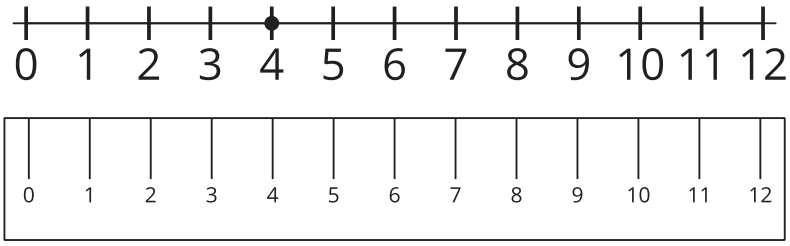
Family Support Materials

Addition and Subtraction on the Number Line

In this unit, students learn about the structure of a number line and use it to represent numbers within 100. They also relate addition and subtraction to length and represent the operations on the number line diagram.

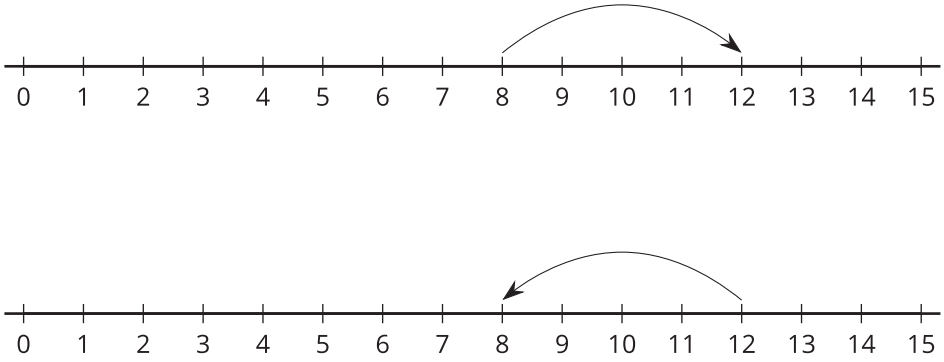
Section A: The Structure of the Number Line

In this section, students make connections between rulers and the number line. Students notice how they are the same and different and finally understand the number line to be a visual representation of numbers. They learn that number lines display numbers in sequence from left to right, with equal spacing between each number. As students begin to use the number line as a tool for understanding numbers and number relationships, they learn that whole numbers can be represented with a point on the number line. They identify, locate, and represent numbers on a number line. Students also use the number line to compare numbers based on their location relative to zero and each other. They understand that numbers to the right are larger and numbers to the left are smaller.



Section B: Add and Subtract on a Number Line

In this section, students learn to represent sums and differences on the number line. They begin by representing addition and subtraction with directional arrows. An arrow pointing right represents addition, and an arrow pointing left represents subtraction. For example, the number lines show how students can represent $8 + 4 = 12$ (top) and $12 - 4 = 8$ (bottom) on the number line.



Students use this understanding to write equations based on number line representations, as well as create the number line representation of a given equation. Students also use the number line to represent computation strategies based on place value and the properties of addition (for example, adding tens then ones vs. adding ones then tens) as they explain their strategies and compare their strategies with those of their classmates.

Try it at home!

Near the end of the unit, ask your student to solve the following problems on a number line:

- $29 + 48$
- $54 - 37$

Questions that may be helpful as they work:

- How are the problems similar?
- How are they different?
- How did you show addition? Subtraction?
- Where is your answer on the number line?
- Could you have solved it a different way?