In a 3rd grade math class you should observe students engaged with at least one math standard and practice:

### 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

### Content Standards

#### Operations and Algebraic Thinking (OA)

- Using multiplication and division within 100 to solve word problems and describe situations involving equal groups, arrays, and measurement quantities, by using drawings and equations with a symbol for the unknown number (variable) to represent the problem
- Applying properties of operations (commutative, associative, identity and distributive) to multiply (Students are not required to name the properties)
- Fluently multiplying and dividing within 100, using a range of strategies and algorithms, such as the relationship between multiplication and division or properties of operations
- Solving two-step word problems using the four operations (whole numbers only)
- Assessing the reasonableness of answers using mental computation and estimation strategies such as rounding

#### Number and Operations in Base Ten (NBT)

- Fluently adding and subtracting within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction
- Using place value understanding to round whole numbers to the nearest 10 or 100

#### Measurement and Data (MD)

- Telling and writing time to the nearest minute, measure time intervals in minutes, and solve word problems involving addition and subtraction of time intervals in minutes
- Measuring and estimating liquid volumes and masses of objects using standard metric units of grams (g), kilograms (kg), and liters (l) and use drawings to solve one-step word problems
- Drawing a scaled picture graph and a scaled bar graph to represent a data set with several categories, and using the graph to solve how many more and how many less problems
- Generating measurement data by measuring lengths of objects using rulers marked with halves and fourths of an inch. Recording and showing the data by making a line plot (dot plot)

#### Geometry (G)

- Recognizing rhombuses, rectangles, squares, and trapezoids as examples of quadrilaterals
- Comparing and classifying shapes by their sides and angles
- Partitioning shapes into parts with equal areas and expressing the area of each part as a unit fraction of the whole

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**NOTES**

In grade 3, instructional time should focus on four critical areas:

1. Developing understanding of multiplication and division and strategies for multiplication and division within 100 (OA)
2. Developing understanding of fractions, especially unit fractions (fractions with numerator 1) (NF)
3. Developing understanding of the structure of rectangular arrays and of area (G)
4. Describing and analyzing two-dimensional shapes (G)
Mathematics What to Look For The example below features three Indicators from the Standards of Effective Practice. These Indicators are just a sampling from the full set of Standards and were chosen because they create a sequence: the educator plans a lesson that sets clear and high expectations, the educator then delivers high quality instruction, and finally the educator uses a variety of assessments to see if students understand the material or if re-teaching is necessary. This example highlights teacher and student behaviors aligned to the three Indicators that you can expect to see in a rigorous 3rd grade math classroom.

### Expectations
(Standard II, Indicator D)

**What is the teacher doing?**
- Communicating both the language and content objectives for students and why they are important
- Creating culturally responsive lessons that engage and sustain student attention
- Focusing attention on mathematical language (e.g., linguistic complexity, conventions, and vocabulary)
- Representing and relating solution methods orally, visually, and with concrete objects

**What are the students doing?**
- Applying mathematical strategies and concepts when engaging with meaningful real-world problems
- Using mathematical language precisely to convey meaning and understanding of concepts
- Evaluating different representations of a problem and different solution pathways

### Instruction
(Standard II, Indicator A)

**What is the teacher doing?**
- Highlighting when students draw explicitly upon class content during discussions with peers
- Encouraging students to interpret structures and formulate conjectures about mathematical situations
- Highlighting commonalities, differences, and patterns in student's ideas.

**What are the students doing?**
- Specifically choosing symbols and words to express their mathematical ideas to others
- Showing persistence and focus in working together toward a shared goal
- Drawing explicitly upon content they have learned in class in conversations with peers

### Assessment
(Standard I, Indicator B)

**What is the teacher doing?**
- Conducting frequent checks for student understanding and adjusting instruction accordingly
- Prompting students to explain their reasoning and listening to their responses to identify misconceptions
- Providing exemplars that convey mathematical reasoning and understanding (both teacher and student generated)

**What are the students doing?**
- Purposefully incorporating feedback from teacher and peers into actions
- Demonstrating learning in multiple ways (e.g., student discourse, completion of class work)
- Engaging in challenging learning tasks regardless of learning needs (e.g., linguistic background, disability, academic gifts)