The **indicators and related performance levels** give thorough descriptions of exemplary practices and processes, together providing a comprehensive picture of each standard.

The five Standards and accompanying indicators and performance levels focus on systems within a school and systematic methods of driving excellence in student performance and organizational effectiveness. These Standards are not isolated, but systemic and intentionally aligned to address major themes across all Standards. Major embedded themes include: continuous improvement, stakeholder involvement, alignment, student engagement, collaboration, equity, and personalization.

AdvancED Standards for Quality Schools

Standard 1: Purpose and Direction

The school maintains and communicates a purpose and direction that commit to high expectations for learning as well as shared values and beliefs about teaching and learning.

Standard 2: Governance and Leadership

The school operates under governance and leadership that promote and support student performance and school effectiveness.

Standard 3: Teaching and Assessing for Learning

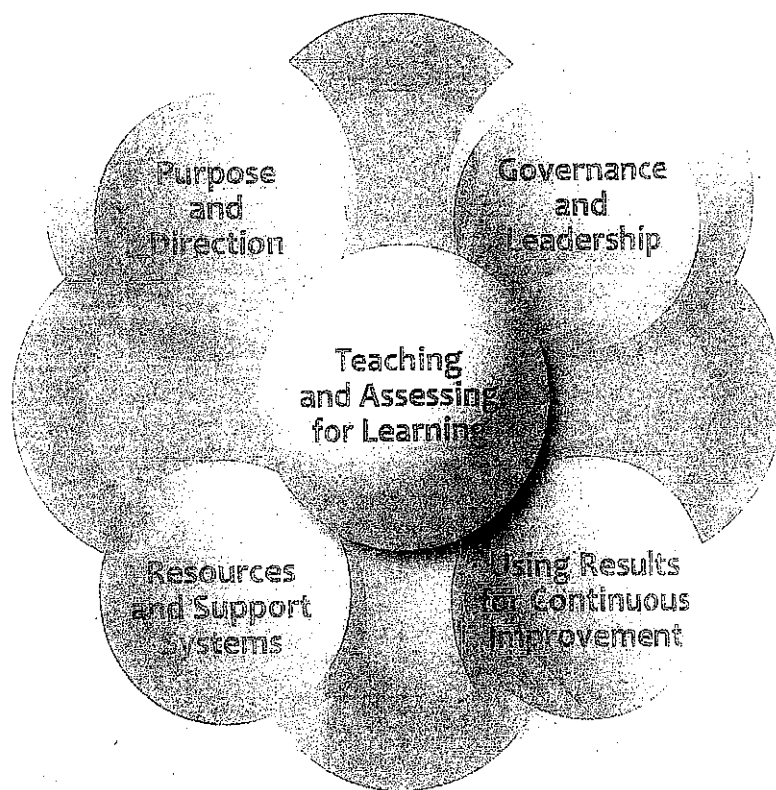
The school's curriculum, instructional design, and assessment practices guide and ensure teacher effectiveness and student learning.

Standard 4: Resources and Support Systems

The school has resources and provides services that support its purpose and direction to ensure success for all students.

Standard 5: Using Results for Continuous Improvement

The school implements a comprehensive assessment system that generates a range of data about student learning and school effectiveness and uses the results to guide continuous improvement.



No one standard or set of indicators and performance levels is complete without considering all five as a collective whole. Embracing their inherent "connectedness" is critical to understanding and application. The AdvancED Standards for Quality Schools and the AdvancED Accreditation Process offer schools a roadmap for the pursuit of excellence in education and student learning, unleashing their own power to transform.

Standard 1

Purpose and Direction

The school maintains and communicates a purpose and direction that commit to high expectations for learning as well as shared values and beliefs about teaching and learning.

INDICATOR 1.1

The school engages in a systematic, inclusive, and comprehensive process to review, revise, and communicate a school purpose for student success.

- Level 4** The process for review, revision, and communication of the school's purpose is clearly documented, and a record of the use and results of the process is maintained. The process is formalized and implemented with fidelity on a regular schedule. The process includes participation by representatives selected at random from all stakeholder groups. The purpose statement clearly focuses on student success.
- Level 3** The school's process for review, revision, and communication of the purpose statement is documented. The process is formalized and implemented on a regular schedule. The process includes participation by representatives from all stakeholder groups. The purpose statement focuses on student success.
- Level 2** The school has a process for review, revision, and communication of its purpose. The process has been implemented. The process includes participation by representatives from stakeholder groups. The purpose statement focuses primarily on student success.
- Level 1** No process to review, revise, or communicate a school purpose exists. Stakeholders are rarely asked for input regarding the purpose of the school.

Standard 1: Purpose and Direction

INDICATOR 1.2

The school leadership and staff commit to a culture that is based on shared values and beliefs about teaching and learning and supports challenging, equitable educational programs and learning experiences for all students that include achievement of learning, thinking, and life skills.

Level 4 Commitment to shared values and beliefs about teaching and learning is clearly evident in documentation and decision making. This commitment is always reflected in communication among leaders and staff. Challenging educational programs and equitable learning experiences are implemented in a measurable way so that all students achieve learning, thinking, and life skills necessary for success. Evidence indicates a strong commitment to instructional practices that include active student engagement, a focus on depth of understanding, and the application of knowledge and skills. School leadership and staff hold one another accountable to high expectations for professional practice.

Level 3 Commitment to shared values and beliefs about teaching and learning is evident in documentation and decision making. This commitment is regularly reflected in communication among leaders and staff. Challenging educational programs and equitable learning experiences are implemented so that all students achieve learning, thinking, and life skills necessary for success. Evidence indicates a commitment to instructional practices that include active student engagement, a focus on depth of understanding, and the application of knowledge and skills. School leadership and staff share high expectations for professional practice.

Level 2 Commitment to shared values and beliefs about teaching and learning is sometimes evident in documentation. This commitment is sometimes reflected in communication among leaders and most staff. Some challenging educational programs and equitable learning experiences are implemented so that all students achieve some degree of learning, thinking, and life skills. Evidence indicates some commitment to instructional practices that include active student engagement, a focus on depth of understanding, and the application of knowledge and skills. School leadership maintains high expectations for professional practice.

Level 1 Minimal or no evidence exists that indicates the culture of the school is based on shared values and beliefs about teaching and learning. Educational programs challenge few or no students and are provided in a way that few students achieve the learning, thinking, and life skills necessary for success. Learning experiences for students are rarely equitable. Instructional practices rarely include active student engagement, a focus on depth of understanding, and the application of knowledge and skills. Little or no commitment to high expectations for professional practice is evident.

Standard 1: Purpose and Direction

INDICATOR 1.3

The school's leadership implements a continuous improvement process that provides clear direction for improving conditions that support student learning.

- Level 4* School leaders require the use of a documented, systematic continuous improvement process for improving student learning and the conditions that support learning. All stakeholder groups work collaboratively and consistently in authentic and meaningful ways that build and sustain ownership of the school's purpose and direction. School personnel systematically maintain, use, and communicate a profile with current and comprehensive data on student and school performance. The profile contains thorough analyses of a broad range of data used to identify goals for the improvement of achievement and instruction that are aligned with the school's purpose. All improvement goals have measurable performance targets. The process includes action planning that identifies measurable objectives, strategies, activities, resources, and timelines for achieving all improvement goals. School personnel hold one another accountable for and evaluate the overall quality of the implementation of all interventions and strategies. The process is reviewed and evaluated regularly. Documentation that the process is implemented with fidelity and yields improved student achievement and instruction is available and communicated to stakeholders.
- Level 3* School leaders implement a documented, systematic continuous improvement process for improving student learning and the conditions that support learning. All stakeholder groups are engaged in the process. School personnel maintain a profile with current and comprehensive data on student and school performance. The profile contains analyses of data used to identify goals for the improvement of achievement and instruction that are aligned with the school's purpose. Improvement goals have measurable performance targets. The process includes action planning that identifies measurable objectives, strategies, activities, resources, and timelines for achieving improvement goals. School leaders hold all school personnel accountable for and evaluate the overall quality of the implementation of all interventions and strategies. The process is reviewed and evaluated. Documentation that the process yields improved student achievement and instruction is available and communicated to stakeholders.
- Level 2* School leaders implement a continuous improvement process for improving student learning and the conditions that support learning. Some stakeholder groups are engaged in the process. School personnel maintain a profile with data on student and school performance. The profile contains data used to identify goals for the improvement of achievement and instruction that are aligned with the school's purpose. The process includes action planning that identifies measurable objectives, strategies, activities, resources, and timelines for achieving improvement goals. Most interventions and strategies are implemented with fidelity. Some documentation that the process yields improved student achievement and instruction is available.
- Level 1* A continuous improvement process for improving student learning and the conditions that support learning is used randomly and/or ineffectively. The profile is rarely updated or used by school personnel and contains little or no useful data. Goals selected for improvement, if they exist, reflect the minimum required by governmental or organizational oversight agencies. Few or no measurable objectives, strategies, or activities are implemented with fidelity. Documentation linking the process to improved student achievement and instruction is unclear or non-existent.
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Standard 2

Governance and Leadership

The school operates under governance and leadership that promote and support student performance and school effectiveness.

INDICATOR 2.1

The governing body establishes policies and supports practices that ensure effective administration of the school.

- Level 4* Policies and practices clearly and directly support the school's purpose and direction and the effective operation of the school. Policies and practices require and have mechanisms in place for monitoring effective instruction and assessment that produce equitable and challenging learning experiences for all students. There are policies and practices requiring and giving direction for professional growth of all staff. Policies and practices provide clear requirements, direction for, and oversight of fiscal management.
- Level 3* Policies and practices support the school's purpose and direction and the effective operation of the school. Policies and practices promote effective instruction and assessment that produce equitable and challenging learning experiences for all students. There are policies and practices regarding professional growth of all staff. Policies and practices provide requirements, direction for, and oversight of fiscal management.
- Level 2* Policies and practices generally support the school's purpose and direction and the effective operation of the school. Most policies and practices promote effective instruction and assessment that produce equitable and challenging learning experiences for all students. There are policies and practices regarding professional growth of staff. Policies and practices provide requirements and oversight of fiscal management.
- Level 1* Little connection exists between policies and practices of the governing board and the purpose, direction, and effective operation of the school. Policies and practices seldom or never address effective instruction and assessment that produce equitable and challenging learning experiences for students. There are few or no policies and practices regarding professional growth of staff. Policies provide requirements of fiscal management.
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Standard 2: Governance and Leadership

INDICATOR 2.2

The governing body operates responsibly and functions effectively.

- Level 4* The governing body has implemented a process to evaluate its decisions and actions to ensure they are in accordance with defined roles and responsibilities, a formally adopted code of ethics, and free of conflict of interest. Governing body members are required to participate in a systematic, formal professional development process regarding the roles and responsibilities of the governing body and its individual members. The professional development curriculum also includes conflict resolution, decision-making, supervision and evaluation, and fiscal responsibility. Members comply with all policies, procedures, laws, and regulations and function as a cohesive unit for the benefit of student learning.
- Level 3* The governing body has a process to ensure that its decisions and actions are in accordance with defined roles and responsibilities, a code of ethics, and free of conflict of interest. Governing body members participate in a systematic, formal professional development process regarding the roles and responsibilities of the governing body and its individual members. The governing body complies with all policies, procedures, laws, and regulations and functions as a cohesive unit.
- Level 2* The governing body ensures that its decisions and actions are in accordance with defined roles and responsibilities, are ethical, and free of conflict of interest. Governing body members participate in professional development regarding the roles and responsibilities of the governing body and its individual members. The governing body complies with all policies, procedures, laws, and regulations.
- Level 1* The governing body has no method for or does not ensure that decisions and actions are free of conflict of interest, are ethical, and in accordance with defined roles and responsibilities. Governing body members rarely or never participate in professional development regarding the roles and responsibilities of the governing body and its individual members. Evidence indicates the governing body does not always comply with policies, procedures, laws, and regulations.

Standard 2: Governance and Leadership

INDICATOR 2.3

The governing body ensures that the school leadership has the autonomy to meet goals for achievement and instruction and to manage day-to-day operations effectively.

- Level 4* The governing body consistently protects, supports, and respects the autonomy of school leadership to accomplish goals for achievement and instruction and to manage day-to-day operations of the school. The governing body maintains a clear distinction between its roles and responsibilities and those of school leadership.
- Level 3* The governing body protects, supports, and respects the autonomy of school leadership to accomplish goals for improvement in student learning and instruction and to manage day-to-day operations of the school. The governing body maintains a distinction between its roles and responsibilities and those of school leadership.
- Level 2* The governing body generally protects, supports, and respects the autonomy of school leadership to accomplish goals for improvement in student learning and instruction and to manage day-to-day operations of the school. The governing body usually maintains a distinction between its roles and responsibilities and those of school leadership.
- Level 1* The governing body rarely or never protects, supports, and respects the autonomy of school leadership to accomplish goals for improvement in student learning and instruction and to manage day-to-day operations of the school. The governing body does not distinguish between its roles and responsibilities and those of school leadership or frequently usurps the autonomy of school leadership.

Standard 2: Governance and Leadership

INDICATOR 2.4

Leadership and staff foster a culture consistent with the school's purpose and direction.

- Level 4* Leaders and staff deliberately and consistently align their decisions and actions toward continuous improvement to achieve the school's purpose. They encourage, support, and expect all students to be held to high standards in all courses of study. All stakeholders are collectively accountable for student learning. School leaders actively and consistently support and encourage innovation, collaboration, shared leadership, and rigorous professional growth. The culture is characterized by collaboration and a sense of community among all stakeholders.
- Level 3* Leaders and staff align their decisions and actions toward continuous improvement to achieve the school's purpose. They expect all students to be held to high standards in all courses of study. All leaders and staff are collectively accountable for student learning. School leaders support innovation, collaboration, shared leadership, and professional growth. The culture is characterized by collaboration and a sense of community.
- Level 2* Leaders and staff make some decisions and take some actions toward continuous improvement. They expect all students to be held to standards. Leaders and staff express a desire for collective accountability for student learning. School leaders sometimes support innovation, collaboration, shared leadership, and professional growth. The culture is characterized by a minimal degree of collaboration and limited sense of community.
- Level 1* Decisions and actions seldom or never support continuous improvement. School leaders and staff may or may not expect students to learn. There is no evidence of or desire for collective accountability for student learning. School leaders seldom or never support innovation, collaboration, shared leadership, and professional growth. The culture is characterized by a minimal degree of collaboration and little or no sense of community.

Standard 2: Governance and Leadership

INDICATOR 2.5

Leadership engages stakeholders effectively in support of the school's purpose and direction.

Level 4 Leaders consistently communicate effectively with appropriate and varied representatives from stakeholder groups, provide opportunities for stakeholders to shape decisions, solicit feedback and respond to stakeholders, work collaboratively on school improvement efforts, and provide and support meaningful leadership roles for stakeholders. School leaders' proactive and persistent efforts result in measurable, active stakeholder participation; positive engagement in the school; a strong sense of community; and ownership.

Level 3 Leaders communicate effectively with appropriate and varied representatives from stakeholder groups, provide opportunities for stakeholders to shape decisions, solicit feedback and respond to stakeholders, work collaboratively on school improvement efforts, and provide and support meaningful leadership roles for stakeholders. School leaders' efforts result in measurable, active stakeholder participation; engagement in the school; a sense of community; and ownership.

Level 2 Leaders sometimes communicate effectively with stakeholder groups, provide opportunities for stakeholders to shape decisions, solicit feedback from stakeholders, work collaboratively on school improvement efforts, and provide some leadership roles for stakeholders. School leaders' efforts result in some stakeholder participation and engagement in the school.

Level 1 Leaders rarely or never communicate with stakeholder groups. Little or no work on school improvement efforts is collaborative, and stakeholders have little or no opportunity for leadership. School leaders' efforts result in limited or no stakeholder participation and engagement in the school.

Standard 2: Governance and Leadership

INDICATOR 2.6

Leadership and staff supervision and evaluation processes result in improved professional practice and student success.

- Level 4* The primary focus of the criteria and processes of supervision and evaluation is improving professional practice and ensuring student success. Supervision and evaluation processes are consistently and regularly implemented. The results of the supervision and evaluation processes are analyzed carefully and used to monitor and effectively adjust professional practice and ensure student learning.
- Level 3* The focus of the criteria and processes of supervision and evaluation is improving professional practice and improving student success. Supervision and evaluation processes are regularly implemented. The results of the supervision and evaluation processes are used to monitor and effectively adjust professional practice and improve student learning.
- Level 2* The criteria and processes of supervision and evaluation include references to professional practice and student success. Supervision and evaluation processes are implemented at minimal levels. The results of the supervision and evaluation processes are used sometimes to monitor and effectively adjust professional practice and improve student learning.
- Level 1* The criteria and processes of supervision and evaluation have little or no focus on improving professional practice or student success. Supervision and evaluation processes are randomly implemented, if at all. Results of the supervision and evaluation processes, if any, are used rarely or never.

Standard 3

Teaching and Assessing for Learning

The school's curriculum, instructional design, and assessment practices guide and ensure teacher effectiveness and student learning.

INDICATOR 3.1

The school's curriculum provides equitable and challenging learning experiences that ensure all students have sufficient opportunities to develop learning, thinking, and life skills that lead to success at the next level.

Level 4 Curriculum and learning experiences in each course/class provide all students with challenging and equitable opportunities to develop learning skills, thinking skills, and life skills that align with the school's purpose. Evidence clearly indicates curriculum and learning experiences prepare students for success at the next level. Like courses/classes have the same high learning expectations. Learning activities are individualized for each student in a way that supports achievement of expectations.

Level 3 Curriculum and learning experiences in each course/class provide all students with challenging and equitable opportunities to develop learning skills, thinking skills, and life skills. There is some evidence to indicate curriculum and learning experiences prepare students for success at the next level. Like courses/classes have equivalent learning expectations. Some learning activities are individualized for each student in a way that supports achievement of expectations.

Level 2 Curriculum and learning experiences in each course/class provide most students with challenging and equitable opportunities to develop learning skills, thinking skills, and life skills. There is little evidence to indicate curriculum and learning experiences prepare students for success at the next level. Most like courses/classes have equivalent learning expectations. Little individualization for each student is evident.

Level 1 Curriculum and learning experiences in each course/class provide few or no students with challenging and equitable opportunities to develop learning skills, thinking skills, and life skills. There is no evidence to indicate how successful students will be at the next level. Like courses/classes do not always have the same learning expectations. No individualization for students is evident.

Standard 3: Teaching and Assessing for Learning

INDICATOR 3.2

Curriculum, instruction, and assessment are monitored and adjusted systematically in response to data from multiple assessments of student learning and an examination of professional practice.

- Level 4* Using data from multiple assessments of student learning and an examination of professional practice, school personnel systematically monitor and adjust curriculum, instruction, and assessment to ensure vertical and horizontal alignment and alignment with the school's goals for achievement and instruction and statement of purpose. There is a systematic, collaborative process in place to ensure alignment each time curriculum, instruction, and/or assessments are reviewed or revised. The continuous improvement process has clear guidelines to ensure that vertical and horizontal alignment as well as alignment with the school's purpose are maintained and enhanced in curriculum, instruction, and assessment.
- Level 3* Using data from student assessments and an examination of professional practice, school personnel monitor and adjust curriculum, instruction, and assessment to ensure vertical and horizontal alignment and alignment with the school's goals for achievement and instruction and statement of purpose. There is a process in place to ensure alignment each time curriculum, instruction, and/or assessments are reviewed or revised. The continuous improvement process ensures that vertical and horizontal alignment as well as alignment with the school's purpose are maintained and enhanced in curriculum, instruction, and assessment.
- Level 2* School personnel monitor and adjust curriculum, instruction, and assessment to ensure vertical and horizontal alignment and alignment with the school's goals for achievement and instruction and statement of purpose. A process is implemented sometimes to ensure alignment when curriculum, instruction, and/or assessments are reviewed or revised. There is limited evidence that the continuous improvement process ensures vertical and horizontal alignment and alignment with the school's purpose in curriculum, instruction, and assessment.
- Level 1* School personnel rarely or never monitor and adjust curriculum, instruction, and assessment to ensure vertical and horizontal alignment or alignment with the school's goals for achievement and instruction and statement of purpose. No process exists to ensure alignment when curriculum, instruction, and/or assessments are reviewed or revised. There is little or no evidence that the continuous improvement process is connected with vertical and horizontal alignment or alignment with the school's purpose in curriculum, instruction, and assessment.
-

Standard 3: Teaching and Assessing for Learning

INDICATOR 3.3

Teachers engage students in their learning through instructional strategies that ensure achievement of learning expectations.

- Level 4* Teachers are consistent and deliberate in planning and using instructional strategies that require student collaboration, self-reflection, and development of critical thinking skills. Teachers personalize instructional strategies and interventions to address individual learning needs of each student. Teachers consistently use instructional strategies that require students to apply knowledge and skills, integrate content and skills with other disciplines, and use technologies as instructional resources and learning tools.
- Level 3* Teachers plan and use instructional strategies that require student collaboration, self-reflection, and development of critical thinking skills. Teachers personalize instructional strategies and interventions to address individual learning needs of students when necessary. Teachers use instructional strategies that require students to apply knowledge and skills, integrate content and skills with other disciplines, and use technologies as instructional resources and learning tools.
- Level 2* Teachers sometimes use instructional strategies that require student collaboration, self-reflection, and development of critical thinking skills. Teachers personalize instructional strategies and interventions to address individual learning needs of groups of students when necessary. Teachers sometimes use instructional strategies that require students to apply knowledge and skills, integrate content and skills with other disciplines, and use technologies as instructional resources and learning tools.
- Level 1* Teachers rarely or never use instructional strategies that require student collaboration, self-reflection, and development of critical thinking skills. Teachers seldom or never personalize instructional strategies. Teachers rarely or never use instructional strategies that require students to apply knowledge and skills, integrate content and skills with other disciplines, and use technologies as instructional resources and learning tools.

Standard 3: Teaching and Assessing for Learning

INDICATOR 3.4

School leaders monitor and support the improvement of instructional practices of teachers to ensure student success.

- Level 4* School leaders formally and consistently monitor instructional practices through supervision and evaluation procedures beyond classroom observation to ensure that they 1) are aligned with the school's values and beliefs about teaching and learning, 2) are teaching the approved curriculum, 3) are directly engaged with all students in the oversight of their learning, and 4) use content-specific standards of professional practice.
- Level 3* School leaders formally and consistently monitor instructional practices through supervision and evaluation procedures to ensure that they 1) are aligned with the school's values and beliefs about teaching and learning, 2) are teaching the approved curriculum, 3) are directly engaged with all students in the oversight of their learning, and 4) use content-specific standards of professional practice.
- Level 2* School leaders monitor instructional practices through supervision and evaluation procedures to ensure that they 1) are aligned with the school's values and beliefs about teaching and learning, 2) are teaching the approved curriculum, 3) are directly engaged with all students in the oversight of their learning, and 4) use content-specific standards of professional practice.
- Level 1* School leaders occasionally or randomly monitor instructional practices through supervision and evaluation procedures to ensure that they 1) are aligned with the school's values and beliefs about teaching and learning, 2) are teaching the approved curriculum, 3) are directly engaged with all students in the oversight of their learning, and 4) use content-specific standards of professional practice.

Standard 3: Teaching and Assessing for Learning

INDICATOR 3.5

Teachers participate in collaborative learning communities to improve instruction and student learning.

- Level 4* All members of the school staff participate in collaborative learning communities that meet both informally and formally on a regular schedule. Frequent collaboration occurs across grade levels and content areas. Staff members implement a formal process that promotes productive discussion about student learning. Learning from, using, and discussing the results of inquiry practices such as action research, the examination of student work, reflection, study teams, and peer coaching are a part of the daily routine of school staff members. School personnel can clearly link collaboration to improvement results in instructional practice and student performance.
- Level 3* All members of the school staff participate in collaborative learning communities that meet both informally and formally. Collaboration often occurs across grade levels and content areas. Staff members have been trained to implement a formal process that promotes discussion about student learning. Learning from, using, and discussing the results of inquiry practices such as action research, the examination of student work, reflection, study teams, and peer coaching occur regularly among most school personnel. School personnel indicate that collaboration causes improvement results in instructional practice and student performance.
- Level 2* Some members of the school staff participate in collaborative learning communities that meet both informally and formally. Collaboration occasionally occurs across grade levels and content areas. Staff members promote discussion about student learning. Learning from, using, and discussing the results of inquiry practices such as action research, the examination of student work, reflection, study teams, and peer coaching sometimes occur among school personnel. School personnel express belief in the value of collaborative learning communities.
- Level 1* Collaborative learning communities randomly self-organize and meet informally. Collaboration seldom occurs across grade levels and content areas. Staff members rarely discuss student learning. Learning from, using, and discussing the results of inquiry practices such as action research, the examination of student work, reflection, study teams, and peer coaching rarely occur among school personnel. School personnel see little value in collaborative learning communities.

Standard 3: Teaching and Assessing for Learning

INDICATOR 3.6

Teachers implement the school's instructional process in support of student learning.

- Level 4* All teachers systematically use an instructional process that clearly informs students of learning expectations and standards of performance. Exemplars are provided to guide and inform students. The process requires the use of multiple measures, including formative assessments, to inform the ongoing modification of instruction and provide data for possible curriculum revision. The process provides students with specific and immediate feedback about their learning.
- Level 3* All teachers use an instructional process that informs students of learning expectations and standards of performance. Exemplars are often provided to guide and inform students. The process includes multiple measures, including formative assessments, to inform the ongoing modification of instruction and provide data for possible curriculum revision. The process provides students with specific and timely feedback about their learning.
- Level 2* Most teachers use an instructional process that informs students of learning expectations and standards of performance. Exemplars are sometimes provided to guide and inform students. The process may include multiple measures, including formative assessments, to inform the ongoing modification of instruction. The process provides students with feedback about their learning.
- Level 1* Few teachers use an instructional process that informs students of learning expectations and standards of performance. Exemplars are rarely provided to guide and inform students. The process includes limited measures to inform the ongoing modification of instruction. The process provides students with minimal feedback of little value about their learning.

Standard 3: Teaching and Assessing for Learning

INDICATOR 3.7

Mentoring, coaching, and induction programs support instructional improvement consistent with the school's values and beliefs about teaching and learning.

- Level 4* All school personnel are engaged in systematic mentoring, coaching, and induction programs that are consistent with the school's values and beliefs about teaching, learning, and the conditions that support learning. These programs set high expectations for all school personnel and include valid and reliable measures of performance.
- Level 3* School personnel are engaged in mentoring, coaching, and induction programs that are consistent with the school's values and beliefs about teaching, learning, and the conditions that support learning. These programs set expectations for all school personnel and include measures of performance.
- Level 2* Some school personnel are engaged in mentoring, coaching, and induction programs that are consistent with the school's values and beliefs about teaching, learning, and the conditions that support learning. These programs set expectations for school personnel.
- Level 1* Few or no school personnel are engaged in mentoring, coaching, and induction programs that are consistent with the school's values and beliefs about teaching, learning, and the conditions that support learning. Limited or no expectations for school personnel are included.

Standard 3: Teaching and Assessing for Learning

INDICATOR 3.8

The school engages families in meaningful ways in their children's education and keeps them informed of their children's learning progress.

- Level 4* Programs that engage families in meaningful ways in their children's education are designed, implemented, and evaluated. Families have multiple ways of staying informed of their children's learning progress.
- Level 3* Programs that engage families in meaningful ways in their children's education are designed and implemented. School personnel regularly inform families of their children's learning progress.
- Level 2* Programs that engage families in their children's education are available. School personnel provide information about children's learning.
- Level 1* Few or no programs that engage families in their children's education are available. School personnel provide little relevant information about children's learning.

Standard 3: Teaching and Assessing for Learning

INDICATOR 3.9

The school has a formal structure whereby each student is well known by at least one adult advocate in the school who supports that student's educational experience.

- Level 4* School personnel participate in a structure that gives them long-term interaction with individual students, allowing them to build strong relationships over time with the student and related adults. All students participate in the structure. The structure allows the school employee to gain significant insight into and serve as an advocate for the student's needs regarding learning skills, thinking skills, and life skills.
- Level 3* School personnel participate in a structure that gives them long-term interaction with individual students, allowing them to build strong relationships over time with the student. All students may participate in the structure. The structure allows the school employee to gain insight into and serve as an advocate for the student's needs regarding learning skills, thinking skills, and life skills.
- Level 2* School personnel participate in a structure that gives them interaction with individual students, allowing them to build relationships over time with the student. Most students participate in the structure. The structure allows the school employee to gain insight into the student's needs regarding learning skills, thinking skills, and life skills.
- Level 1* Few or no opportunities exist for school personnel to build long-term interaction with individual students. Few or no students have a school employee who advocates for their needs regarding learning skills, thinking skills, and life skills.

Standard 3: Teaching and Assessing for Learning

INDICATOR 3.10

Grading and reporting are based on clearly defined criteria that represent the attainment of content knowledge and skills and are consistent across grade levels and courses.

- Level 4* All teachers consistently use common grading and reporting policies, processes, and procedures based on clearly defined criteria that represent each student's attainment of content knowledge and skills. These policies, processes, and procedures are implemented without fail across all grade levels and all courses. All stakeholders are aware of the policies, processes, and procedures. The policies, processes, and procedures are formally and regularly evaluated.
- Level 3* Teachers use common grading and reporting policies, processes, and procedures based on clearly defined criteria that represent each student's attainment of content knowledge and skills. These policies, processes, and procedures are implemented consistently across grade levels and courses. Stakeholders are aware of the policies, processes, and procedures. The policies, processes, and procedures are regularly evaluated.
- Level 2* Most teachers use common grading and reporting policies, processes, and procedures based on criteria that represent each student's attainment of content knowledge and skills. These policies, processes, and procedures are implemented across grade levels and courses. Most stakeholders are aware of the policies, processes, and procedures. The policies, processes, and procedures may or may not be evaluated.
- Level 1* Few or no teachers use common grading and reporting policies, processes, and procedures. Policies, processes, and procedures, if they exist, are rarely implemented across grade levels or courses, and may not be well understood by stakeholders. No process for evaluation of grading and reporting practices is evident.

Standard 3: Teaching and Assessing for Learning

INDICATOR 3.11

All staff members participate in a continuous program of professional learning.

- Level 4* All staff members participate in a rigorous, continuous program of professional learning that is aligned with the school's purpose and direction. Professional development is based on an assessment of needs of the school and the individual. The program builds measurable capacity among all professional and support staff. The program is rigorously and systematically evaluated for effectiveness in improving instruction, student learning, and the conditions that support learning.
- Level 3* All staff members participate in a continuous program of professional learning that is aligned with the school's purpose and direction. Professional development is based on an assessment of needs of the school. The program builds capacity among all professional and support staff. The program is systematically evaluated for effectiveness in improving instruction, student learning, and the conditions that support learning.
- Level 2* Most staff members participate in a program of professional learning that is aligned with the school's purpose and direction. Professional development is based on the needs of the school. The program builds capacity among staff members who participate. The program is regularly evaluated for effectiveness.
- Level 1* Few or no staff members participate in professional learning. Professional development, when available, may or may not address the needs of the school or build capacity among staff members. If a program exists, it is rarely and/or randomly evaluated.

Standard 3: Teaching and Assessing for Learning

INDICATOR 3.12

The school provides and coordinates learning support services to meet the unique learning needs of students.

- Level 4* School personnel systematically and continuously use data to identify unique learning needs of all students at all levels of proficiency as well as other learning needs (such as second languages). School personnel stay current on research related to unique characteristics of learning (such as learning styles, multiple intelligences, personality type indicators) and provide or coordinate related individualized learning support services to all students.
- Level 3* School personnel use data to identify unique learning needs of all students at all levels of proficiency as well as other learning needs (such as second languages). School personnel stay current on research related to unique characteristics of learning (such as learning styles, multiple intelligences, personality type indicators) and provide or coordinate related learning support services to all students.
- Level 2* School personnel use data to identify unique learning needs of special populations of students based on proficiency and/or other learning needs (such as second languages). School personnel are familiar with research related to unique characteristics of learning (such as learning styles, multiple intelligences, personality type indicators) and provide or coordinate related learning support services to students within these special populations.
- Level 1* School personnel identify special populations of students based on proficiency and/or other learning needs (such as second languages). School personnel provide or coordinate some learning support services to students within these special populations.

Standard 4

Resources and Support Systems

The school has resources and provides services that support its purpose and direction to ensure success for all students.

INDICATOR 4.1

Qualified professional and support staff are sufficient in number to fulfill their roles and responsibilities necessary to support the school's purpose, direction, and the educational program.

- Level 4** Clearly defined policies, processes, and procedures ensure that school leaders have access to, hire, place, and retain qualified professional and support staff. School leaders use a formal, systematic process to determine the number of personnel necessary to fill all the roles and responsibilities necessary to support the school purpose, educational programs, and continuous improvement. Sustained fiscal resources are available to fund all positions necessary to achieve the purpose and direction of the school.
- Level 3** Policies, processes, and procedures ensure that school leaders have access to, hire, place, and retain qualified professional and support staff. School leaders systematically determine the number of personnel necessary to fill all the roles and responsibilities necessary to support the school purpose, educational programs, and continuous improvement. Sustained fiscal resources are available to fund positions critical to achieve the purpose and direction of the school.
- Level 2** Policies, processes, and procedures describe how school leaders are to access, hire, place, and retain qualified professional and support staff. School leaders determine the number of personnel necessary to fill the roles and responsibilities necessary to support the school purpose, educational programs, and continuous improvement. Sustained fiscal resources are available to fund most positions critical to achieve the purpose and direction of the school.
- Level 1** Policies, processes, and procedures are often but not always followed by school leaders to access, hire, place, and retain qualified professional and support staff. School leaders attempt to fill the roles and responsibilities necessary to support the school purpose, educational programs, and continuous improvement. Sustained fiscal resources rarely are available to fund positions critical to achieve the purpose and direction of the school.

Standard 4: Resources and Support Systems

INDICATOR 4.2

Instructional time, material resources, and fiscal resources are sufficient to support the purpose and direction of the school.

- Level 4* Instructional time, material resources, and fiscal resources are focused solely on supporting the purpose and direction of the school. Instructional time is fiercely protected in policy and practice. School leaders exhaust every option to secure material and fiscal resources to meet the needs of all students. School leaders measurably demonstrate that instructional time, material resources, and fiscal resources are allocated so that all students have equitable opportunities to attain challenging learning expectations. Efforts toward the continuous improvement of instruction and operations concentrate on achieving the school's purpose and direction.
- Level 3* Instructional time, material resources, and fiscal resources are focused on supporting the purpose and direction of the school. Instructional time is protected in policy and practice. School leaders work to secure material and fiscal resources to meet the needs of all students. School leaders demonstrate that instructional time, material resources, and fiscal resources are allocated so that all students have equitable opportunities to attain challenging learning expectations. Efforts toward the continuous improvement of instruction and operations include achieving the school's purpose and direction.
- Level 2* Instructional time, material resources, and fiscal resources are sometimes focused on supporting the purpose and direction of the school. Instructional time is usually protected. School leaders attempt to secure material and fiscal resources to meet the needs of all students. School leaders express a desire to allocate instructional time, material resources, and fiscal resources so that all students have equitable opportunities to attain challenging learning expectations. Efforts toward the continuous improvement of instruction and operations sometimes include achieving the school's purpose and direction.
- Level 1* Little or no link exists between the purpose of the school and instructional time, material resources, and fiscal resources. Protection of instructional time is not a priority. School leaders use available material and fiscal resources to meet the needs of students. School leaders spend little or no effort allocating instructional time, material resources, and fiscal resources so that all students have equitable opportunities to attain challenging learning expectations. Efforts toward the continuous improvement of instruction and operations rarely or never include achievement of the school's purpose and direction.

Standard 4: Resources and Support Systems

INDICATOR 4.3

The school maintains facilities, services, and equipment to provide a safe, clean, and healthy environment for all students and staff.

- Level 4* School leaders have adopted or collaboratively created clear definitions and expectations for maintaining safety, cleanliness, and a healthy environment and have shared these definitions and expectations with all stakeholders. All school personnel and students are accountable for maintaining these expectations. Valid measures are in place that allow for continuous tracking of these conditions. Improvement plans are developed and implemented by appropriate personnel to continuously improve these conditions. The results of improvement efforts are systematically evaluated regularly.
- Level 3* School leaders have adopted or created clear expectations for maintaining safety, cleanliness, and a healthy environment and have shared these definitions and expectations with stakeholders. School personnel and students are accountable for maintaining these expectations. Measures are in place that allow for continuous tracking of these conditions. Improvement plans are developed and implemented by appropriate personnel as necessary to improve these conditions. Results of improvement efforts are evaluated.
- Level 2* School leaders have some expectations for maintaining safety, cleanliness, and a healthy environment and have shared these definitions and expectations with most stakeholders. Selected school personnel are accountable for maintaining these expectations. Some measures are in place that allow for tracking of these conditions. Personnel work to improve these conditions. Results of improvement efforts are monitored.
- Level 1* School leaders have few or no expectations for maintaining safety, cleanliness, and a healthy environment. Stakeholders are generally unaware of any existing definitions and expectations. Little or no accountability exists for maintaining these expectations. Few or no measures that assess these conditions are in place. Few or no personnel work to improve these conditions.

Standard 4: Resources and Support Systems

INDICATOR 4.4

Students and school personnel use a range of media and information resources to support the school's educational programs.

- Level 4* All students and school personnel have access to an exceptional collection of media and information resources necessary to achieve the educational programs of the school. Qualified personnel in sufficient numbers are available to assist students and school personnel in learning about the tools and locations for finding and retrieving information.
- Level 3* Students and school personnel have access to media and information resources necessary to achieve the educational programs of the school. Qualified personnel are available to assist students and school personnel in learning about the tools and locations for finding and retrieving information.
- Level 2* Students and school personnel have access to media and information resources necessary to achieve most of the educational programs of the school. Personnel are available to assist students and school personnel in learning about the tools and locations for finding and retrieving information.
- Level 1* Students and school personnel have access to limited media and information resources necessary to achieve most of the educational programs of the school. Limited assistance may be available for students and school personnel to learn about the tools and locations for finding and retrieving information.

Standard 4: Resources and Support Systems

INDICATOR 4.5

The technology infrastructure supports the school's teaching, learning, and operational needs.

- Level 4* The technology infrastructure is modern, fully functional, and meets the teaching, learning, and operational needs of all stakeholders. School personnel develop and administer needs assessments and use the resulting data to develop and implement a technology plan to continuously improve technology services and infrastructure.
- Level 3* The technology infrastructure meets the teaching, learning, and operational needs of all stakeholders. School personnel develop and administer needs assessments and use the resulting data to develop and implement a technology plan to improve technology services and infrastructure.
- Level 2* The technology infrastructure meets the teaching, learning, and operational needs of most stakeholders. School personnel have a technology plan to improve technology services and infrastructure.
- Level 1* The technology infrastructure meets the teaching, learning, and operational needs of few stakeholders. A technology plan, if one exists, addresses some technology services and infrastructure needs.

Standard 4: Resources and Support Systems

INDICATOR 4.6

The school provides support services to meet the physical, social, and emotional needs of the student population being served.

Level 4 School personnel implement a clearly defined process to determine the physical, social, and emotional needs of each student in the school. School personnel provide or coordinate programs to meet the needs of all students. Valid and reliable measures of program effectiveness are in place, and school personnel use the data from these measures to regularly evaluate all programs. Improvement plans related to these programs are designed and implemented to more effectively meet the needs of all students.

Level 3 School personnel implement a process to determine the physical, social, and emotional needs of each student in the school. School personnel provide or coordinate programs to meet the needs of students as necessary. Measures of program effectiveness are in place, and school personnel use the data from these measures to evaluate all programs. Improvement plans related to these programs are designed and implemented when needed to more effectively meet the needs of students.

Level 2 School personnel endeavor to determine the physical, social, and emotional needs of students in the school. School personnel provide or coordinate programs to meet the needs of students when possible. School personnel evaluate all programs. Improvement plans related to these programs are sometimes designed and implemented to meet the needs of students.

Level 1 School personnel attempt to determine the physical, social, and emotional needs of some students in the school. School personnel sometimes provide or coordinate programs to meet the needs of students. School personnel rarely or never evaluate programs. Improvement plans related to these programs are rarely or never developed.

Standard 4: Resources and Support Systems

INDICATOR 4.7

The school provides services that support the counseling, assessment, referral, educational, and career planning needs of all students.

- Level 4* School personnel implement a clearly defined, systematic process to determine the counseling, assessment, referral, educational, and career planning needs of all students. School personnel provide or coordinate programs necessary to meet the needs of all students. Valid and reliable measures of program effectiveness are in place, and school personnel use the data from these measures to regularly evaluate all programs. Improvement plans related to these programs are designed and implemented to more effectively meet the needs of all students.
- Level 3* School personnel implement a process to determine the counseling, assessment, referral, educational, and career planning needs of all students. School personnel provide or coordinate programs necessary to meet the needs of students whenever possible. Measures of program effectiveness are in place, and school personnel use the data from these measures to evaluate all programs. Improvement plans related to these programs are designed and implemented when needed to more effectively meet the needs of students.
- Level 2* School personnel endeavor to determine the counseling, assessment, referral, educational, and career planning needs of students in the school. School personnel provide or coordinate programs to meet the needs of students when possible. School personnel evaluate all programs. Improvement plans related to these programs are sometimes designed and implemented to meet the needs of students.
- Level 1* School personnel attempt to determine the counseling, assessment, referral, educational, and career planning needs of some students in the school. School personnel sometimes provide or coordinate programs to meet the needs of students. School personnel rarely or never evaluate programs. Improvement plans related to these programs are rarely or never developed.

Standard 5

Using Results for Continuous Improvement

The school implements a comprehensive assessment system that generates a range of data about student learning and school effectiveness and uses the results to guide continuous improvement.

INDICATOR 5.1

The school establishes and maintains a clearly defined and comprehensive student assessment system.

- Level 4* School personnel maintain and consistently use a comprehensive assessment system that produces data from multiple assessment measures, including locally developed and standardized assessments about student learning and school performance. The system ensures consistent measurement across all classrooms and courses. All assessments are proven reliable and bias free. The system is regularly and systematically evaluated for reliability and effectiveness in improving instruction, student learning, and the conditions that support learning.
- Level 3* School personnel maintain and use an assessment system that produces data from multiple assessment measures, including locally developed and standardized assessments about student learning and school performance. The system ensures consistent measurement across classrooms and courses. Most assessments, especially those related to student learning, are proven reliable and bias free. The system is regularly evaluated for reliability and effectiveness in improving instruction, student learning, and the conditions that support learning.
- Level 2* School personnel use an assessment system that produces data from multiple assessment measures about student learning and school performance. The system generally provides consistent measurement across classrooms and courses. Some assessments, especially those related to student learning, are proven reliable and bias free. The system is evaluated for effectiveness in improving instruction, student learning, and the conditions that support learning.
- Level 1* School personnel maintain an assessment system that produces data from assessment measures about student learning and school performance. The system provides a limited degree of consistent measurement across classrooms and courses. Assessments are seldom proven reliable and bias free. The system is rarely or never evaluated for effectiveness in improving instruction, student learning, and the conditions that support learning.
-

Standard 5: Using Results for Continuous Improvement

INDICATOR 5.2

Professional and support staff continuously collect, analyze, and apply learning from a range of data sources, including comparison and trend data about student learning, instruction, program evaluation, and organizational conditions.

- Level 4* Systematic processes and procedures for collecting, analyzing, and applying learning from all data sources are documented and used consistently by professional and support staff. Data sources include comparison and trend data that provide a comprehensive and complete picture of student learning, instruction, the effectiveness of programs, and the conditions that support learning. All school personnel use data to design, implement, and evaluate continuous improvement plans to improve student learning, instruction, the effectiveness of programs, and organizational conditions.
- Level 3* Systematic processes and procedures for collecting, analyzing, and applying learning from multiple data sources are used consistently by professional and support staff. Data sources include comparison and trend data that provide a complete picture of student learning, instruction, the effectiveness of programs, and the conditions that support learning. School personnel use data to design, implement, and evaluate continuous improvement plans to improve student learning, instruction, the effectiveness of programs, and organizational conditions.
- Level 2* Some processes and procedures for collecting, analyzing, and applying learning from data sources are used by professional and support staff. Data sources include limited comparison and trend data about student learning, instruction, the effectiveness of programs, and organizational conditions. School personnel use data to design, implement, and evaluate continuous improvement plans.
- Level 1* Few or no processes and procedures for collecting, analyzing, and applying learning from data sources are used by professional and support staff. Data sources include little or no comparison and trend data about student learning, instruction, the effectiveness of programs, and organizational conditions. School personnel rarely use data to design and implement continuous improvement plans.

Standard 5: Using Results for Continuous Improvement

INDICATOR 5.3

Professional and support staff are trained in the evaluation, interpretation, and use of data.

- Level 4* All professional and support staff members are regularly and systematically assessed and trained in a rigorous, individualized professional development program related to the evaluation, interpretation, and use of data.
- Level 3* All professional and support staff members are assessed and trained in a rigorous professional development program related to the evaluation, interpretation, and use of data.
- Level 2* Most professional and support staff members are assessed and trained in a professional development program related to the evaluation, interpretation, and use of data.
- Level 1* Few or no professional and support staff members are trained in the evaluation, interpretation, and use of data.

Standard 5: Using Results for Continuous Improvement

INDICATOR 5.4

The school engages in a continuous process to determine verifiable improvement in student learning, including readiness for and success at the next level.

- Level 4* Policies and procedures clearly define and describe a process for analyzing data that determine verifiable improvement in student learning including readiness for and success at the next level. Results indicate significant improvement, and school personnel systematically and consistently use these results to design, implement, and evaluate the results of continuous improvement action plans related to student learning, including readiness for and success at the next level.
- Level 3* Policies and procedures describe a process for analyzing data that determine verifiable improvement in student learning, including readiness for and success at the next level. Results indicate improvement, and school personnel consistently use these results to design, implement, and evaluate the results of continuous improvement action plans related to student learning, including readiness for and success at the next level.
- Level 2* A process exists for analyzing data that determine improvement in student learning, including readiness for and success at the next level. Results indicate mixed levels of improvement, and school personnel sometimes use these results to design, implement, and evaluate the results of continuous improvement action plans related to student learning, including readiness for and success at the next level.
- Level 1* An incomplete or no process exists for analyzing data that determine improvement in student learning, including readiness for and success at the next level. Results indicate no improvement, and school personnel rarely use results to design and implement continuous improvement action plans related to student learning, including readiness for and success at the next level.

Standard 5: Using Results for Continuous Improvement

INDICATOR 5.5

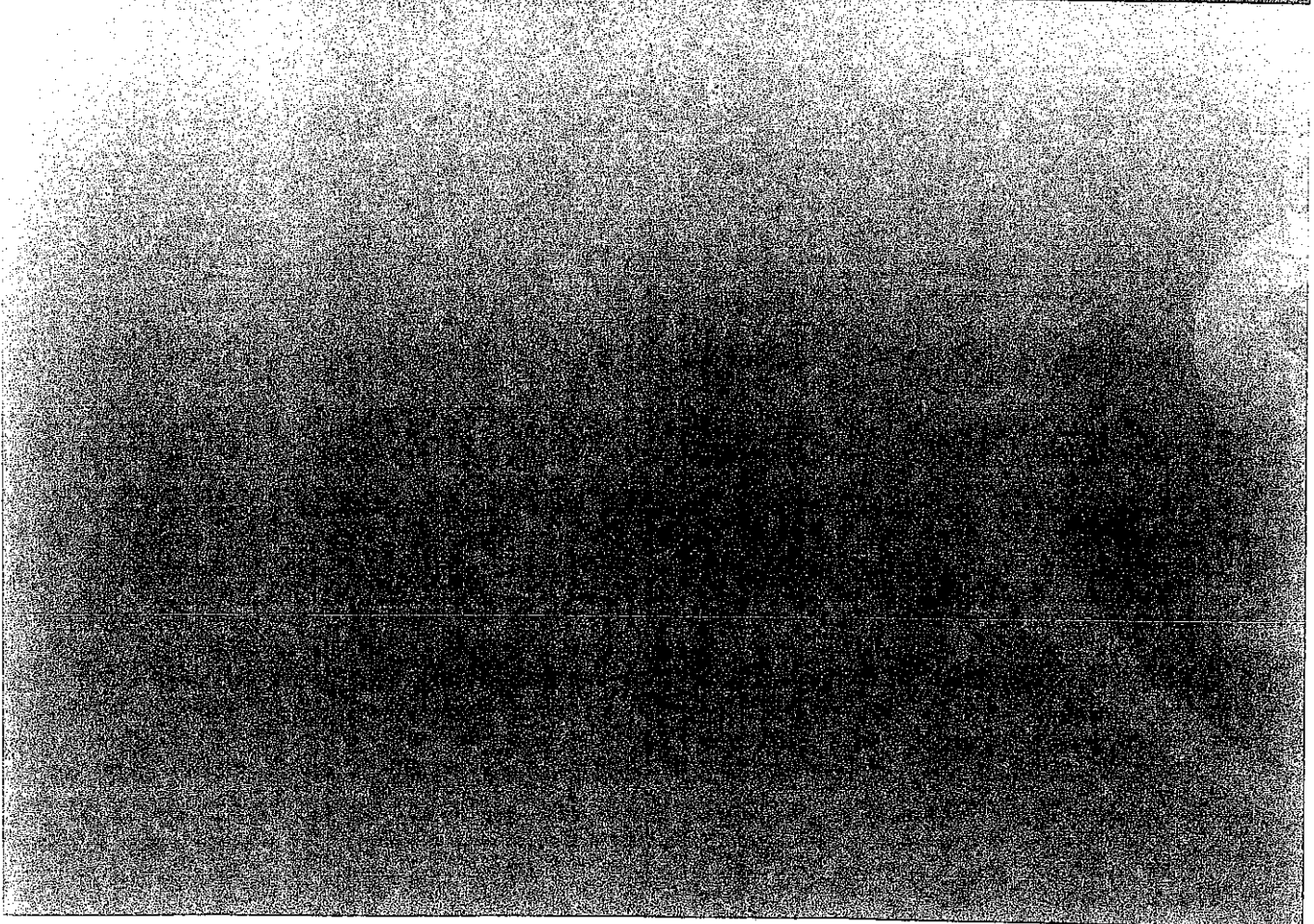
Leadership monitors and communicates comprehensive information about student learning, conditions that support student learning, and the achievement of school improvement goals to stakeholders.

- Level 4* Leaders monitor comprehensive information about student learning, conditions that support student learning, and the achievement of school improvement goals. Leaders regularly communicate results using multiple delivery methods and in appropriate degrees of sophistication for all stakeholder groups.
- Level 3* Leaders monitor comprehensive information about student learning, conditions that support student learning, and the achievement of school improvement goals. Leaders regularly communicate results using multiple delivery methods to all stakeholder groups.
- Level 2* Leaders monitor information about student learning, conditions that support student learning, and the achievement of school improvement goals. Leaders communicate results to all stakeholder groups.
- Level 1* Leaders monitor some information about student learning, conditions that support student learning, and the achievement of school improvement goals. Leaders sometimes communicate results to stakeholders.



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Humboldt Unified School District



Middle School Math Department Resource Document 2013-2014

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Unit 11:	Systems of linear equations	17 days
Unit 12:	Exponents and scientific notation	11 days
Unit 13:	Geometric relationships	11 days
Unit 14:	Volume of cones, spheres, and cylinders	12 days

Instructional Schedule Pre-Algebra Grade 7

Quarter 1

- Unit 1: Proportional reasoning
- Unit 2: Proportional relationships
- Unit 3: Proportional reasoning with percents
- ½ of Unit 4: Rational number operations — additional and subtraction

Quarter 2

- ½ of Unit 4: Rational number operations — additional and subtraction
- Unit 5: Rational number operations—multiplication and division
- Unit 6: Solving equations
- Unit 7: Solving equations and inequalities

Quarter 3

- Unit 8: Probability of simple events
- Unit 9: Probability of compound events
- Unit 10: Sampling, inferences, and comparing populations
- ½ of Unit 11: 2 D figures

Quarter 4

- ½ of Unit 11: 2 D figures
- Unit 12: 3 D figures
- Unit 13: Scale drawings
- Unit 14: Geometric constructions

Year at a Glance Algebra Grade 8

Quarter 1

- Unit 1: Introducing transformations
- Unit 2: Understanding congruence through transformations
- Unit 3: Understanding similarity
- ½ of Unit 4: Rational and irrational numbers

Quarter 2

- ½ of Unit 4: Rational and irrational numbers
- Unit 5: Pythagorean theorem
- Unit 6: Functions
- Unit 7: Introduction to linearity

Quarter 3

- Unit 8: Patterns of association in bivariate data
- Unit 9: Nonlinear functions
- Unit 10: Solving linear equations
- ½ of Unit 11: Systems of linear equations

Quarter 4

- ½ of Unit 11: Systems of linear equations
- Unit 12: Exponents and scientific notation
- Unit 13: Geometric relationships
- Unit 14: Volume of cones, spheres, and cylinders

Assessment Pacing Guides

Assessment Pacing guides are aligned to Common Core Standards. These pacing guides will be used to create Galileo End of Quarter Assessments.

The assessments will be administered as such:

1. Pre-Assessment CBAS
2. Quarter 1 SBA
3. Quarter 2 SBA
4. Quarter 3 SBA
5. Post-Assessment CBAS

These assessments will be used to help teachers evaluate instruction and mastery of standards taught during each quarter.

The Pre/Post. November and February CBAS assessments will cover the entire grade level material.

7th Grade Assessment Pacing Guide: Quarter 1

Q1	Q2	Q3	Rates and Proportion	
x			7.RP.1	Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units.
x				a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin.
x				b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.
x				c. Represent proportional relationships by equations.
x				d. Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points $(0, 0)$ and $(1, r)$ where r is the unit rate.
x		x	7.RP.3	Use proportional relationships to solve multistep ratio and percent problems.
			Number Sense	
x	x		7.NS.2	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.
x	x			b. Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then $-(p/q) = (-p)/q = p/(-q)$. Interpret quotients of rational numbers by describing real-world contexts.
x	x		7.NS.3	Solve real-world and mathematical problems involving the four operations with rational numbers. (Computations with rational numbers extend the rules for manipulating fractions to complex fractions.)
			Expressions and Proportions	
x	x		7.EE.3	Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. <i>For example: if a woman making \$25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or \$2.50, for a new salary of \$27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.</i>
			Expressions and Proportions	
x	x		7.EE.4	Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities. a. Solve word problems leading to equations of the form $px+q=r$ and $p(x+q)=r$, where p , q , r and x are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. <i>For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width?</i>

7th Grade Assessment Pacing Guide: Quarter 2

Q1	Q2	Q3	Number Sense
	x		Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram.
	x		<p>a. Describe situations in which opposite quantities combine to make 0. For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged.</p> <p>b. Understand $p + q$ as the number located a distance q from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts.</p> <p>c. Understand subtraction of rational numbers as adding the additive inverse, $p - q = p + (-q)$. Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts.</p> <p>d. Apply properties of operations as strategies to add and subtract rational numbers.</p>
x	x		Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.
	x		<p>a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as $(-1)(-1) = 1$ and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts.</p> <p>c. Apply properties of operations as strategies to multiply and divide rational numbers.</p>
x	x		Solve real-world and mathematical problems involving the four operations with rational numbers. (Computations with rational numbers extend the rules for manipulating fractions to complex fractions.)
			Expressions and Proportions
	x		Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.
	x		Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related. For example, $a + 0.05a = 1.05a$ means that "increase by 5%" is the same as "multiply by 1.05."
x	x		Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. For example: If a woman making \$25 an hour gets a 10% raise, she will make an additional $1/10$ of her salary an hour, or \$2.50, for a new salary of \$27.50. If you want to place a towel bar $9\frac{3}{4}$ inches long in the center of a door that is 27 $1/2$ inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.
			Expressions and Proportions
x	x		Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.
x	x		a. Solve word problems leading to equations of the form $px + q = r$ and $p(x + q) = r$, where p , q , and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width?

b. Solve word problems leading to inequalities of the form $px+q>r$ or $px+q<r$, where p , q , and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem. For example: As a salesperson, you are paid \$50 per week plus \$3 per sale. This week you want your pay to be at least \$100. Write an inequality for the number of sales you need to make, and describe the solutions.

x

7th Grade Assessment Pacing Guide: Quarter 3

Q1	Q2	Q3	Statistics and Probability
		x	Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and support valid inferences.
		x	Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions. For example, estimate the mean word length in a book by randomly sampling words from the book; predict the winner of a school election based on randomly sampled survey data. Gauge how far off the estimate or prediction might be.
		x	Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability. For example, the mean height of players on the basketball team is 10 cm greater than the mean height of players on the soccer team, about twice the variability (mean absolute deviation) on either team; on a dot plot, the separation between the two distributions of heights is noticeable.
		x	Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations. For example, decide whether the words in a chapter of a seventh-grade science book are generally longer than the words in a chapter of a fourth-grade science book.
		x	Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around $\frac{1}{2}$ indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event.
Q1	Q2	Q3	Statistics and Probability
		x	Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability. For example, when rolling a number cube 600 times, predict that a 3 or 6 would be rolled roughly 200 times, but probably not exactly 200 times.
		x	Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy.
		x	<ul style="list-style-type: none"> a. Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events. For example, if a student is selected at random from a class, find the probability that Jane will be selected and the probability that a girl will be selected. b. Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process. For example, find the approximate probability that a spinning penny will land heads up or that a tossed paper cup will land open-end down. Do the outcomes for the spinning penny appear to be equally likely based on the observed frequencies?
		x	Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation.
		x	<ul style="list-style-type: none"> a. Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs. b. Represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams. For an event described in everyday language (e.g., "rolling double sixes"), identify the outcomes in the sample space which compose the event. c. Design and use a simulation to generate frequencies for compound events. For example, use random digits as a simulation tool to approximate the answer to the question: If 40% of donors have type A blood, what is the probability that it will take at least 4 donors to find one with type A blood?

8th Grade Assessment Pacing Guide: Quarter 1

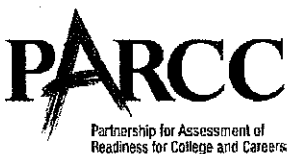
Q1	Q2	Q3	Geometry
x			Verify experimentally the properties of rotations, reflections, and translations:
x			8.G.1
x			a. Lines are taken to lines, and line segments to line segments of the same length.
x			b. Angles are taken to angles of the same measure.
x			c. Parallel lines are taken to parallel lines.
x			Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a sequence that exhibits the congruence between them.
x			8.G.2
x			Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.
x			8.G.3
x			Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations; given two similar two-dimensional figures, describe a sequence that exhibits the similarity between them.
x			8.G.4

8th Grade Assessment Pacing Guide: Quarter 2

Q1	Q2	Q3	Number Sense
	x		8.NS.1 Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number.
	x		8.NS.2 Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., p^2). For example, by truncating the decimal expansion of $\sqrt{2}$, show that $\sqrt{2}$ is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations.
			Expressions and Equations
	x		8.EE.2 Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that $\sqrt{2}$ is irrational. (order of operations)
	x		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. For example, compare a distance-time graph to a distance-time equation to determine which of two moving objects has greater speed.
	x		8.EE.6 Use similar triangles to explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation $y = mx$ for a line through the origin and the equation $y = mx + b$ for a line intercepting the vertical axis at b .
			Functions
	x		8.F.1 Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output. (Function notation is not required in Grade 8.)
	x		8.F.2 Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression, determine which function has the greater rate of change.
	x		8.F.4 Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values.
	x	x	8.F.5 Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally.
			Geometry
	x		8.G.6 Explain a proof of the Pythagorean Theorem and its converse.
	x		8.G.7 Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions.
	x		8.G.8 Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.

8th Grade Assessment Pacing Guide: Quarter 3

		Expressions and Equations	
Q1	Q2	Q3	
		x	8.EE.7 Solve linear equations in one variable. a. Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form $x = a$, $a = a$, or $a = b$ results (where a and b are different numbers). b. Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.
		x	
		x	
			Functions
		x	8.F.3 Interpret the equation $y = mx + b$ as defining a linear function, whose graph is a straight line; give examples of functions that are not linear. For example, the function $A = s^2$ giving the area of a square as a function of its side length is not linear because its graph contains the points (1,1), (2,4) and (3,9), which are not on a straight line.
			Statistics and Probability
		x	8.SP.1 Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association. Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the data points to the line.
		x	8.SP.2 Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. For example, in a linear model for a biology experiment, interpret a slope of 1.5 cm/hr as meaning that an additional hour of sunlight each day is associated with an additional 1.5 cm in mature plant height.
		x	8.SP.3 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. Use relative frequencies calculated for rows or columns to describe possible association between the two variables. For example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is there evidence that those who have a curfew also tend to have chores?
		x	8.SP.4



Grade 7

1 inch = 2.54 centimeters
 1 meter = 39.37 inches
 1 mile = 5,280 feet
 1 mile = 1,760 yards
 1 mile = 1.609 kilometers

1 kilometer = 0.62 mile
 1 pound = 16 ounces
 1 pound = 0.454 kilograms
 1 kilogram = 2.2 pounds
 1 ton = 2,000 pounds

1 cup = 8 fluid ounces
 1 pint = 2 cups
 1 quart = 2 pints
 1 gallon = 4 quarts
 1 gallon = 3.785 liters
 1 liter = 0.264 gallons
 1 liter = 1000 cubic centimeters

Triangle	$A = \frac{1}{2}bh$
Parallelogram	$A = bh$
Circle	$A = \pi r^2$
Circle	$C = \pi d$ or $C = 2\pi r$
General Prisms	$V = Bh$

Grade 8

1 inch = 2.54 centimeters
 1 meter = 39.37 inches
 1 mile = 5,280 feet
 1 mile = 1,760 yards
 1 mile = 1.609 kilometers

1 kilometer = 0.62 mile
 1 pound = 16 ounces
 1 pound = 0.454 kilograms
 1 kilogram = 2.2 pounds
 1 ton = 2,000 pounds

1 cup = 8 fluid ounces
 1 pint = 2 cups
 1 quart = 2 pints
 1 gallon = 4 quarts
 1 gallon = 3.785 liters
 1 liter = 0.264 gallons
 1 liter = 1000 cubic centimeters

Triangle	$A = \frac{1}{2}bh$
Parallelogram	$A = bh$
Circle	$A = \pi r^2$
Circle	$C = \pi d$ or $C = 2\pi r$
General Prisms	$V = Bh$
Cylinder	$V = \pi r^2 h$
Sphere	$V = \frac{4}{3}\pi r^3$
Cone	$V = \frac{1}{3}\pi r^2 h$
Pythagorean Theorem	$a^2 + b^2 = c^2$

Scope and Sequence for the Arizona State Common Core Standards In Standards
Grade 7

In Grade 6, students developed an understanding of variables from two perspectives – as placeholders for specific values as representing sets of values represented in algebraic. They applied properties of operations to write and solve one-step equations. By the end of Grade 6, students were fluent in all positive rational number operations, and they developed a solid foundation for understanding area, surface area, and volume of geometric figures. The Grade 7 course outlines in this scope and sequence document builds on Grade 6 work by extending students' understanding of ratio to a more formal understanding of rate and its application with percent. Students extend their understanding of operations with rational numbers to include negative rational numbers. Students then continue the work they started in Grade 6 in writing expressions and equations, laying the groundwork for their Grade 8 work with functions. The course then turns to more formal methods for writing and solving multi-step equations and inequalities. Students also build on the Grade 6 work with proportional reasoning as they learn to scale 2-dimensional figures and to apply proportional reasoning to probability and statistical situations. Students gain fluency with area, surface area, and volume of 2- and 3-dimensional shapes composed of polygons, including right prisms and pyramids. They use the formulas for area and circumference of a circle to solve problems and understand the relationships among the components of a circle. The final unit of study lays the groundwork for high school Geometry as students investigate informal proofs of key geometric relationships among triangles.

This document reflects our current thinking related to the intent of the Common Core State Standards for Mathematics (CCSSM) and assumes 160 days for instruction, divided among 14 units. The number of days suggested for each unit assumes 45-minute class periods and is included to convey how instructional time should be balanced across the year. The units are sequenced in a way that we believe best develops and connects the mathematical content described in the CCSSM; however, the order of the standards included in any unit does not imply a sequence of content within that unit. Some standards may be revisited several times during the course; others may be only partially addressed in different units, depending on the focus of the unit. Strikethroughs in the text of the standards are used in some cases in an attempt to convey that focus, and comments are included throughout the document to clarify and provide additional background for each unit.

Throughout Grade 7, students should continue to develop proficiency with the Common Core's eight Standards for Mathematical Practice:

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

These practices should become the natural way in which students come to understand and do mathematics. While, depending on the content to be understood or on the problem to be solved, and practice might be brought to bear, some practices may prove more useful than others. Opportunities for highlighting certain practices are indicated in different units in this document, but this highlighting should not be interpreted to mean that other practices should be neglected in those units.

These materials are based on sample sequenced units documents developed by the Charles A. Dana Center at The University of Texas at Austin, originally published on the Mathematics Common Core Toolbox (www.ccsstoolbox.org), and may no longer reflect the Center's opinions.

Unit 1: Proportional Reasoning	Suggested number of days: 11
<p>In this unit, students investigate and solve problems involving rates. As parts of this work, students apply positive rational number operations to write and solve equations of the form $px + q = r$ and $p(x + q) = r$ in which $q = 0$ (i.e., 1-step equations), thereby reinforcing their Grade 6 work in writing and solving equations (6.EE.B.7).¹</p> <p>Common Core State Standards for Mathematical Content</p> <p>Ratios and Proportional Relationships – 7.RP</p> <p>A. Analyze proportional relationships and use them to solve real-world and mathematical problems.</p> <ol style="list-style-type: none"> 1. Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. <i>For example, if a person walks $\frac{1}{2}$ mile in each $\frac{1}{4}$ hour, compute the unit rate as the complex fraction $\frac{1/2}{1/4}$ miles per hour, equivalently 2 miles per hour.</i> <p>The Number System – 7.NS</p> <p>A. Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.</p> <ol style="list-style-type: none"> 2. Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. <ol style="list-style-type: none"> a. Convert a rational number to a decimal using long division; know that the number form of a rational number terminates in 0s or eventually repeats. 3. Solve real-world and mathematical problems involving the four operations with rational numbers.¹ <p>NOTE:¹ Computations with rational numbers extend the rules for manipulating fractions to complex fractions.</p> <p>Expressions and Equations – 7.EE</p> <p>B. Solve real-life and mathematical problems using numerical and algebraic expressions and equations.</p> <ol style="list-style-type: none"> 4. Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities. <ol style="list-style-type: none"> a. Solve word problems leading to equations of the form $px + q = r$ and $p(x + q) = r$, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. <i>For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width?</i> <p>Geometry – 7.G</p> <p>A. Draw, construct, and describe geometric figures and describe the relationships between them.</p> <ol style="list-style-type: none"> 1. Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale. 	<p>Comments</p> <p>In this unit, all work. With 7.NS.A.3 focuses on positive complex fractions. Negative rational numbers will be addressed in units 4-7.</p> <p>7.RP.A.1 and 7.NS.A.3 are closely connected because they both deal with complex fractions.</p> <p>Since every ratio has an associated unit rate, this is an appropriate place to include conversion of rational numbers to decimals (7.NS.A.2d): for example, if Rachel can walk 2 miles in 3 hours, she can walk $\frac{2}{3}$ mile in one hour. This fraction can be expressed by the decimal 0.6.</p> <p>The equations (7.EE.B.4a) in this unit are strictly one step. Students will solve problems leading to inequalities in unit 7.</p> <p>Work with scale drawings (7.G.A.1) should be included as an instance of proportional reasoning. Since area relationships in scale drawings are not proportional, they will be addressed in unit 13.</p>

Common Core State Standards For Mathematical Practice

- 2. Reason abstractly and quantitatively.
- 5. Use appropriate tools strategically.
- 6. Attend to precision

In this unit, students use appropriate tools (e.g. tables, graphs, equations and verbal descriptions) strategically (**MP.5**) to solve problems dealing with proportional reasoning. They also attend to precision (**MP.6**) and reason abstractly and quantitatively (**MP.2**) as they write and solve 1-step equations.

Suggested number of days: 12	
<p>Unit 2: Proportional Relationships The standards in this unit are a critical area for this grade. They build on the work of the previous unit to reinforce and formalize understanding of proportional relationships. This unit also builds foundational understandings for slope that will be formalized in Grade 8.</p>	
<p>Common Core State Standards for Mathematical Content</p>	
<p>Ratios and Proportional Relationships – 7.RP</p>	
<p>A. Analyze proportional relationships and use them to solve real-world and mathematical problems.</p> <p>2. Recognize and represent proportional relationships between quantities.</p> <p>a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin.</p> <p>b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.</p> <p>c. Represent proportional relationships by equations. <i>For example, if total cost is proportional to the number n of the items purchased at a constant price p, the relationship between the total cost and the number of items can be expressed as $t=pn$.</i></p> <p>d. Explain what a point (x,y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points $(0, 0)$ and $(1, r)$ where r is the unit rate.</p>	<p>Comments</p> <p>Students model with mathematics (MP.4) and attend to precision (MP.6) as they look for and express repeated reasoning (MP.8) by generating various representations of proportional relationships and use those representations to identify and describe constants of proportionality.</p>
<p>Common Core State Standards for Mathematical Practice</p>	
<p>4. Model with mathematics.</p> <p>6. Attend to precision.</p> <p>8. Look for and express regularity in repeated reasoning.</p>	

Suggested number of days: 10	Unit 3: Proportional reasoning with percent
<p>This unit builds on the previous unit as it extends students' understanding of ratio and rate reasoning to percents. Students also write and solve 1-step equations as part of their work with percents; for example, the question "If Kevin paid a total of 13.50, including 8% sales tax, what was the price of the item he purchased?" can be represented by the equation $1.08x=13.50$.</p>	
<p>Common Core State Standards for Mathematical Content Ratios and Proportional Relationships – 7.RP</p> <p>A. Analyze proportional relationships and use them to solve real-world and mathematical problems.</p> <p>3. Use proportional relationships to solve multi-step ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error.</p>	
<p>Expressions and Equations – 7.EE</p> <p>B. Solve real-life and mathematical problems using numerical and algebraic expressions.</p> <p>3. Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. For example: If a woman making \$25 an hour gets a 10% raise, she will make an additional $\frac{1}{10}$ of her salary an hour, or \$2.50, for a new salary of \$27.50. If you want to place a towel bar $9\frac{3}{4}$ inches long in the center of a door that is $27\frac{1}{2}$ inches wide, you will need to place the bar 9 inches from each edge; this estimate can be used as a check on the exact computation.</p>	
<p>Common Core State Standards for Mathematical Practice</p> <p>1. Make sense of problems and persevere in solving them.</p> <p>2. Reason abstractly and quantitatively.</p> <p>5. Use appropriate tools strategically.</p>	
<p>Comments</p> <p>7.RP.A.3 will be reinforced in units 8 and 9.</p> <p>7.EE.B.3 is a major capstone standard for arithmetic and its applications. In this unit, it should only involve positive rational numbers. Work with negative rational numbers will be introduced in units 4 and 5.</p> <p>The content standards in this unit specify that students use tools strategically (MP.5) as they solve multi-step real-life mathematical problems (MP.1) using numerical and algebraic expressions (MP.2).</p>	

Unit 4: Rational numbers operations – addition and subtraction	Suggested number of days: 12
<p>The purpose of this unit is to provide an opportunity for students to reinforce and extend their understanding of addition and subtraction with rational numbers. It builds on students' solid understanding of integers, other rational numbers, and absolute value as described in the Grade 6 CCSSM (6.NS.C). Positive and negative fractions, decimals, and whole numbers should be included in this unit.</p>	
<p>Common Core State Standards for Mathematical Content</p> <p>The Number System – 7.NS</p> <p>A. Apply and extend previous understandings of operations with fractions to add, subtract, multiply and divide rational numbers.</p> <ol style="list-style-type: none"> 1. Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical line diagram. <ol style="list-style-type: none"> a. Describe situations in which opposite quantities combine to make 0. For Example, a hydrogen atom had 0 charge because its two constituents are oppositely charged. b. Understanding $p + q$ as the number located a distance q from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts. c. Understand subtraction of rational numbers as adding the additive inverse, $p - q = p + (-q)$. Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts. d. Apply properties of operations as strategies to add and subtract rational numbers. 3. Solve real-world and mathematical problems involving the four operations with rational numbers. 1 <p>NOTE:1 Computations with rational numbers extend the rules for manipulating fractions to complex fractions.</p> <p>Expressions and Equations – 7.EE</p> <p>B. Solve real-life and mathematical problems using numerical and algebraic expressions and equations.</p> <ol style="list-style-type: none"> 3. Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. <i>For example: If a woman making \$25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or \$2.50, for a new salary of \$27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9</i> 	<p>Comments</p> <p>Work with 7.NS.A.3 will focus on problem situations involving addition and subtraction of positive and negative rational numbers.</p> <p>In this unit, 7.EE.B.3 will focus on problem situations involving addition and subtraction of rational numbers.</p> <p>Problems involving multiplication and division will be addressed in unit 5.</p>
	<p>Looking for and making use of structure (MP.7) aids students' understanding of addition and subtraction of positive and negative rational numbers. Students also engage in MP.1 and MP.6 in order to solve the multi-step problems presented in this unit.</p>

inches from each edge; this estimate can be used as a check on the exact computation.

Common Core State Standards Mathematical Practice

1. Make sense of problems and persevere in solving them.
6. Attend to precision.
7. Look for and make use of structure.

Suggested number of days:9

Unit 5: Rational number operations – multiplication and division

The purpose of this unit is to provide students an opportunity to reinforce and extend their understanding of multiplication and division with rational numbers. Problems addressed in this unit will focus on multiplication and division, but may also incorporate addition and subtraction. By the end of this unit, students should be comfortable applying all four operations to positive and negative fractions and decimals.

Common Core State Standards for Mathematical Content

The Number System – 7.NS

- A. Apply and extend previous understanding of operations with fractions to add, subtract, multiply, and divide rational numbers.
2. Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.
- a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as $(-1)(-1) = 1$ and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts.
- b. Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then $-(p/q) = (-p)/q = p/(-q)$. Interpret quotients of rational numbers by describing real-world contexts.
- c. Apply properties of operations as strategies to multiply and divide rational numbers.
3. Solve real-world and mathematical problems involving the four operations with rational numbers.¹

NOTE: ¹ Computations with rational numbers extend the rules for manipulating fractions to complex fractions.

Expressions and Equations – 7.EE

- B. Solve real-life and mathematical problems using numerical and algebraic expressions and equations.
3. Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. *For example: If a woman making \$25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or \$2.50, for a new salary of \$27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.*

Common Core State Standards Mathematical Practice

1. Make sense of problems and persevere in solving them.
6. Attend to precision.
7. Look for and make use of structure.

Comments

When addressing **7.NS.A.2a**, note that students already know the distributive property from earlier grades. It was first introduced in grade 3. In grade 6, students applied the distributive property to generate equivalent expressions involving both numbers and variables (**6.EE.A.3**)

In this unit, **7.EE.B.3** will focus on problem situations involving all four equations with rational numbers.

As with unit 4, looking for and making use of structure (**MP.7**) aids students' understanding of multiplication and division of positive and negative numbers. Students also engage in **MP.1** and **MP.6** as they solve the multi-step problems presented in this unit.

Unit 6: Solving equations**Suggested number of days: 13**

The purpose of this unit is to ensure that students have a strong foundation in manipulating and solving algebraic expressions and equations. This unit builds on work within the Expressions and Equations domain in Grade 6.

Common Core State Standards for Mathematical Content**Expressions and Equations – 7.EE**

A. Use properties of operations to generate equivalent expressions.

1. Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.
2. Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related. For example, $a + 0.05a = 1.05a$ means that “increase by 5%” is the same as “multiply by 1.05.”

B. Solve real-life and mathematical problems using numerical and algebraic expressions and equations.

4. Use variables to represent quantities in real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.
 - a. Solve word problems leading to equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identify the sequence of the operations used in each approach. *For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width?*

Common Core State Standards for Mathematical Practice

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
4. Model with mathematics.
7. Look for and make use of structure.

Comment

Students have had prior experience in generating equivalent expressions; they should be working toward fluency in solving equations with **7.EE.A.1** in this unit.

From their experience in prior units and grades, students already solve one-step equations fluently. IN this unit, they are expected to build fluency with writing and solving multi-step equations (**7.EE.B.4a**). Inequalities will be explored in unit 7.

Students solve real-life problems (**MP.1**) by modeling them with algebraic expressions (**MP.4**). In manipulating these equations to generate equivalent expressions, they also reason abstractly and quantitatively (**MP.2**) and look for and make use of structure (**MP.7**).

<p>Unit 7: Solving equations and inequalities</p>	<p>Suggested number of days: 11</p>
<p>In this unit, students extend their understanding of equations to include inequalities. Students reinforce their previous learning about solving equations as they learn to solve inequalities.</p> <p>Common Core State Standards for Mathematical Content</p> <p>Expressions and Equations – 7.EE</p> <p>B. Solve real-life and mathematical problems using numerical and algebraic expressions and equations.</p> <p>4. Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.</p> <p>a. Solve word problems leading to equations of the form $px + q = r$ and $p(x + q) = r$, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width?</p> <p>b. Solve word problems leading to inequalities of the form $px + q > r$ or $px + q < r$, where p, q, and r are specific rational numbers. Graph the solution set of inequality and interpret it in the context of the problem. For example: As a salesperson, you are paid \$50 per week plus \$3 per sale. This week you want your pay to be at least \$100. Write an inequality for the number of sales you need to make, and describe solutions.</p> <p>Common Core State Standards for Mathematical Practice</p> <p>1. Make sense of problems and persevere in solving them.</p> <p>2. Reason abstractly and quantitatively.</p> <p>4. Model with mathematics.</p> <p>7. Look for and make use of structure.</p>	<p>Comments</p> <p>In this unit, they are expected to continue to build fluency with writing and solving multi-step equations (7.EE.B.4a) and they extend those understandings to investigate solving word problems leading to inequalities.</p> <p>As with unit 6, students solve real-life problems (MP.1) by modeling them with algebraic inequalities (MP.4). In manipulating these equations and inequalities to generate equivalent expressions, they also reason abstractly and quantitatively (MP.2) and look for and make use of structure (MP.7).</p>

<p>Unit 8: Probability of simple events Students in grade 7 have not previously encountered probability. This unit focuses on the foundational understandings related to simple probability (e.g., chance, randomness, relative frequency, probability models).</p> <p>Common Core State Standards for Mathematical Content</p> <p>Statistics and Probability – 7.SP</p> <p>C. Investigate chance processes and develop, use, and evaluate probability models.</p> <p>5. Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around $\frac{1}{2}$ indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event.</p> <p>6. Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability. For example, when rolling a number cube 600 times, predict that a 3 or 6 would be rolled roughly 200 times, but probably not exactly 200 times.</p> <p>7. Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy.</p> <p>a. Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events. For example, if a student is selected at random from a class, find the probability that Jane will be selected and the probability that a girl will be selected.</p> <p>b. Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process. For example, find the approximate probability that a spinning penny will land heads up or that a tossed paper cup will land open-end down.</p> <p>Ratios and Proportional Relationships – 7.RP</p> <p>A. Analyze proportional relationships and use them to solve real-world and mathematical problems.</p> <p>3. Use proportional relationships to solve multi-step ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error.</p> <p>Common Core State Standards for Mathematical Practice</p>	<p>Suggested number of days:12</p>
<p>Comments</p> <p>7.RP.A.3 is repeated in this unit because of the strong application of percents in this unit.</p> <p>In this unit, 7.SP.C.5, 7.SP.C.6, and 7.SP.C.7 are investigated with simple events only. In unit 9, students will apply these concepts and skills with compound events.</p> <p>In this unit, students engage in developing probability models and thereby engage in MP.4. For many probability situations, more than one model may be developed and applied to answer real-world questions; therefore, students construct viable arguments and critique the reasoning of others (MP.3).</p>	

- | | |
|---|--|
| <p>3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.</p> | |
|---|--|

Unit 9: Probability of compound events

This unit supports continued work with 7.SP.C.5, 7.SP.C.6, and 7.SP.C.7 as students extend their understandings of probability to include compound events.

Suggested number of days: 11

Common Core State Standards for Mathematical Content

Statistics and Probability – 7.SP

C. Investigate chance processes and develop, use, and evaluate probability models.

8. Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation.

- a. Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs.
- b. Represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams. For an event described in everyday language (e.g., "rolling double-sixes"), identify the outcomes in the sample space which compose the event.
- c. Design and use a simulation to generate frequencies for compound events. *For example, use random digits as a simulation tool to approximate the answer to the question: If 40% of donors have type A blood, what is the probability that it will take at least 4 donors to find one with type A blood?*

Ratios and Proportional Relationships – 7.RP

A. Analyze proportional relationships and use them to solve real-world and mathematical problems.

3. Use proportional relationships and use them to solve multi-step ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error.

Common Core State Standards for Mathematical Practice

- 4. Model with mathematics.
- 5. Use appropriate tools strategically.
- 6. Attend to precision.

Comments

7.RP.A.3 is repeated in this unit because of the strong application of percents in probability.

In this unit, students continue modeling with mathematics (MP.4). Students use appropriate tools (e.g., organized lists, tables, tree diagrams) (MP.5) and attend to precision (MP.6) as they create and use probability models.

Suggested number of days: 12	
<p>Unit 10: Sampling, inferences, and comparing populations</p> <p>This unit includes work with single populations as well as multiple populations. In this unit, students apply their understandings of randomness. Ratio reasoning-including percents-is implicit in this unit (7.RP.A.3).</p> <p>Common Core State Standards for Mathematical Content</p> <p>Statistics and Probability – 7.SP</p> <p>A. Use random sampling to draw inferences about a population.</p> <ol style="list-style-type: none"> 1. Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and support valid inferences. 2. Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples of the same size to gauge the variation in estimates or predictions. For example, estimate the mean world length in a book by randomly sampling words from a book; predict the winner of a school election based on randomly sampled survey data. Gauge how far off the estimate or prediction might be. <p>B. Draw informal comparative inferences about two populations.</p> <ol style="list-style-type: none"> 3. Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing is as a multiple of a measure of variability. For example, the mean height of players on the basketball team is 10 cm greater than the mean height of players on the soccer team, about twice the variability on either team; on a dot plot, the separation between the two distributions of heights is noticeable. 4. Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations. For example, decide whether the words in a chapter of a seventh-grade science book are generally longer than the words of the fourth-grade science book. <p>Common Core State Standards for Mathematical Practice</p> <ol style="list-style-type: none"> 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 6. Attend to precision. 	<p>Comments</p> <p>In this unit, students engage in modeling (MP.4) as they draw inferences about a population. They also use data to construct and critique arguments (MP.3). In doing so, they should also attend to the precision of their use of language and mathematics (MP.6).</p>

Unit 11: 2-D figures	Suggested number of days: 12
<p>In this unit, students build on their Grade 6 work with two-dimensional figures and extend their learning to work with circumference and area of circles. While working with formulas for area and circumference, students will be reinforcing previous work with expressions and equations.</p> <p>Common Core state Standards for Mathematical Content</p> <p>Geometry – 7.G</p> <p>B. Solve real-life and mathematical problems involving angle measure, area, surface area and volume.</p> <p>4. Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.</p> <p>6. Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes and right prisms.</p> <p>Common Core State Standards for Mathematical Practice</p> <ol style="list-style-type: none"> 1. Make sense of problems and persevere in solving them. 2. Reason abstractly and computationally. 7. Look for and make use of structure. 8. Look for and express regularity in repeated reasoning. 	<p>Comments</p> <p>Students in grade 7 have not previously studied pi. When addressing 7.G.B.4, they should develop an understanding of a circle to its diameter. 7.G.B.6 only includes perimeter and area, including the circumference and area of circles. Work with 3-dimensional figures will be the focus of unit 12.</p> <p>In this unit, students engage in MP.7 and MP.8 as they relate formulas in this unit to particular real-world and mathematical problems. As student persevere in solving real-life and mathematical problems involving measurement (MP.1), they need to consider the units involved and attend carefully to the meaning of the quantities (MP.2).</p>

Suggested number of days: 12	Unit 12: 3-Dimensional figures
<p>Comments</p> <p>Students also investigate the volume and surface area of right pyramids; this is implied in 7.G.B.6.</p> <p>Students select appropriate tools (MP.5) and look for and make use of structure (MP.7) as they investigate 3-dimensional figures. They also model with mathematics as they solve multi-step real-life measurement problems (MP.4).</p>	<p>In this unit, students begin working with three-dimensional figures by exploring their plane sections and volumes. In grade 6, students worked with the volume of rectangular prisms and determined surface areas from nets. This unit extends those understandings as students work with non-rectangular prisms and pyramids.</p> <p>Common Core state Standards for Mathematical Content</p> <p>Geometry – 7.G</p> <p>A. Draw, construct, and describe geometrical figures and describe the relationships between them.</p> <p>3. Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids.</p> <p>B. Solve real-life and mathematical problems involving angle measure, area, surface area and volume.</p> <p>6. Solve real-world and mathematical problems involving area, volume and surface area of two- and three dimensional object composed of triangles, quadrilaterals, quadrilaterals, polygons, cubes and right prisms.</p> <p>Common Core State Standards for Mathematical Practice</p> <p>4. Model with mathematics.</p> <p>5. Use appropriate tools strategically.</p> <p>7. Look for and make use of structure.</p>

Unit 13: Scale Drawings	Suggested number of days: 12
<p>This unit builds on students' understanding of scale drawings from unit 1, but extends that understanding to include the relationship between the areas of scale drawings. This unit provides a strong foundation for more formal work with the similarity and congruence transformations that students will investigate in Grade 8.</p>	<p>In unit 1, work with scale drawings (7.G.A.1) was included as an instance of proportional reasoning; however, students did not generate scale drawings as a different scale. Since area relationships in scale drawings are not proportional, they are not addressed at that time.</p>
<p>Common Core state Standards for Mathematical Content</p> <p>Geometry – 7.G</p> <p>A. Draw, construct, and describe geometrical figures and describe the relationships between them.</p> <ol style="list-style-type: none"> 1. Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale. <p>Common Core State Standards for Mathematical Practice</p> <ol style="list-style-type: none"> 4. Model with mathematics. 6. attend to precision. 8. Look for and express regularity in repeated reasoning. 	<p>Comments</p> <p>To build an understanding of how areas of two or more scale drawings relate, students engage in MP.8. They also model with mathematics (MP.4) and attend to precision (MP.6) as they engage in solving problems relating to scale drawings.</p>

Unit 14: Geometric constructions	Suggested number of days: 11
<p>In this unit, students engage in hands-on investigation for the properties of triangles and other geometric shapes. Students also explore numerous angle relationships and use those angle relationships to ask and answer questions in a variety of contexts.</p> <p>Common Core state Standards for Mathematical Content</p> <p>Geometry – 7.G</p> <p>A. Draw, construct, and describe geometrical figures and describe the relationships between them.</p> <p>2. Draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle.</p> <p>B. Solve real-life and mathematical problems involving angle measure, area, surface area and volume.</p> <p>5. Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve equations for an unknown angle in a figure.</p> <p>Common Core State Standards for Mathematical Practice</p> <p>3. Construct viable arguments and critique the reasoning of others.</p> <p>5. Use appropriate tools strategically.</p> <p>7. Look for and make use of structure.</p>	<p>Comments</p> <p>In this unit, students choose appropriate tools (MP.5) to create constructions with various constraints. Investigating and describing the relationships among geometrical figures requires that students look for and make use of structure (MP.7) as they construct and critique arguments (MP.3) that summarize and apply those relationships.</p>

Sequenced Units for the Common Core State Standards in Mathematics Grade 8

Prior to Grade 8, students have written and interpreted expressions, solved equations and inequalities, explored quantitative relationships between dependent and independent variables, and solved problems involving area, surface area, and volume. Students have also begun to develop an understanding of statistical thinking. The Grade 8 course outlined in this document begins with congruence transformations of the coordinate plane, followed by exploration of similarity transformations, which contribute to students' conceptual understanding of slope. Students apply their previous understandings of ratio and Proportional reasoning to the study of linear functions, equations, and systems, including a deep understanding of slope. They explore negative integer exponents and irrational numbers, and they deepen their understanding of geometric concepts by investigating and applying The Pythagorean theorem.

This document reflects our current thinking related to the intent of the Common Core State Standards for Mathematics (CCSSM) and assumes 160 days for instruction, divided among 14 units. The number of days suggested for each unit assumes 45-minute class periods and is included to convey how instructional time should be balanced across the year. The Units are sequenced in a way that we believe best develops and connects the mathematical content described in the CCSSM; however, the order of the standards included in any unit does not imply a sequence of content within that unit. Some Standards may be revisited several times during the course; others may be only partially addressed in different units, depending on the focus of the unit. Strikethroughs in the text of the standards are used in some cases in an attempt to convey that focus, and comments are included throughout the document to clarify and provide additional background for each unit.

Throughout Grade 8, students should continue to develop proficiency with the Common Core's eight Standards for Mathematical Practice:

- 1. Make sense of problems and persevere in solving them.**
- 2. Reason abstractly and quantitatively.**
- 3. Construct viable arguments and critique the reasoning of others.**
- 4. Model with mathematics.**
- 5. Use appropriate tools strategically.**
- 6. Attend to precision.**
- 7. Look for and make use of structure.**
- 8. Look for and express regularity in repeated reasoning.**

These practices should become the natural way in which students come to understand and do mathematics. While, depending on the content to be understood or on the problem to be solved, any practice might be brought to bear, some practices may prove more useful than others. Opportunities for highlighting certain practices are indicated in different units in this document, but this highlighting should not be interpreted to mean that other practices should be neglected in those units. When using this document to help in planning your district's instructional program, you will also need to refer to the CCSSM document, relevant progressions documents for the CCSSM, and the appropriate assessment consortium framework. These materials are based on sample sequenced units documents developed by the Charles A. Dana Center at The University of Texas at Austin, originally published on the Mathematics Common Core Toolbox (www.ccsstoolbox.org), and my no longer reflect the Center's opinions.

Unit 1: Introducing transformation	Suggested number of days: 10
<p>This unit provides an introduction to transformations as students explore the three congruence transformations; rotations, translations, and transformations. This unit builds on students' work in prior grades with parallel lines, angles, and symmetry in geometric figures (4.G.A.1.4.G.A.3), and the coordinate plane (6.NS.C.6). In units 2 and 3, students build upon these foundations as they investigate combinations of translations that result in congruence or similarity transformations. This work with congruence and similarity provides support for development of the formal definition of slope in unit 7.</p> <p>Common core state standards for mathematical content</p> <p>Geometry-8.G</p> <p>A. Understand congruence and similarity using physical models, transparencies, or geometry software.</p> <ol style="list-style-type: none"> 1. Verify experimentally the properties of rotations, reflections, and translations: <ol style="list-style-type: none"> a. Lines are taken to lines and line segments to line segments of the same length. b. Angles are taken to angles of the same measure. c. Parallel lines are taken to parallel lines. <p>Common core state standards for mathematical practice</p> <ol style="list-style-type: none"> 5. Use appropriate tools strategically. 6. Attend to precision. 	<p>Comments</p> <p>As students investigate transformations, they attend to precision (MP.6) as they use appropriate terminology to describe and verify the properties of the various transformations. They also select and use tools such as geometry software, coordinate planes, and tracing paper strategically.</p>

Unit 2: Understanding congruence through transformations	Suggested number of days: 11
<p>This unit builds on the foundations of the previous unit as students deepen their understanding of congruence transformations to include sequences of rotations, reflections, and translations. They will expand on this idea in unit 3 as they explore similarity transformations.</p>	
<p>Common Core State Standards for Mathematical Content</p>	<p>Comments</p>
<p>Geometry — 8.G</p>	<p>8.G.A.2 Student will investigate and describe the effect of dilations on two-dimensional figures in unit 3.</p>
<p>A. Understand congruence and similarity using physical models, transparencies, or geometry software.</p>	
<p>2. Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a sequence that exhibits the congruence between them.</p>	<p>Students construct viable arguments and critique the reasoning of others (MP.3) As they describe the effect of transformations. As students investigate those effects, they attend to structure (MP.7) by recognizing the common attributes and properties generated by the transformations.</p>
<p>3. Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.</p>	
<p>Common Core State Standards for Mathematical Practice</p>	
<p>3. Construct viable arguments and critique the reasoning of others.</p>	
<p>7. Look for and make use of structure.</p>	

Unit 3: Understanding congruency through transformations	Suggested number of days: 13
<p>This unit builds on the foundations of the previous unit as students deepen their understanding of transformations to include similarity transformations. This unit also connects with students' prior work with scale drawings and proportional reasoning (7.G.A.1, 7RP.A.2). These understandings are applied in unit 7 as students use similar triangles to explain why the slope, m, is the same between any two distinct points on a non-vertical line in the coordinate plane (8.EE.B.6).</p>	
<p>Common core state standards for mathematical content</p> <p>Geometry-8.G</p> <p>A. Understand congruence and similarity using physical models, transparencies, or geometry software.</p> <p>3. Describe the effect of dilations, translations, rotations, reflections, and reflections on two-dimensional figures using coordinates.</p> <p>4. Understanding that a two-dimensional figure is similar to another if the second can be obtained from the first sequence of rotations, reflections, translations, and dilations; given two similar two-dimensional figures, describe a sequence that exhibits the similarity between them.</p> <p>5. Use informal arguments to establish facts about the angle-sum and exterior-angle-of-triangles; about the angles-created-when-parallel-lines-are-cut-by-a-transversal, and the angle-angle criterion for similarity of triangles. For example, arrange three copies of the same triangle so that the sum of the three angles appears to form a line, and give an argument in terms of transversals why this is so.</p>	<p>Comments</p> <p>In unit 13, students investigate the remaining geometric relationships described in 8.G.A.5.</p> <p>As with unit 2, students attend to precision (MP.6) as they construct viable arguments and critique the reasoning of others (MP.3) while describing the effects of similarity transformations and the angles-angle criterion for similarity of triangles.</p>
<p>Common core state standards for mathematical practice</p> <p>3. Construct viable arguments and critique the reasoning of others.</p> <p>6. Attend to precision.</p>	

Unit 4: Rational and Irrational Numbers	Suggested number of days: 7
<p>This unit introduces the real number system and how real numbers are used in a variety of contexts. Students become familiar with irrational numbers (especially square and cube roots), but also learn how to solve equations of the form $x^2 = p$ and $x^3 = p$. Incorporating the Equations and Expression standards with the Number System standards provides context and motivation for learning about irrational numbers: for instance, to find the side length of a square of a certain area.</p> <p>Common Core State Standards for Mathematical Content</p> <p>The Number System – 8.NS</p> <p>A. Know that there are numbers that are not rational, and approximate them by rational numbers.</p> <ol style="list-style-type: none"> 1. Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number. 2. Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., π^2). For example, by truncating the decimal expansion of $\sqrt{2}$, show that $\sqrt{2}$ is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations. <p>Expressions and Equations – 8.EE</p> <p>A. Work with radicals and integer exponents.</p> <ol style="list-style-type: none"> 1. Use square root and cube root symbols to represent solutions of equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that $\sqrt{2}$ is irrational. <p>Common Core State Standards for Mathematical Practice</p> <ol style="list-style-type: none"> 1. Make sense of problems and persevere in solving them. 6. Attend to precision. 	<p>Comments</p> <p>Understanding irrational numbers and their decimal approximations and evaluating square and cube roots requires persistence (MP.1) with precision and estimation (MP.6). Students look to express regularity in repeated reasoning as they convert fractions to decimals and notice that when they repeat the same calculations, the decimal also repeats (MP.8).</p>

Unit 5: Pythagorean Theorem	Suggested number of days: 13
This unit provides further motivation and context for using square roots. In future math courses, the Pythagorean Theorem will continue to play an important role.	
Common Core State Standards for Mathematical Content	
Geometry – 8.G	Comments
B. Understand and apply the Pythagorean Theorem. 6. Explain a proof of the Pythagorean Theorem and its converse. 7. Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions. 8. Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.	Understanding, modeling, and applying (MP.4) the Pythagorean theorem and its converse require that students look for and make use of structure (MP.7) and express repeated reasoning (MP.8). Students also construct and critique arguments as they explain a proof of the Pythagorean Theorem and its converse (MP.3).
Common Core State Standards for Mathematical Practice 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 7. Look for and make use of structure. 8. Look for and express regularity in repeated reasoning.	

Unit 6: Functions	Suggested number of days: 8
<p>In this unit, the term function is formally introduced for both linear and nonlinear functions. Students model functions in different ways (algebraically, graphically, numerically in tables, or by verbal descriptions) and interpret those representations qualitatively and quantitatively.</p> <p>Common Core State Standards for Mathematical Content</p> <p>Functions – 8.F</p> <p>A. Define, evaluate and compare functions.</p> <ol style="list-style-type: none"> Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is a set of ordered pairs consisting of an input and the corresponding output.¹ NOTE: ¹Function notation is not required in Grade 8. Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression, determine which function had the greater rate of change. Interpret the equation $y = mx + b$ as defining a linear function, whose graph is a straight line; give examples of functions that are not linear. For example, the function $A = s^2$ giving the area of a square as a function of its side length is not linear because its graph contains the points (1,1), (2,4) and (3,9), which are not on a straight line. <p>B. Use the functions to model relationships between quantities.</p> <ol style="list-style-type: none"> Describe quantitatively the function relationship between two quantities by analyzing a graph, (e.g., where the function is increasing or decreasing, linear or non linear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally. <p>Common Core State Standards for Mathematical Practice</p> <ol style="list-style-type: none"> Reason abstractly and quantitatively. Model with mathematics. Look for and make use of structure. 	<p>Comments</p> <p>8.F.A.3 Students will more fully investigate non-linear functions in unit 9. For this unit, students will be introduced to non-linear functions so that they are able to identify whether or not a function is linear, but they will not be required to generate their own examples until unit 9.</p> <p>8.F.B.5 will also be addressed in unit 9 as students investigate non-linear functions more explicitly.</p> <p>Understanding how functions model (MP.4) relationships requires that students reason abstractly and quantitatively (MP.2) while looking for and making use of structure (MP.7).</p>

Unit 7: Introduction to linearity	Suggested number of days: 11
<p>Common Core State Standards for Mathematical Content</p> <p>Expressions and Equations – 8.EE</p> <p>B. Understand the connections between proportional relationships, lines, and linear equations</p> <p>5. Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. For example, compare a distance-time graph to a distance-time equation to determine which of two moving objects has greater speed.</p> <p>6. Use similar triangles to explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation $y = mx$ for a line through the origin and the equation $y = mx + b$ for a line intercepting the vertical axis at b.</p> <p>Functions – 8.F</p> <p>B. Use functions to model relationships between quantities.</p> <p>4. Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values.</p> <p>5. Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing of decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally.</p> <p>Common Core Standards for Mathematical Practice</p> <p>4. Model with mathematics</p> <p>8. Look for and express regularity in repeated reasoning.</p>	<p>Comments</p> <p>Constructing the functions to model linear relationships (MP.4) requires that students look for and express regularity in repeated reasoning (MP.8)</p>

Unit 8: Patterns of association in bivariate data	Suggested number of days: 15
<p>Common Core State Standards for Mathematical Content</p> <p>Statistics and Probability – 8.SP</p> <p>A. Investigate patterns of association in bivariate data.</p> <ol style="list-style-type: none"> 1. Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association. 2. Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the data points to the line. 3. Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. <i>For example, in a linear model for a biology experiment, interpret a slope of 1.5cm/hr as meaning that an additional hour of sunlight each day is associated with an additional 1.5 cm in mature plant height.</i> 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. Use relative frequencies calculated for rows or columns to describe possible association between the two variables. <i>For example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is there evidence that those who have a curfew also tend to have chores?</i> <p>Common Core State Standards for Mathematical Practice</p> <ol style="list-style-type: none"> 3. Construct viable arguments and critique the reasoning of others. 5. Use appropriate tools strategically. 	<p>Comments</p> <p>Representing and analyzing data requires that students use appropriate tools strategically (MP.5) and construct and critique arguments (MP.3) about the data.</p>

Unit 9: Nonlinear functions		Suggested number of days::10
In this unit, students investigate and interpret the representations of non-linear function and compare them to liner functions.		
Common Core State Standards for Mathematical Content		
<p>Functions – 8.F</p> <p>A. Define, evaluate and compare functions.</p> <p>3. Interpret the equation $y = mx + b$ as defining a linear function, whose graph is a straight line; give examples of functions that are not linear. For example, the function $A = s^2$ giving the area of a square as a function of its side. Length is not linear because its graph contains its points (1,1), (2,4) and (3,9) which are not in a straight line.</p> <p>Functions – 8.F</p> <p>B. Use functions to model relationships between quantities.</p> <p>5. Describe qualitatively the functional relationship between to quantities by analyzing a graph. (e.g, where the function is increasing or decreasing, linear or nonlinear.) Sketch a graph that exhibits the qualitative features of a function that has been decided verbally.</p> <p>Common Core State Standards for Mathematical Practice</p> <p>1. Make sense of problems and persevere in solving them.</p> <p>2. Reason abstractly and quantitatively.</p>	<p>Comments</p> <p>8.F.A.3. was addressed in unit 6 in a general way as students learn to distinguish linear and non-linear functions by the graphs, tables, and equations. In this unit, students take that idea further by generating their own examples of functions that are not linear.</p> <p>This unit builds on the foundations of unit 6 as students investigate non-linear functions more explicitly. (8.F.B.5.)</p> <p>As students sketch graphs that exhibit the qualitative features of functions, they make sense of the situations (MP.1) while reasoning abstractly and qualitatively. (MP.2)</p>	

Unit 10: solving linear equations	Suggested number of days : 11
<p>With this unit, students build on their prior work in writing and solving equations (6.EE.B.7, 7.EE.B.4a.) and their understanding of algebraic equations representation of linear functions.</p> <p>Common Core State Standards for Mathematical Content</p> <p>Expressions and Equations – 8.EE</p> <p>C. Analyze and solve linear equations and pairs of simultaneous linear equations.</p> <p>7. Solve linear equations in one variable.</p> <p>a. Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form $x = a$, $a = a$, or $a = b$ results (where a and b are different numbers).</p> <p>b. Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.</p> <p>Common Core State Standards for Mathematical Practice</p> <p>6. Attend to precision.</p> <p>7. Look for and make use of the structure.</p>	<p>Comments</p> <p>Writing and solving equations require that students make use of structure (MP.7) and attend to precision (MP.6) as students apply properties of operations to transform equations into simpler forms.</p>

<p>Unit 11: Systems of Linear Equations</p> <p>This unit extends students facility with solving problems by writing and solving equations.</p> <p>Common Core State Standards for Mathematical Content</p>	<p>Suggested number of days: 17</p>
<p>Expressions and Equations – 8.EE</p> <p>C. Analyze and solve linear equation pairs of simultaneous linear equation.</p> <p>8. Analyze and solve pairs of simultaneous linear equations.</p> <ol style="list-style-type: none"> Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equation simultaneously. Solve system of two linear equations in two variables algebraically, and estimate solution by graphing the equation. Solve simple cases by inspecting. For example, $3x+2y=5$ and $3x+2y=6$ have no solution because $3x=2y$ cannot simultaneously be 5 and 6. Solve real-world and mathematical problems leading to two linear equations in two variables. For example, given coordinates for two pairs of points, determine whether the line through the first pair of points intersects the line through the second pair. <p>Common Core State Standards for mathematical Practice</p> <ol style="list-style-type: none"> 1. Make sense of problems and persevere in solving them. 6. Attend to precision. 7. Look for and make use of structure. 	<p>Comments</p> <p>Student's perseverance in solving real-world problems with systems of equation requires that they work with various solution methods and learn to discern when each method is most appropriate (MP.1). As with the previous unit, writing and solving systems require that students make use of structure (MP.7) and attend to precision (MP.6) as students apply properties of operations to transform equations into simpler forms.</p>

Suggested number of days: 11	Unit 12: Exponents and scientific notation
<p>This unit builds on the work of unit 4 as students extend their understanding of radical and integer exponents to develop rules for working with exponents and scientific notation. Although the standards in this unit are in a major content cluster for Grade 8, this unit is sequenced near the end of the year since the content of this unit is not explicitly connected with other major content at this grade; however, this unit could be placed earlier in the year if it is desired.</p>	<p>This unit builds on the work of unit 4 as students extend their understanding of radical and integer exponents to develop rules for working with exponents and scientific notation. Although the standards in this unit are in a major content cluster for Grade 8, this unit is sequenced near the end of the year since the content of this unit is not explicitly connected with other major content at this grade; however, this unit could be placed earlier in the year if it is desired.</p>
<p>Comments</p>	<p>Common Core State Standards for Mathematical Content</p> <p>Expressions and equations- 8.EE</p> <p>A. Work with radicals and integer exponents.</p> <ol style="list-style-type: none"> 1. Know and apply the properties of integer exponents to generate equivalent numerical expressions. <i>For example, $3^2 \times 3^5 = 3^{-3} = 1/3^3 = 1/27$.</i> 3. Use number expressed in the form of a single digit integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. <i>For example, estimate the population of the united states as 3×10^8 and the population of the world as 7×10^9, and determine that the world population is more than 20 times larger.</i> 4. Perform operation with number expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeter per year for seafloor spreading). Interpret scientific notation that has been generated by technology. <p>Common Core State Standards for Mathematical Practice</p> <ol style="list-style-type: none"> 4. Model with mathematics. 5. Use appropriate tools strategically. 6. Attend to precision. 8. Look for an express regularity in repeated reasoning.
<p>Modeling mathematical (MP.4) with radicals, integer exponents, and scientific notation requires that students attend to precision (MP.8). Students will also need to use appropriate tools strategically since some calculation can be completed more easily through visual inspection that with a calculator (MP.5).</p>	

<p>Unit 13: Geometric relationships</p> <p>Suggested number of days: 11</p>	
<p>This unit builds on students' work in Grade 7 with angle relationships (7.G.A.2, 7.G.B.5) as they work with angle relationships in triangles and investigate parallel lines cut by a transversal.</p> <p>Common Core State Standards for mathematical Content</p> <p>Geometry- 8.G</p> <p>A. Understand congruence and similarity using physical models, transparencies, or geometry software.</p> <p>5. Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles. <i>For example, arrange three copies of the same triangle so that the sum of the three angles appears to form a line, and give an argument in terms of transversals why this is so.</i></p> <p>Common Core State Standards for Mathematical Practice</p> <p>3. Construct viable arguments and critique the reasoning of others.</p> <p>5. Use appropriate tools strategically.</p>	<p>Comments</p> <p>8.A.A.5 The angle-angle criterion for similarity of triangles was investigated in unit 3.</p> <p>Students use tools strategically (MP.5) as they investigate angle relationships and generate or critique informal arguments (MP.3) to establish facts about angle relationships.</p>

Unit 14: Volume of cones, sphere, and cylinders	Suggested number of days: 12
<p>In Grade 7, students solved real-world problems involving surface area and volume of prisms and pyramids. In this unit, those understandings are extended to include problem solving with cylinders, cones, and sphere.</p>	
<p>Common Core State Standards for Mathematical Content</p>	
<p>Geometry- 8.G C. Solve real-world and mathematical problems involving volume of cylinders, cones, and sphere. 9. Know the formula for the volumes of cones, cylinders, and sphere and use them to solve real-world and mathematical problems.</p>	<p>Comments</p> <p>As students model geometric relationships with formulas to solve problems (MP.1) involving 3-dimensional figures, they reason both abstractly and quantitatively (MP.2).</p>
<p>Common Core State Standards for Mathematical Practice 1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively.</p>	

Problem Solving Rubric

4 Strong Communication – The reader is engaged by the writer’s mathematical thinking and exceptional insights.

The author knows how to solve the problem correctly.

- Thinking is clearly explained in an organized way.
- There is adequate development of the concept using appropriate details.
- Appropriate mathematical language is used as necessary.
- A picture or chart supports the written ideas.
- The writer shows understanding of the concept by making connections to other knowledge (a similar problem, another branch of mathematics, or a realistic situation). The connection is fully developed with supporting details.

3 Good Communication – The reader understands the writer’s response. The author knows how to solve the problem correctly.

- Thinking is clearly explained in an organized way.
- There is adequate development of the concept using appropriate details.
- Acceptable vocabulary is used.
- A picture or chart supports the written ideas.
- The writer shows understanding of the concept. Minor errors may exist that have little effect on the communication of the ideas discussed. A connection may be made but is not fully developed with supporting details.

2 Weak Communication – The reader has difficulty understanding the procedure followed or the author’s ideas. The reader is not convinced the author knows how to solve the problem.

- Organization is difficult to follow.
- Details are lacking.
- Mathematical vocabulary is not used when it can be.
- There is no picture or the picture does not support the written ideas.
- The author does not convince the reader that the concept is understood. There are few details to support the author’s thinking. There is no connection.

1 Underdeveloped Communication – Too brief to evaluate whether or not the author understood the concept.

- There is no organization.
- No mathematical vocabulary is used.
- There is no picture.
- The explanation is too short to know whether or not the concept is understood. There are little or no details to support the author’s thinking. There is no connection.

Kagan Structure: Quiz, Quiz, Trade

Students quiz a partner, get quizzed by a partner, then trade cards to repeat the process with a new partner.

1. Stand Up, Hand up, Pair up.
2. Partner A Quizzes
3. Partner B Answers
4. Partner A Praises or Coaches.
5. Switch Roles
6. Partners Trade Cards
7. Repeat Steps 1-6 a Number of Times

* Students who are “problems” can go to the “Island of Solitude” and work on the whole worksheet by themselves.

Kagan Structure: Timed Think Pair Share

In pairs, students share with a partner for a predetermined time while the partner listens carefully. Then partners switch roles.

T Announces a topic and states how long each student will have to share.

T Provides think time Students individually work a problem

S In pairs, Partner A shares; Partner B listens

S Partner B responds. (Example: "Thanks for sharing." "One thing I learned as I listened to you was...")

Pairs switch roles: Partner B shares; Partner A listens.

Note: Helpful to provide a graphic organizer when first using this structure. (see below)

My name _____ My partner's name _____ Date _____ Per _____

Prompt or Question	What I thought	What my partner thought	What we will share

Appendix C

Elementary and Middle School Professional Development Calendars

July 2013					
1	2	3	4 4 th of July Holiday	5	6/7
8	9	10	11 ELT	12	13/14
15	16	17	18	19	20/21
22	23	24	25 Principals' Mtg	26	27/28
29 New Tchr. Insvc.	30 New Tchr. Insvc.	31 All Teacher In-service			
August 2013					
EQUIP-Rubric Introduction the first week			School wide EQUIP training a.m. Sped & ELL p.m. All Tchr. In-service	2 All Tchr. & Staff	3/4
Galileo Pre 1 st – math only 2 nd – 6 th all sub. DIBELS Testing	Galileo PreTest	Galileo PreTest AIMS Data Reflection	Galileo ELT	Galileo	10/11
12 Galileo upload	13	14 Sue Larson (@GFS)	15	16	17/18
19	20	Galileo Pretest Reflection	21	22 Principals' Mtg	23 24/25
26	27	Smart Goals	28 ELD	29	30 31
September 2013					
PDLC Team needs to meet the first week of September for EQUIP					1
2 Labor Day holiday	3	4 Sue Larson @Lake Valley	5	6	7/8
9	10	EQUIP Rubric #1	11	12 ELT	13 14/15
16	17	Grade Level Work Study Session Sue Larson Reflection	18	19	20 21/22
23	24	25 SPED Resource @SSO	26 Principals' Mtg	27	28/29
30					
October 2013					
PDLC needs to meet the first week of October for EQUIP					
	1	2 Sue Larson @Mountain View SPED self Contained @SSO	3 ELT	4 End of 1 st Quarter	5/6
7	8	9 Fall Break	10	11	12/13
14	15	16 EQUIP Rubric #2 SPED Related Services @SSO	17 Principals' Mtg	18	19/20
21	22	23 Parent Teacher Conferences	24	25	26/27
CBAS #1 1 st grade math 2 nd – 6 th all sub.	28 1 st grade math 2 nd – 6 th all sub.	29 Sue Larson @Coyote ELD	30	31 1 st grade math 2 nd – 6 th all	1 1 st grade math 2 nd – 6 th all
CBAS testing can be given on Wednesday by grade levels that do not attend Sue Larson training or teachers may administer test before departing for the day. Wednesday testing is optional.					

November 2013					
				1	2/3
4 Galileo Data upload	5	6 Advance ED Visit	7	8	9/10
11 Veteran's Day	12	13 Sue Larson @HES SPED Self Contained @SSO	14 ELT	15	16/17
18	19	20 Galileo reflection	21	22	23/24
25 Writing Prompt	26	27 Thanksgiving Holiday	28	29	30
December 2013					
PDLC needs to meet the first week of Dec. 9 th for EQiP					1
2 DIBELS	3	4 Sue Larson @Granville	5	6	7/8
9	10	11 Grade Level Work Study Session Sue Larson Reflection SPED Related Services @ SSO	12 ELT	13	14/15
16	17	18 EQiP Final SPED Resource @SSO	19	20 End of 2nd Quarter EQiP Units turned in to Coach	21/22
23	24	25 Winter Break	26	27	28/29
30	31				
January 2014					
		1 Winter Break	2	3	4/5
6	7	8 Site Specific	9	10	11/12
13	14	15 Site Specific ELL	16 ELT	17	18/19
20 Martin Luther King Holiday	21	22 Sue Larson @LTS	23	24	25/26
PDLC needs to meet the first week of Jan. 27 th for EQiP					
27 CBAS #2 1 st - 6 th all sub.	28 CBAS #2	29 CBAS #2 Begin EQiP unit 2 SPED Self Contained @SSO	30 Principals' Mtg	31	
February 2014					
					1/2
3 Galileo upload	4	5 Sue Larson @ LV	6	7	8/9
10	11	12 Data Reflection	13 ELT	14	15/16
17 President's Day	18 Writing Prompt	19 SPED Resource @SSO Score Writing and Detail	20	21	22/23

24	25	26	27	28		
HS Testing – 2 hr. delay	HS Testing – 2 hr. delay	Site Specific	Principals' Mtg			
March 2014						
					1/2	
3	4	Grade Level Work Study Session Sue Larson Reflection	5 ELL	6 ELT	End of 3rd Quarter 7 8/9	
10	11	Spring Break				15/16
17	18	EQUIP Rubric	19 Related Services @SSO	20	21 22/23	
24	25	Site Specific	26	27 Principals' Mtg	28 29/30	
31						
April 2014						
	1	Site Specific	2	3	4 5/6	
7	8	No Early Release		9 10 ELT	11 12/13	
AIMS Week 14	15 HS Testing – 2 hr. delay	16 HS Testing – 2 hr. delay No Early Release		17 Teacher In-service	18 Spring Recess 19/20	
21	22	No Early Release		23 24 Principals' Mtg	25 26/27	
PDLC needs to meet the week of the 28 th for EQUIP						
DIBELS 28	29	Site Specific	30			
May 2014						
				1	2 3/4	
Galileo Post 1 st – 6 th 5	Galileo Post 6	Final EQUIP Rubric	7 ELL	8 ELT	9 EQUIP Unit Due 10/11	
Galileo upload 12	13	14		15	16 17/18	
19	20	No Early Release		21 22 Student's last day	23 Tchr. Ck-out 24/25	
26 Memorial Day Hol.	27		28	29	30 31	
June 2014						
					1 7/8	
2	3		4	5	6	
9	10		11	12	13 14/15	
16	17		18	19	20 21/22	
23	24		25	26	27 28/29	
30						

Humboldt Unified Middle School Professional Development Early Release Wednesdays

6/19/13

July 2013					
1	2	3	4 Independence Day Holiday	5	6/7
8	9 Governing Board	10	11 ELT	12 Accreditation DUE	13/14
15	16	17	18	19	20/21
22 PAC Tri-District Leadership Training	23 YCESA CCSS Unit Development	24 YCESA CCSS Unit Development	25 YCESA New teacher Induction <i>Harry Wong</i> Principals' Mtg	26 504 Training <i>(tentative)</i>	27/28
29 New Teacher Induction - DO	30 New Teacher Work Day G8 Schedule Pick-Up G7 Orientation Principals Eval System Training 9-11 @ East campus	31 All Teachers Return Welcome RLC/PBIS - Vision & Mission T4S for 2013-14 STEAM Training Co-Teaching Training 1-4 Library Work in Classrooms	August 1 All teachers SPED to DO AIMS Data GEAR UP/AVID WICOR Training Work in classrooms	2 All staff In the Door Policies & Procedures PRIDE of HUSD (90 minutes) Grade book Training	3/4
August 2013					
5 First Day with Students	6	7 Site Based PLC AIMS Data	8 ELT	9	10/11
12 GHMS SITE Council	13 Inductive Math Cohort Governing Board	14 Horizontal Teams CCSS/NGSS Tri District PAC Kickoff 6PM	15	16	17/18
19 Galileo Pre- Assessment	20 Galileo Pre-Assessment PTSO	21 Galileo Pre-Assessment Horizontal Teams EQUIP Rubric	22 Galileo Pre- Assessment Principals' Mtg	23	24/25
26 T4S Observations GHMS	27 T4S Observations BMMS	28 T4S Observations LTS Site Based Data Dialogue	29	30	31/1
September 2013					
2 Labor Day No School	3 Inductive Math Cohort	4 Site Based SMART GOALS	5	6	7/8
9 GHMS SITE Council	10 Governing Board	11 Site Based SMART GOALS	12 ELT	13	14/15
16	17 PTSO	18 Horizontal Teams CCSS/NGSS	19	20	21/22 VB Tour
23	24 STEAM TEAM PD Planning	25 Horizontal Teams EQUIP Rubric Tri District PAC Meeting 6PM	26 Principals' Mtg	27	28/29
October 2013					
September 30	1 Inductive Math Cohort	2 Site Based PLC GHMS STEM Integration	3 ELT	4 2 hour Early Release	5/6
7	8	9 Fall Break	10	11	12/13
14 GHMS SITE Council	15 PTSO Governing Board	16 Vertical Articulation Grade 8 to Grade 9/Grade 6 to Grade 7	17 Principals' Mtg	18	19/20
21	22	23 Parent Teacher Conferences	24 PTC	25 PTC	26/27 SO Tournament
28 T4S Observations	29 T4S Observations	30 T4S Observations GHMS	31 Writing	November 1	2/3

Humboldt Unified Middle School Professional Development Early Release Wednesdays

6/19/13

BMMS	LTS	Site Based PLC T4S	Prompt 1		
November 2013					
4 Galileo C-BAS Assessments	5 Galileo C-BAS Assessments	6 Galileo C-BAS Assessments Horizontal Teams Writing Assessment Scoring	7 Galileo C-BAS Assessments ELT Meeting	8	9/10
11 Veteran's Day No School	12 Inductive Math Cohort Governing Board	13 Horizontal Teams CCSS/NGSS	14 ELT	15 NAU STEM Training	16/17 NAU STEM Training
18 GHMS SITE Council Accreditation Visit	19 PTSO	20 Site Based Data Dialogue GEAR UP/AVID WICOR Training	21 STEAM Team PD Planning	22	23/24
25	26	27 Thanksgiving Break	28	29	30/1
December 2013					
2	3 Inductive Math Cohort	4 Site Based PLC GHMS STEM Integration	5	6	7/8
9 GHMS SITE Council	10 STEAM Team PD Planning Governing Board	11 Horizontal Teams EQUIP Rubric	12 ELT	13	14/15
16	17 PTSO	18 Site Based PLC T4S Celebrations Gradebook training follow up	19	20 2 hour Early Release	21/22
23	24	25 Winter Break	26	27	28/29
30	31	1	2	3	4/5
January 2014					
6	7	8 Site Based PLC GHMS STEM Integration	9	10	11/12
13 T4S Observations LTS GHMS SITE Council	14 T4S Observations GHMS Governing Board	15 T4S Observations BMMS Horizontal Teams CCSS/NGSS	16 ELT	17	18/19
20 Martin Luther King Holiday	21 Inductive Math Cohort PTSO	22 Horizontal Teams EQUIP Rubric	23	24	25/26
27	28	29 Vertical Articulation Grade 8 to Grade 9/Grade 6 to Grade 7	30 Principals' Mtg	31	
February 2014					
3	4	5 Site Based PLC T4S	6	7	1/2 8/9
10 GHMS SITE Council	11 Writing prompt II Governing Board	12 Horizontal Teams WRITING PROMPT SCORING	13 ELT	14	15/16
17 President's Day No School	18 Galileo C-BAS Assessments PTSO	19 Galileo C-BAS Assessments Horizontal Teams CCSS/NGSS	20 Galileo C-BAS Assessments	21 Galileo C-BAS Assessments	22/23
24	25 Inductive Math Cohort	26 Site Based Data Dialogue GEAR UP/AVID WICOR training	27 Principals' Mtg	28	

Humboldt Unified Middle School Professional Development Early Release Wednesdays

6/19/13

March 2014					
					1/2
3	4 STEAM Team PD Planning	5 Site Based PLC GHMS STEM Integration	6 ELT	2-hour Early Release	8/9
10	11	12 Spring Break	13	14	15/16
17 GHMS SITE Council	18 PTSO Governing Board	19 Horizontal Teams EQUIP Rubric	20	21	22/23
24 T4S Observations GHMS	25 T4S Observations BMMS	26 T4S Observations LTS Site Based Data Dialogue	27 Principals' Mtg	28	29/30
April 2014					
March 31	1	2 Site Based AIMS Security Training	3	4	5/6
7 GHMS SITE Council	8 Governing Board @ GHMS	9 NO EARLY RELEASE	10 ELT STEAM Celebration Night 6-8PM	11	12/13
14 AIMS Testing	15 AIMS Testing PTSO	16 AIMS Testing NO EARLY RELEASE	17 AIMS Testing	18 Spring Recess	19/20
21 All day in Service	22	23 NO EARLY RELEASE	24 Principals' Mtg	25	26/27
28	29	30 Site Based PLC GHMS STEM Integration			
May 2014					
			1	2	3/4
5 Catalina Trip for 8 th graders	6	7	8 ELT	9	10/11
12 GHMS Site Council	13 Governing Board	14 Site Based 2014 Planning	15	16	17/18
19	20 PTSO	21 NO EARLY RELEASE	22 2-hour early release Last Day with students	23 Teacher Work Day	24/25
26 Memorial Day Holiday	27	28 HUSD Learning Institute Week	29	30	31/1
June 2014					
2	3	4 K12 Center Teacher Leadership Conference	5	6	7/8
9 ASA Conference	10 ASA Conference	11	12	13	14/15
16	17	18	19	20	21/22
23	24	25 ADE Leading Change Conference	26	27	28/29
30					

Appendix D

District Goals



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Math

**HUMBOLDT UNIFIED SCHOOL DISTRICT
 BOARD GOALS
 2012-13**

Goal 1. Raise the Level of Student Achievement in HUSD

**Smart Goal: MATH - The Humboldt District will increase its district total points on the District A-F Letter Grade from 133 points to 140 points. AIMS Spring 2012
 Total Points were 133 (85 composite + 48 growth).**

Strategy/Intervention	Activities to implement the strategy/intervention	Metrics	Timelines Begin/End	Responsible Persons/Updates
Students will be taught Math inductively to meet the Common Core Standards.	Train teachers in inductive teaching (Gr. K-3, 7-8)	Training - Sign In Sheets, Implementation - Classroom Walk Throughs	Training - August 2012 - December 2013, Walk throughs - August 2012 - April 2012	Training - Director of Educational Services, Classroom Walk throughs - Principal
	Alignment of Saxon with the Common Core Standards (Gr. 4-6)	Development of Saxon/Common Core Alignment Document	August 2012 - September 2012	Director of Educational Services
	Staff will align the HUSD Pacing Guides with Galileo	Completion of Alignment	October, November 2012	Director of Educational Services



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Reading

**HUMBOLDT UNIFIED SCHOOL DISTRICT
 BOARD GOALS
 2012-13**

Goal 1. Raise the Level of Student Achievement in HUSD

Smart Goal: Reading - The Humboldt District will increase its district total points on the District A-F Letter Grade from 133 points to 140 points. AIMS Spring 2012 Total Points were 133 (85 composite + 48 growth).

Strategy/Intervention	Activities to implement the strategy/intervention	Metrics	Timelines Begin/End	Responsible Persons/Updates
Teachers will become proficient with the Common Core	Train teachers in the Six Shifts for ELA Common Core	Completion of Professional Development	Sept. 2012 - May 2013	Director of Educational Services
Teachers will provide individualized instruction for at risk students	Teachers will develop individual learning plans for all strategic and intensive students	CBAS (Criterion Based Assessment System) will demonstrate growth	October 2012 - May 2013 CBAS - Aug, Nov, Feb.	Classroom Teacher - Development Reading and Instructional Coaches - Monitor Usage
	Staff will align the HUSD Pacing Guides with Galileo	Completion of Alignment	October, November 2012	Director of Educational Services



**HUMBOLDT UNIFIED SCHOOL DISTRICT
 BOARD GOALS
 2012-13**

Goal 1. Raise the Level of Student Achievement in HUSD

**Smart Goal: Writing - The Humboldt District will increase its district total points on the District A-F Letter Grade from 133 points to 140 points. AIMS Spring 2012 Total Points were 133 (85 composite + 48 growth).
 (Weighted 60%) District Mean Points 5th Grade 3.8/6, 6th Grade 3.6/6, 7th Grade 3.5/6, HS 4.0/6
 Multiple Choice (Weighted 40%) District Mean Points Strand 2: Writing Elements 5th 19.9/27, 6th 19.7/27, 7th 19.5/27, HS 19.0/27**

Strategy/Intervention	Activities to implement the strategy/intervention	Metrics	Timelines Begin/End	Responsible Persons/Updates
Students will be taught to determine the correct response in embedded writing questions	Provide teachers examples of embedded writing questions (Gr. K-6)	Training Completion, Verification of usage using Classroom Walk Throughs	November 2012 - April 2013	Director of Educational Services
Students will be taught to write based on the Common Core	Train teachers in the skills of citing evidence and argument (Gr. 7-12)	Training Completion, Verification of usage using Classroom Walk Throughs	January 2013 - April 2013	Director of Educational Services
	Train teachers in the use of academic vocabulary	Training Completion, Verification of usage using Classroom Walk Throughs	January 2013 - April 2013	Director of Educational Services
	Train teachers in response to reading strategies	Training Completion, Verification of usage using Classroom Walk Throughs	January 2013 - April 2013	Director of Educational Services

**HUMBOLDT UNIFIED SCHOOL DISTRICT
 BOARD GOALS
 2012-13**

Goal 2. Focus on Planning for the Future Student Needs

Smart Goal: The Humboldt Unified School District will prepare students for College and Career Readiness as demonstrated by increasing the four year graduation rate from 82% to 85%. Evidence - 2012 Graduation Rate = 82%, 2011 Graduation Rate = 83%

Strategy/Intervention	Activities to implement the strategy/intervention	Metrics	Timelines Begin/End	Responsible Persons/Updates
Students will receive individualized instruction based on their needs, especially at the K-3 levels (Move on When Reading)	Train teachers in effective RTI Tier I (direct instruction) and Tier II (intervention) strategies (K-12)	Training Completion, Classroom Walk Throughs	Aug. 2012 - April 2013	Training - Director of Educational Services, Classroom Walk Throughs - Principals
	Train teachers in the effective use of assessment data to intervene with students	Training Completion, Classroom Walk Throughs, Gaillieo Risk Assessment Report	October 2012, December 2012, February 2013	Training - Director of Educational Services, Classroom Walk Throughs - Principals

**HUMBOLDT UNIFIED SCHOOL DISTRICT
 BOARD GOALS
 2012-13**

Goal 3. Increase Parental/Community Involvement

Smart Goal: The Humboldt Unified School District will engage the Community in the decision making process. **Evidence:** All my child's
 During the Spring Parental Survey, parents responded "strongly disagree or disagree" to the following question:
 teachers meet his/her learning needs by individualizing instruction (10 of 10 Schools, range 10.43% to 32.74%)
 All of my child's teachers help me to understand my child's progress (6 of 10 Schools, range 7.59% to 23.96%)
 All of my child's teachers keep me informed regularly of how my child is being graded (6 of 10 Schools, range 10.17% to 32.00%)

Strategy/Intervention	Activities to implement the strategy/intervention	Metrics	Timelines Begin/End	Responsible Persons/Updates
Engage the Community in the decision making process	The district will establish a Strategic Planning Committee	Monthly Meetings	January 2013 - On Going	Superintendent
	The district will present the Vision and Budget to the community	PTO, Site Council, Community Organizations	October 2012 - On Going	Superintendent, Director of Finance, PR Director
	The district will administer the AdvancEd Surveys to gain parental input	Survey Results	Winter 2013	PR Director
Provide regular updates related to areas from the survey results	The district and schools will provide regular communication on Individualized Instruction, students' progress, and grading.	Emails, Phone Calls, Presentations	October 2012 - On Going	Superintendent, PR Director, Principals



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**HUMBOLDT UNIFIED SCHOOL DISTRICT
 SCHOOL GOALS
 2012-13**

Goal 4. Attract and Retain Highly Effective Employees

Smart Goal: *The Humboldt Unified School District will attract and retain highly effective employees through fair and equitable practices that meet their needs to ensure student success.*

Strategy/Intervention	Activities to implement the strategy/intervention	Metrics	Timelines Begin/End	Responsible Persons/Updates
Attract highly effective employees to the district	<ul style="list-style-type: none"> -Participate in statewide job fairs -Develop recruiting materials for future employees -Establish staffing and recruiting timelines to enhance the applicant pool 	<ul style="list-style-type: none"> -Number of highly effective employees gained -Future Employee Packet 	<ul style="list-style-type: none"> Spring 2013 February 2013 December 2012 	<ul style="list-style-type: none"> -Director of HR -Principals -Director of HR -PR Director -Director of HR -Personnel Coordinator -Principals
Retain highly effective employees in the organization	<ul style="list-style-type: none"> -Conduct a market analysis to compare salaries and benefits packages 	<ul style="list-style-type: none"> -Board Report 	<ul style="list-style-type: none"> May 2013 	<ul style="list-style-type: none"> -Director of HR -Finance Director -PR Director

	<ul style="list-style-type: none"> -Identify potential future administrators and teacher leaders within HUSD -Enhance New Employee Orientation to promote benefits, mission, district goals, achievement, and policies and procedures -Compute and analyze exit surveys for employees 	<ul style="list-style-type: none"> -Identify future leaders through preliminary staffing evaluations -Establish Leadership Institute Objectives -New Employee Orientation Agendas and Surveys -Survey data 	<p>October 2012/March 2013/Ongoing</p> <p>Fall 2013</p> <p>-June 2013</p>	<ul style="list-style-type: none"> -Director of HR -Principals -Curriculum Director -Superintendent -Director of HR -Curriculum Director -Instructional Specialists -Director of HR -Personnel Coordinator -Principals
<p>To identify and increase the ways in which we can support our employees</p>	<ul style="list-style-type: none"> -Provide training for administrators on current legal topics and policies and procedures -Identify training materials utilizing a variety of multimedia options -Review current ESI procedures to ensure maximum benefit to both parties 	<ul style="list-style-type: none"> -Training Agendas -Identify training opportunities for multimedia -Executive Summary -Analysis of practices 	<p>Ongoing</p> <p>Fall 2013</p> <p>February 2013</p>	<ul style="list-style-type: none"> -Cabinet Leadership Team -YCEF Consultant -ASA/ASCD -Director of HR -IT Coordinator -Director of HR -Finance Director

Appendix E

Auditor General Report and School Budget

Budget information will be available
at the June 25 meeting.

**Comparison of Efficiency Measures
Fiscal Year 2010**

Efficiency Measure	Humboldt USD	Peer Group Average
Administrative cost per pupil	\$556	\$748
Plant operations cost per square foot	5.11	5.70
Food service cost per meal	2.19	2.66
Transportation cost per mile	2.36	3.40
Transportation cost per rider	709	937

receptionists. Further, Humboldt USD's high-level administrators, such as the superintendent, business manager, and principals, were paid less despite generally having a similar number of years of experience in their respective positions as the audited peer districts' administrators.

Efficient plant operations—Humboldt USD's plant operations costs were 10 percent lower per square foot and 20 percent lower per student than peer districts'. These lower costs were primarily because of lower staffing levels, lower salaries, and lower energy costs.

Efficient food service program—Humboldt USD's \$2.19 cost per meal was much lower than the peer districts' average of \$2.66 per meal. By maintaining a low cost per meal, the District was able to cover all of its program costs, while having enough monies remaining to help pay for some indirect costs, such as utilities. The lower costs were primarily the result of lower food costs, which the District has helped keep low by implementing several effective cost-controlling techniques. Specifically:

- **Fully use commodities**—To help take full

advantage of the commodities program, the District purchased an additional freezer and created additional dry storage space so that it can receive large amounts of commodities. Further, the District requests and accepts additional commodities when they become available.

- **Prepare menus to use available food inventory**—The District reviews its food inventory and modifies the cafeteria menus to minimize food waste and limit the purchase of noncommodity food items.
- **Offer some every-day menu options**—Although the District offers five or six meal choices to students on a daily basis, it is still able to keep its costs low by limiting food waste. Several of the same meal options are offered every day and some of these every-day options are the type of meals that can be refrigerated until needed and served the following day if unsold.
- **Monitor meal demand to limit waste**—The District monitors the number of meals produced and served by specific meal type and uses this information to determine the appropriate amount of food items to order and the number of meals to prepare the next time specific meals are served.

Efficient transportation program—Humboldt USD's transportation program operated efficiently with a \$2.36 cost per mile that was 31 percent lower than the peer districts' and a \$709 cost per rider that was 24 percent lower than the peer districts'. These lower costs were primarily the result of lower salaries, repair and maintenance costs, and fuel costs.

District needs to strengthen controls over its computer systems

Humboldt USD needs to improve controls over its computer systems in three ways. First, the District needs to separate the incompatible job duties of having the system administrator for the accounting system also be a user of the system. Second, the District needs to strengthen password requirements. Third, the District needs to develop and implement a disaster recovery plan. Although no improper transactions were detected in the sample we reviewed, these improvements are necessary to

help prevent fraud and abuse, protect sensitive information, and ensure continuity of operations in a disaster.

Recommendations—The District should:

- Separate the system administrator duties from the business office functions.
- Implement and enforce password requirements.
- Create and implement a formal IT disaster recovery plan.