

# Number and Operations in Base Ten

The **base ten number system** is an efficient “place value” system representing all real numbers. Any numeral (such as 6) can represent different values depending on where it is placed in the number (6, 26, 652, etc.).

Children’ learning builds from work on tens and ones in first grade to numbers in the 100s, 1,000s, and beyond in upper grades. A thorough, deep understanding of the base ten number system is critical for developing computational and algorithmic fluency.

As children deepen their understanding of the base ten number system, they realize that its power stems from the process of repeatedly bundling by ten. That is, they develop the understanding that ten tens make one hundred, and that repeatedly bundling additional groups of ten eventually creates hundreds, then thousands, ten thousands, and so on.

## The Grade 1 Common Core State Standards for Number and Operations in Base Ten specify that children should–

- Extend the counting sequence.
- Understand place value.
- Use place value understanding and properties of operations to add and subtract.

The following hands-on activities enable teachers to help children learn the concepts of the base ten number system in a rich and meaningful way. As children work through the activities, teachers will want to coach children to share their thinking and communicate their understanding. Children will become proficient in using numbers by reasoning and communicating about the structure and patterns in the number system.

Additionally, as children use manipulatives to model mathematical situations, teachers will want to watch closely. It is important that children represent each situation accurately within the context of the problem.