

A quick guide for observing classroom content and practice

In grade 4, instructional time should focus on three critical areas:

1.

Developing understanding and fluency with multi-digit multiplication, and developing understanding of dividing to find quotients involving multi-digit dividends (OA, NBT)

2.

Developing an understanding of fraction equivalence, addition and subtraction of fractions with like denominators, and multiplication of fractions by whole numbers (NF)

3.

Understanding that geometric figures can be analyzed and classified based on their properties, such as having parallel sides, perpendicular sides, particular angle measures, and symmetry (G)

In a 4th grade math class you should observe students engaged with at least one math standard and practice:

Content Standards

Operations and Algebraic Thinking (OA)

- Using the four operations with whole numbers to solve problems
- Gaining familiarity with factors and multiples
- Generating and analyzing patterns

Number and Operations in Base Ten (NBT)

- Generalizing place value understanding for multi-digit whole numbers
- Using place value understanding and properties of operations to perform multi-digit arithmetic

Geometry (G)

- Drawing and identifying lines and angles and classifying shapes by properties of their lines and angles

Number and Operations—Fractions (NF)

- Extending understanding of fraction equivalence and ordering
- Building fractions from unit fractions by applying and extending previous understandings of operations on whole numbers
- Understanding decimal notation for fractions, and comparing decimal fractions

Measurement and Data (MD)

- Solving problems involving measurement and conversion of measurements from a larger unit to a smaller unit
- Representing and interpreting data
- Understanding concepts of angles and measuring angles

Mathematical Practices

- Making sense of problems and persevering in solving them
- Reasoning abstractly and quantitatively
- Constructing viable arguments and critiquing the reasoning of others
- Modeling with mathematics
- Using appropriate tools strategically
- Attending to precision
- Looking for and making use of structure
- Looking for and expressing regularity in repeated reasoning

NOTES



Mathematics What to Look For Guide

The practices below, which are aligned to the MA Model Teacher Rubric, should be evident in planning and instruction. Any particular lesson will demonstrate some of the practices, not all. For each lesson, artifacts or observables might include: lesson plan, tasks and assessments, teacher instruction, student discussion and behavior, or student work.

Standard I: Curriculum, Planning, and Assessment (I-A, I-B)

- The lesson focuses on grade-level cluster(s), content standard(s), or part(s) thereof.
- The lesson intentionally targets the aspect(s) of rigor (conceptual understanding, procedural skill and fluency, and application) called for by the content and practice standard(s) being addressed.
- The lesson includes clear explanations, representations, and/or examples to make the mathematics of the lesson explicit.
- The lesson intentionally relates new learning to students' prior skills and knowledge.
- The lesson includes opportunities to monitor learning throughout the lesson (such as through questioning or performance on short problems).

Standard II: Teaching all Students (II-A)

- The teacher poses high quality questions and problems, and provides time for students to develop and communicate their thinking about the content of the lesson.
- The teacher uses variation in students' ideas and solution methods to strengthen other students' understanding.
- The teacher addresses student variability and diverse needs (including English language learners and students with disabilities) to ensure equitable access to the lesson and achievement of the standard(s).
- The teacher guides student thinking toward the focus of the lesson and references student work and discussion to summarize the mathematics learned.

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