

Core Math Instructional Expectations

A workshop model should be the foundation for all math instruction in SAU9. The following is an overview of expectations of core components of a math workshop model. The workshop model should be developed to such an extent that students know what to expect within each core instructional component.

Warm-Up (5 minutes)

The warm-up is intended to develop a routine that primes students for the workshop ahead and elicits feedback and self-reflection for further instruction. Warm-up should be as independent as developmentally possible and include choice and scaffolding for individual student needs.

Intended outcome of the warm-up is to:

- Assess and activate prior knowledge
- Review recently taught skills
- Hook kids with playing with a new concept
- Allow for self-reflection of understanding of a topic

Effective warm-ups could include (at all grades):

- Counting and cardinality activities Mental math
- Visualization
- Exploration of materials tied to the lesson

Strategies for developing the warm-up routine:

- Have directions in the same place each day
- Establish procedural routines for getting ready for math
- Provide a 3-5 minute independent activity
- Elements of choice or scaffolding

Whole Group Mini-Lesson (10-15 minutes)

The mini-lesson is intended to introduce new material, provide students with resources to use during practice time, develop strategies or tools, and is tied to content and/or work habits. The mini-lesson should include something that all children can access regardless of skill, age, and/or developmental level.

Intended outcome of the mini-lesson is to:

- Prepare students for the small group or individual practice time
- Model new skills, materials, concepts/strategies and connect previously learned concepts
- Articulate learning targets/outcomes with criteria for success (“At the end of the lesson _____, I will know I have _____ when _____”)
- Hook students into learning new material by articulating relevance to the real-world

Effective mini-lessons could include:

- Teacher-led demonstration of new strategies and/or concepts
- Review of notes and resources to be used in practice
- Teacher-guided exploration of new vocabulary, materials, skills
- Creation/review of anchor charts for reference

Strategies for planning the mini-lesson:

- Pose purposeful questions aimed at the learning outcomes or previously learned material necessary for the independent practice time
- Facilitate meaningful mathematical discourse
- Set goals for individual, small group, or whole group of students

Practice: Small Group and/or Individual (35-50 minutes)

The practice time is intended to provide students with diverse opportunities to engage in the content and skills. During this time, students may work individually, with partners, and/or small groups to work toward individual learning targets. Teachers use this time to confer, assess and guide students toward goals. This should include additional instruction based on assessment and observation of progress.

Intended outcomes of the practice time is to:

- Student-led demonstration of learning targets (can be individual, small group, or based on the whole group mini-lesson)
- Formatively assess mastery and application of skills
- Self-assess skill development and/or progress toward goals
- Allow for student-teacher and/or student-student conferences that promote self-reflection and probes for further instruction/investigation
- Allow students to communicate understanding
- Build procedural fluency from conceptual understanding

Effective practice time includes:

- Promotion of struggle and problem-solving
- Ample time for collaboration
- Multiple pathways to understanding and demonstration of learning targets
- Guided choice in tasks, pathways to learning, and assessment of skills.

Strategies for developing the practice block:

- Create a balance of exploration, problem-solving, skill practice, and small group, partner and individual time. Utilize “must-do”, “can-do” and next steps.
- Determine method of assessment of mastery and application of skills and how to provide meaningful feedback to students.

Wrap (5-10 minutes)

The wrap-up is intended to summarize the learning, redirect attention to the learning objectives and allow ample time for reflection, sharing and planning for next steps.

Intended outcomes of the wrap is to:

- Elicit and use evidence of student thinking to summarize new concepts or skills.
- Utilize peer to peer sharing to promote self-reflection of progress toward goals, strategies, and work habits established in the mini-lesson
- Link new learning to previously learned skills and preview next steps in the learning process.
- Transfer new ideas to other situations

An effective wrap may include:

- Formative assessment of skill development
- Self-reflection time
- Strategizing and/or goal setting for future lessons and/or individual growth targets
- Sharing of successes and strategies

Strategies for developing the wrap-up:

- Utilize formative assessment strategies (exit ticket, plan for tomorrow, etc.) to guide and plan for further instruction.
- Think-pair-share
- Use open-ended questioning techniques that promote elaboration and extension of mathematical reasoning.
- Share observations of student work that others could benefit from