



Middle School Math

At least one of the following artifacts must be discussed during the evaluation: peer feedback, student feedback, lesson plans, student work or parent feedback.

QUALITY STANDARD 1

Teachers demonstrate mastery of and pedagogical expertise in the content they teach.

The elementary teacher is an expert in literacy and mathematics and is knowledgeable in all other content areas he or she teaches. The secondary teacher has knowledge of literacy and mathematics and is an expert in his or her content endorsement area.

ELEMENT A: Teachers provide instruction that is aligned with the Colorado Academic Standards, their District's organized plan of instruction; and the individual needs of their students.

Examples of artifacts that may be used as evidence to support practice:

- Review homework
- Day starter (warm-up)
- Skills review
- Essential question and/or objective posted on the board
- Unit Outline - essential vocab, links, standards, review topics
- Pre-assessment for unit
- Formative assessment
- Using data to determine student need / areas of growth
- PLC's within grade
- Department meetings
- Refer to learning goals throughout the lesson
- Using common language
- Backward unit planning
- Intentional Learning targets
- SMP's evident in classroom

ELEMENT B: Teachers demonstrate knowledge of student literacy development in reading, writing, speaking and listening.

Examples of artifacts that may be used as evidence to support practice:

- word walls
- front load with vocab
- Use vocab in communicating math understanding
- Reinforcing math understanding through written formats

- Thinking Maps
- Standards of Math Practice (SMP): provide opportunities for students to critique reasoning, summarize, explain their thinking
- Using relevant articles to address key concepts (technical writing)
- “Math in the News”
- Math Facts in the news and articles
- Problem Solving strategies and “decoding”

ELEMENT C: Teachers demonstrate knowledge of mathematics and understand how to promote student development in numbers and operations, algebra, geometry and measurement and data analysis and probability.

Examples of artifacts that may be used as evidence to support practice:

- Relating math to real life
- Relate to importance of math in various content areas
- Incorporate questioning techniques - deep thinking / curiosity
- Explain how logical math thinking is used in many areas
- Focus on numeracy by building on skills, facts, rote procedures
- Use math language appropriately
- Show numerous ways to solve a problem
- Connecting math to other subjects
- Connections to previous learning and future learning
- Shows math not in isolation of other topics
- Unit planning reflects balance of conceptual understanding and procedural fluency
- Demonstrate that Math procedures have a why, not only a how, and this is articulated to students.

ELEMENT D: Teachers demonstrate knowledge of the content, central concepts, tools of inquiry, appropriate evidence-based instructional practices and specialized character of the disciplines being taught.

Examples of artifacts that may be used as evidence to support practice:

- Sequential programming
- Instructional practices (multi-modal)
- Tools of inquiry
- Investigations within the learning
- Variety of instructional materials - textbook, technology, manipulatives

ELEMENT E: Teachers develop lessons that reflect the interconnectedness of content areas/disciplines.

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- Unit planning reflects balance of conceptual understanding and procedural fluency
- Math procedures have a why, not only a how, and can articulate to students

ELEMENT F: Teachers make instruction and content relevant to students and take actions to connect students' background and contextual knowledge with new information being taught.

Examples of artifacts that may be used as evidence to support practice:

- Providing choice (self-select).
- Real life connections to own backgrounds.
- Links to past, present, future learning.
- Uses variety of activities.
- Knows their students, needs, and abilities.
- Provide support for student engagement.

QUALITY STANDARD II

Teachers establish a safe, inclusive and respectful learning environment for a diverse population of students.

ELEMENT A: Teachers foster a predictable learning environment in the classroom in each student has a positive, nurturing relationship with caring adults and peers.

Examples of artifacts that may be used as evidence to support practice:

- Provides an Inclusive environment.
- Clear expectations.
- Students have a voice - shared and heard.
- Structure and routines that students are familiar with.
- Teacher knows something about their student (interests, math ability)
- Provide opportunities for success for all students.
- rules and expectations posted and discussed,
- regular routines (daystarters, assignment logs, availability of teacher for one-on-one after school assistance, etc.)
- Post on Schoology/PowerSchool/Google Docs
- use of culturally relevant strategies (safety nets, safe spaces, etc...)
- positive feedback
- constructive feedback
- student work displayed
- teacher listens to students' needs, opinions, concerns,
- Models democratic practices (majority rules, civic virtue, working for the common

- good, civil discourse, becoming active, participatory, responsible citizens)
- High expectations for all students

ELEMENT B: Teachers demonstrate a commitment to and respect for diversity, while working toward common goals as a community and as a country.

Examples of artifacts that may be used as evidence to support practice:

- Knowledge of their students.
- Acknowledging the backgrounds of students.
- Create opportunities for community within classroom.
- Public/community service projects
- Conversation calendars - individual conversations with students
- respectful courageous conversations
- author's chair
- table talks
- four corners discussion
- homeroom/team/grade level community building (contests, fund raisers)
- clock partners
- rules and expectations posted and discussed,
- regular routines (daystarters, assignment logs, availability of teacher for one-on-one after school assistance, etc.)
- Post on Schoology/PowerSchool/Google Docs
- use of culturally relevant strategies (safety nets, safe spaces, etc...)
- positive feedback
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- student work displayed
- teacher listens to students' needs, opinions, concerns,
- Models democratic practices (majority rules, civic virtue, working for the common good, civil discourse, becoming active, participatory, responsible citizens)
- High expectations for all students
 - one on one meetings to help struggling students
 - College readiness for all students
 - Defining family structures inclusively within a civil society

ELEMENT C: Teachers engage students as individuals with unique interests and strengths.

Examples of artifacts that may be used as evidence to support practice:

- Real life connections specific to student interest.
- Awareness of student progress/sharing.
- Praise/rewards.
- Scaffold questions to address all learners.
- Wait time for all students.
- Opportunity for all students to succeed.
- Entry point for all students.
- All students asked challenging questions.
- Public/community service projects
- Conversation calendars - individual conversations with students
- respectful courageous conversations

- author's chair
- table talks
- four corners discussion
- homeroom/team/grade level community building (contests, fund raisers)
- clock partners
- honoring unique talents in all students (informative speech, narratives, journaling)
- author's chair opportunities

ELEMENT D: Teachers adapt their teaching for the benefit of all students, including those with special needs across a range of ability levels.

Examples of artifacts that may be used as evidence to support practice:

- Apply knowledge of IEP's.
- Multiple strategies.
- Collaborates with colleagues.
- Recognize different learning issues that may be undiagnosed
- Public/community service projects
- Conversation calendars - individual conversations with students
- respectful courageous conversations
- author's chair
- table talks
- four corners discussion
- homeroom/team/grade level community building (contests, fund raisers)
- clock partners
- honoring unique talents in all students (informative speech, narratives, journaling)
- author's chair opportunities

ELEMENT E: Teachers provide proactive, clear and constructive feedback to families about students' progress and work collaboratively with the families and significant adults in the lives of their students.

Examples of artifacts that may be used as evidence to support practice:

- Positive feedback
- parent emails
- phone calls
- Schoology
- parent-teacher-student conferences
- IEP/504 meetings
- Communication logs
- Attend student activities
- Back to School Night
- Setting learning goals, targets with families
- Goal setting
- Advisor/Advisee
- Mentor to students
- regular updates and documents posted to Schoology/COLE
- schedules and/or attends parent/advocate meetings
- proactive emails and phonecalls

- regular updates to Powerschool
- parent and team e-mails and or phone calls sent at intervals throughout the year
- parent-student-teacher conferences,
- communication about student strengths/needs prior to conferences and following up after meetings/conferences
- IEP meetings/504 meetings
- RTI/Care and Concern meetings
- COLE, Schoology and Powerschool updated on a regular basis
- Communication logs maintained
- Back to School Night
- setting learning goals, learning targets with families and students
- Attend student activities

ELEMENT F: Teachers create a learning environment characterized by acceptable student behavior, efficient use of time and appropriate intervention strategies.

Examples of artifacts that may be used as evidence to support practice:

- rules and expectations posted and discussed,
- regular routines (daystarters, assignment logs, availability of teacher for one-on-one after school assistance, etc.)
- Good use of instructional time
- efficient transitions
- balanced instruction
- multiple modes of instruction
- Models democratic practices (majority rules, civic virtue, working for the common good, civil discourse, becoming active, participatory, responsible citizens)
- Students reflect on classroom behavior and participation for the day

QUALITY STANDARD III

Teachers plan and deliver effective instruction and create an environment that facilitates learning for their students.

ELEMENT A: Teachers demonstrate knowledge of current developmental science, the ways in which learning takes place and the appropriate levels of intellectual, social and emotional development of their students.

Examples of artifacts that may be used as evidence to support practice:

- Differentiate and modify according to student needs.
- Stays current on knowledge and research to assist with teaching and learning.
- Collaborates with experienced colleagues for the improvement of lessons.
- Understand the development of middle school students and how it affects their learning.
- Thinking Maps to enhance learning.

ELEMENT B: Teachers plan and consistently deliver instruction that draws on results of student assessments, is aligned to academic standards and advances students' levels of content knowledge and skills.

Examples of artifacts that may be used as evidence to support practice:

- Uses data to drive instruction.
- Gathers data on student performance to adjust/modify instruction.
- Encourages students to take academic risks.
- Follows up on student learning (meeting objectives).

ELEMENT C: Teachers demonstrate a rich knowledge of current research on effective instructional practices to meet the developmental and academic needs of their students.

Examples of artifacts that may be used as evidence to support practice:

- PLT's to share evidence based research, data, and instruction.
- Use best practices and data to instruction.
- Differentiates to meet needs of each student in your class.

ELEMENT D: Teachers thoughtfully integrate and utilize appropriate available technology in their instruction to maximize student learning.

Examples of artifacts that may be used as evidence to support practice:

- Uses technology to enhance lessons.
- Ensures that all students can use technology.
- Teacher incorporates activities that require technology use
- Teacher demonstrates technology use in mathematical contexts
- Uses technology to develop student skills.

ELEMENT E: Teachers establish and communicate high expectations for all students and plan instruction that helps students develop critical thinking and problem solving skills.

Examples of artifacts that may be used as evidence to support practice:

- Standard of Mathematical Practice -all 8!
 - Making sense of problems and persevere in solving them.
 - Use tools strategically.
 - Construct logical arguments and critique the reasoning of others.
 - Attend to Precision.
 - Use mathematical models.
 - Look for repeated reasoning.
 - Recognize structure.
 - Reason abstractly and quantitatively.
- Teacher communicates expectations clearly and consistently
- Activities are structured to allow for students to share thinking with others

ELEMENT F: Teachers provide students with opportunities to work in teams and develop leadership qualities.

Examples of artifacts that may be used as evidence to support practice:

- Cooperative groups - homogeneous, heterogeneous, ability.
- Problem solving cycle
- Jigsaw
- Peer tutors.
- Assign roles.
- Monitoring and awareness of student work -ask to present.

ELEMENT G: Teachers communicate effectively, making learning objectives clear and providing appropriate models of language.

Examples of artifacts that may be used as evidence to support practice:

- Stating objectives.
- Questioning and listening.
- Expecting mathematical vocabulary.
- Math conversations.
- Student as teacher or demonstrator

ELEMENT H: Teachers use appropriate methods to assess what each student has learned, including formal and informal assessments, and use results to plan future instruction.

Examples of artifacts that may be used as evidence to support practice:

- Daily discussions.
- Homework.
- Projects.
- Exit cards.
- Class discussion.
- Self-assessment.
- Unit assessments - quizzes and tests.
- Check-ins with students.
- Self-reflect on learning (missed work).