

Counting and Cardinality

During their preschool years, children are exposed to numbers and counting as singsongs, such as “Five Little Pumpkins,” chant rhymes, such as “One, two, buckle my shoe,” and games, such as “find how many.” Through repetition, children begin to understand concepts of counting and cardinality.

When **counting** objects, we 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. **Cardinality** refers to the number of objects in a set—when counting, children emphasize or repeat the last word said to mean the total value of a set of objects.

In Kindergarten, children focus on knowing number names and the counting sequence. They count by rote from 1 to 100 by tens and count forward beginning from a given number within the known sequence. Children also write numbers from 0 to 20 and use the written numerals to stand for an amount within a set and show the objects in a set to match a written numeral.

Children use higher-level thinking skills to analyze relationships between numbers and sets of objects. They understand that each successive number name refers to a quantity that is one larger. They use matching strategies, counting strategies, or equal shares to determine whether the number of objects (between 0 and 10) in one group is greater than, less than, or equal to the number of objects in another group.

The Kindergarten Common Core State Standards for Counting and Cardinality specify that children should—

- Know number names and the count sequence.
- Count to tell the number of objects.
- Compare numbers.

The following hands-on activities present opportunities for children to develop their understanding of the relationship between counting and cardinality. Mathematically proficient Kindergarteners use numerals to represent a specific amount and reason about quantities as they develop a sense of the “conservation” of number—the understanding that the number of objects remains the same when they are rearranged spatially.