SORICO MATH Family Newsletters
Southern Rhode Island Collaborative

Kindergarten Unit 2.1

Counting to 50 and Representing Quantities to 10

Key Content from This Unit:

In this unit, students count to 50 by ones and write numerals 0 through 10 to represent a group of objects. Students also count forward from any given number in this range. Students develop one-to-one correspondence by counting prearranged groups of 0 to 10 objects in a line, array, circle, or scattered group. Given a numeral from 0 to 10, children can count out that number of objects. Students start to compare numbers by using matching and counting strategies to compare groups of object with up to 10 objects total.

Vocabulary to Know:

Anchor in ten: The understanding that numbers can be thought of in relation to 10 (e.g., think of 8 as 2 less than 10 on a five frame) in order to build better number sense. This is the basis of our base-ten system.

Number: describe quantities or values, i.e., 4 is a number that is one less than 5, but one more than 3.

Numeral: symbols used to represent numbers, the shape itself without value, i.e., the numeral 1 is formed with a straight line down.

One-to-one correspondence: when counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object.

There are several progressions that develop number understanding:

From saying counting words to counting objects: children typically know the counting words before they can use them to count objects and really understand the meaning of those numbers.

From counting to counting on: children need to understand that the last number they say when counting a group of objects is the number of total objects in the group. This then leads to them being able to start counting from any number instead of always starting over again from one.

From spoken number words to written numerals: this is especially tricky with teen numbers which kindergarteners will work on later in the year.

What came before this:

In quarter one, students utilize a number of available tools, including but not limited to manipulatives, as they demonstrate their knowledge of counting and comparing numbers 0 through 10.

What comes after this:

Later in the year, students build on these skills as they continue the count sequence to 100, write numerals to 20, and represent objects to 20. They also compare 1–10 represented as numerals.

Common Core Focus:

- Count to 50 by 1s.
- Count forward from any number from 1 to 50.
- Write numerals from 0 to 10.
- Represent a number of objects with a written numeral 0 to 10.
- Connect counting and cardinality (understanding that, regardless of the arrangement, the last number said reflects the quantity).
- Compare groups of up to 10 objects using vocabulary less than, greater than, and equal to (same as).

K.CC.1, K.CC.1, K.CC.3, K.CC.4b, k>CC.5, K.CC.6

Spotlight on the Math Practices

Attend to Precision

Mathematically proficient students can work accurately and communicate mathematical ideas clearly with others.

In this unit, students *attend to precision* when they:

- Count carefully, counting each object exactly once,
- Explain their thinking clearly,
- Label pictures and numbers to represent their thinking,
- Match number words, numerals, and sets of objects carefully.
- Accurately match objects to help compare two sets.

How Can You Help?

- Have your child count object as often as possible – the number of books on the shelf, the number of crackers in a snack bag, the number of toe-touches they do.
- Practice writing numerals 0-10 in tactile ways – shaving cream, sand, in a baggie of paint or gel.
- Ask your child count, starting from a different number each time.
- Have your child compare two groups of object, i.e., compare the number of crayons to the number of pencils (up to 10).

KEY MATHEMATICAL MODELS of the COMMON CORE

SUBITIZING

Subitizing is the ability to immediately see how many objects there are without actually counting them. Subitizing in the classroom often occurs with dot arrangements in different patterns. Since children begin to learn these patterns by repetitive counting they are closely connected to their understanding of the particular number concept. Quantities up to 10 can be known and named without the routine of counting. For example, very young children can look at 5 a die and know it is 5  without counting the pips.

Subitizing helps students develop many early number concepts. When they see that image on the die as 5 they learn that five is more than four, five can be seen as: 4 and 1  or 3 and 2  and that five counters, no matter how they are arranged, still  retain the same value.

Young children should begin by learning the patterns of dots up to 6. Students should also associate the dot patterns to numbers, numerals, finger patterns, bead strings, etc. You can then extend this to patterns up to 10 when they are ready. This can help children in counting on (from a known patterned set) or learning combinations of numbers (seeing a pattern of two known smaller patterns).

Some Resources to Help at Home

- Ten-frame games from NCTM (note options on the left) http://illuminations.nctm.org/Activity.aspx?id=3565
- Information and activities for counting http://www.k-5mathteachingresources.com/Counting-Activities.html
- Counting, matching and ordering games to 10 http://www.topmarks.co.uk/learning-to-count/ladybird-spots
- Interactive counting games http://www.topmarks.co.uk/maths-games/5-7-years/counting
- Count Your Chickens http://pbskids.org/curiousgeorge/games/count_your_chickens/count_your_chickens.html
- A video to help your child identify numbers in various forms https://www.youtube.com/watch?v=wZVeT6_ZIm0
- Counting by 1s to 50 http://www.schooltube.com/video/7502b16ceeca2a1fc4d2/Counting-By-Ones-Song