

A quick guide for observing classroom content and practice

In grade 1, instructional time should focus on four critical areas:

**1.**

Developing understanding of addition, subtraction, and strategies for addition and subtraction within 20 (OA)

**2.**

Developing understanding of whole number relationships and place value, including grouping in tens and ones (NBT)

**3.**

Developing understanding of linear measurement and measuring lengths as iterating length units (MD)

**4.**

Reasoning about attributes of, and composing and decomposing geometric shapes (G)

In a **1<sup>st</sup> grade math** class you should observe students engaged with at least one math content and practice standard:

## 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)

- Representing and solving problems involving addition and subtraction to find an unknown number
- Adding and subtracting within 20, using strategies of *counting on* and *making ten*
- Working with addition and subtraction equations (*number sentences*)

### Geometry (G)

- Composing and decomposing plane or solid figures to explore *properties*
- Partitioning rectangles and circles into two or four equal shares (*halves* and *fourths*)

### Measurement and Data (MD)

- Measuring lengths indirectly and by iterating same-size length units
- Telling and writing time in hours and half-hours
- Representing, organizing, and interpreting data
- Identifying values, comparative values, and equivalent values of coins

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

- Identifying patterns of skip counting starting at any number
- Understanding place value to the hundreds place
- Identifying patterns of *10 more* and *10 less than* using strategies based on place value.

NOTES

**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 1<sup>st</sup>-grade math classroom.

**Expectations**  
(Standard II, Indicator E) Plans and implements lessons that set clear and high expectations and also make knowledge accessible for all students.

**What is the teacher doing?**

- Clearly communicating the learning objectives for the lesson orally and visually in student-friendly terms
- Focusing attention on newly learned 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?**

- Persisting when engaging with mathematical tasks
- Applying mathematical strategies and concepts when engaging with meaningful real-world problems
- Using everyday and mathematical language to express their mathematical ideas
- Explaining their thinking when approaching a mathematical problem

**Instruction**  
(Standard II, Indicator A) Uses instructional practices that reflect high expectations regarding content and quality of effort and work; engage all students; and are personalized to accommodate diverse learning styles, needs, interests, and levels of readiness.

**What is the teacher doing?**

- Creating a culture of being careful and precise
- Providing students with opportunities to apply their learning and solve problems in collaboration with their peers
- Providing opportunities and structures for students to communicate their mathematical ideas and thinking with each other

**What are the students doing?**

- Working cooperatively on a shared activity
- Discussing with other students how multiple representations of numbers, operations and shapes relate to each other
- Noticing patterns in the number system and geometric contexts
- Explaining how multiple representations of numbers and/or operations relate to one another

**Assessment**  
(Standard I, Indicator B) Uses a variety of informal and formal methods of assessments to measure student learning, growth, and understanding to develop differentiated and enhanced learning experiences and improve future instruction.

**What is the teacher doing?**

- Providing actionable feedback to students about their problem solving processes
- Using multiple formative approaches to assess students (e.g., conferences, task completion)
- Conducting frequent checks for student understanding and adjusting instruction accordingly

**What are the students doing?**

- Engaging in challenging learning tasks regardless of learning needs (e.g., linguistic background, disability, academic gifts)
- Using concrete objects or pictures to explore mathematical concepts and relationships
- Using exemplars to inform their work