Central Connecticut State University

MATHEMATICS K

WHAT TO LOOK FOR

A quick guide for observing classroom content and practice

In a **Kindergarten 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

Counting and Cardinality (CC)
- Counting to 100 by ones and tens
- Writing the numbers from 0 to 20 to represent a number of objects
- Recognizing *one more* and *one less* patterns of counting using objects
- Comparing numbers and groups of objects

Operations and Algebraic Thinking (OA)
- *Decomposing* numbers less than or equal to 10 into pairs in more than one way
- Fluently adding and subtracting within 5

Number and Operations in Base Ten (NBT)
- Working with numbers 11-19 to gain foundations for place value

Measurement and Data (MD)
- Describing measurable attributes such as length and weight and comparing using more and less to describe the difference
- Classifying objects, counting the number of objects in each category, and sorting the categories by count

Geometry (G)
- Identifying and describing shapes, including their position in space
- Analyzing and comparing two and three dimensional shapes in different sizes and orientations
- Composing simple shapes to make larger shapes

In **Kindergarten**, instructional time should focus on two critical areas:

1. Knowing number names and understanding addition as putting together and subtraction as taking apart/from (CC/OA)

2. Identifying, describing, analyzing, comparing, creating, and composing shapes (G)

NOTES

WHAT TO LOOK FOR | Structural Observation Guide

MATH **K**

Mathematics What to Look For The example below features three Indicators from the CT Common Core of Teaching. 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 kindergarten math classroom.

Domain 1 — Classroom Environment, Student Engagement and Commitment to Learning

What is the teacher doing?

- Clearly communicating the learning objectives for the lesson orally and visually in student-friendly terms
- Creating culturally responsive lessons that engage and sustain student attention
- Modeling critical thinking strategies to help establish problem solving and processing expectations

What are the students doing?

- Using everyday and mathematical language to express their mathematical ideas
- Explaining their thinking when approaching a mathematical problem
- Contextualizing quantities and operations by using manipulatives, images or stories

Domain 2 — Planning for Active Learning

What is the teacher doing?

- Providing opportunities and structures for students to communicate their mathematical ideas and thinking with each other
- Providing opportunities to look for generalizations among 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
- Working cooperatively on a shared activity
- Discussing with other students how multiple representations of numbers, operations and shapes relate to each other

Domain 3 — Instruction for Active Learning

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 and gauge understandings
- Providing exemplars that convey mathematical reasoning and understanding (both teacher and student generated)

What are the students doing?

- Responding to teacher feedback to improve their work
- Demonstrating learning in multiple ways (e.g., conferences, task completion)
- Engaging in challenging learning tasks regardless of learning needs (e.g., linguistic background, disability, academic gifts)

Connections to Theory and/ or Research

*This document is based on the CT Core Standards Classroom "Look Fors" and the MA Curriculum Observation Guide