Massachusetts Curriculum Framework | MATHEMATICS | 5

WHAT TO LOOK FOR

A quick guide for observing classroom content and practice

In **grade 5**, instructional time should focus on three critical areas:

1. Developing fluency with addition and subtraction of fractions, and developing understanding of the multiplication of fractions and of division of fractions in limited cases (unit fractions divided by whole numbers and whole numbers divided by unit fractions) (NF)
2. Extending division to 2-digit divisors, integrating decimal fractions into the place value system and developing understanding of operations with decimals to hundredths, and developing fluency with whole number and decimal operations (NBT)
3. Developing understanding of volume (MD)

In a **5th grade math** class you should observe students engaged with at least one math standard <u>and</u> practice:

Content Standards

Operations and Algebraic Thinking (OA)

- ☐ Writing and interpreting numerical expressions
- ☐ Analyzing patterns and relationships

Number and Operations in Base Ten (NBT)

- ☐ Understanding the place value system
- ☐ Performing operations with multi-digit whole numbers and with decimals to hundredths

Number and Operations—Fractions (NF)

- ☐ Using equivalent fractions as a strategy to add and subtract fractions
- ☐ Applying and extending previous understandings of multiplication and division to multiply and divide fractions

The Number System (NS)

- ☐ Gaining familiarity with concepts of positive and negative integers

Measurement and Data (MD)

- ☐ Converting like measurement units within a given measurement system
- ☐ Representing and interpreting data
- ☐ Geometric measurement: Understanding concepts of volume and relating volume to multiplication and to addition

Geometry (G)

- ☐ Graphing points on the coordinate plane to solve real-world and mathematical problems
- ☐ Classifying two-dimensional figures into categories based on their properties

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.

NOTES

The list of indicators for teachers is courtesy of *Student Achievement Partners* (http://achievethecore.org/).
See the full set of Standards and Indicators in ESE's Model Teacher Rubric (http://www.doe.mass.edu/edeval/model/PartIII_AppxC.pdf).