

Curriculum Parent Overview (Kindergarten)

MATHEMATICS

UNIT #2: Counting Quantities, Comparing Lengths

CONTENT FOCUS:

Students count and represent quantities. The focus is on developing strategies for accurately counting quantities to 10, and on connecting those quantities to the counting words and the written numbers that represent them. Students compare the length of objects and the quantities of different sets.

UNIT FOCUS:

- Counting and representing quantities: Counting is the basis for understanding our number system and for much of the number work in the primary grades. Kindergartners vary considerably in their previous experience with numbers and counting; therefore, expect a wide range of understandings. Many students entering Kindergarten may know the oral counting sequence up to 5, 10, or much higher; but they will vary tremendously in their ability to accurately count a set of objects and in their sense of the size of quantities. Many are just beginning to explore and understand the ways in which numbers give information about quantities of real things. The work in this unit provides an introduction to and practice with many of the important aspects of counting. Students hear and use the counting sequence (the number names, in order) in a variety of contexts. They have many opportunities to connect number names with the written numbers and with the quantities they represent. They have repeated experience with counting sets of objects (e.g. How many pennies are in a jar?) and making sets of a set of 10 pennies?). Both kinds of activities help them see the importance of counting each object only once and of having a system for keeping track of what has been counted and what still remains to be counted. Counting and understanding quantities involves understanding the relationships between and among numbers. As students are developing accurate counting strategies, they are also building an understanding of how the numbers in the counting sequence are related- each 1 more (or 1 less) than the number before (or after) it. They are also beginning to build varied visual images of quantities as they work with dot images and Ten Frames. Students also begin a yearlong conversation about equivalence that is, in part, algebraic in nature. In this unit, the focus is on whether organization and order matter when you count. Although kindergartners will vary widely in their ability to represent their mathematical work on paper, when they are asked to do so, they are encouraged to do so in ways that make sense to them. Many use some combination of pictures, words, and numbers.
- Comparing and ordering quantities: Understanding *more*, *less*, and *equal* are foundational ideas in understanding number relationships. In this unit, students compare quantities as they decide which Number Card shows more, which handful has more, which Inventory Bag holds more, or which name has more letters. Through these activities, students develop an understanding of the concepts of *greater than*, *fewer than*, and *equal to* and develop language for describing quantitative comparisons (e.g., *bigger*, *more*, *smaller*, *fewer*, *less*, *same*, *equal*). This work with comparing and ordering

more than two quantities (e.g., handfuls), which give students experience with concepts such as *biggest*, *greatest*, *most*, *smallest*, *fewest*, and *least*.

- **Understanding length:** When students count a tower of cubes to find out “how many,” a natural question often arises: which tower has more- or which is longer- and how can we find out? Comparing is a natural way for students to approach measuring. Young children often spontaneously try to see who or what is bigger, taller, longer, or smaller. Therefore, the work in this unit focuses on introducing length and linear measurement through direct comparison. When students directly compare objects to and make sense of important aspects of accurate measurement, such as knowing which dimension to measure and how to line up objects to compare them. They also hear, become comfortable with, and use the language to describe the length- *long*, *short*, *wide*, *tall*, *high* (and the comparative forms, such as *longer*, *wider* and so on). This kind of qualitative comparison lays the essential foundation that will help students develop accurate strategies for linear measurement over the course of the elementary years.

MATHEMATICAL PRACTICES:

MP4: Model with mathematics.

MP8: Look for and express regularity in repeated reasoning.

CONNECTIONS TO PREVIOUS CONTENT: This unit builds on the work in Unit 1, **Counting People, Sorting Buttons**. The routines introduced in the unit (*Attendance*, *Calendar*, and *Today's Questions*) are now done on a regular basis outside of math time. Each provides practice with counting and comparing. Students revisit the Counting Jar several times and begin to use the materials they freely explored in the unit for a mathematical purpose.

CONNECTIONS TO FUTURE CONTENT: In Unit 4, **Count, Collect, and Measure**, students move from measuring objects to directly comparing them to using multiple units (e.g., craft sticks and cubes) to measure. They count and represent quantities to 15, and begin to think about combining and separating situations. Students act out stories; they play games that involve finding the total after a small amount is added to (or taken away from) a set of objects, or figuring out what they need to add to (or take away from) a set in order to make a set of a given size; and they decompose numbers in a variety of ways. They develop a wide range of images for the quantities up to 10 by finding many different ways to arrange a set of square tiles. They continue to use tools and representations to model and solve problems, and to clarify and communicate their work, and begin to think about how to use numbers and notation in their work.

MATH AT HOME:

- Play any of the following games with your child on SavvasRealize site after it has been introduced in the classroom:
 - Build It
 - Compare
 - Grab and Count
 - Grab and Count: Compare
 - Grab and Count: Ordering
 - Roll and Record 1, 2, and 3
- Encourage your child to explain his or her math thinking to you.

- Find opportunities to ask your child to count in different ways. (Count how many of an object, can you make a group of 6?)
- Have your child grab two handfuls of items and see which holds more.
- Find opportunities to ask your child about the length of different objects.
- Use a deck of cards to compare numbers like the game *War*.
- Review the Math Words and Ideas videos for this unit on SavvasRealize site.