Lesson 11: Large Numbers on a Number Line

Standards Alignments

Addressing   4.NBT.A.1, 4.NBT.A.2

Teacher-facing Learning Goals

- Describe the relative magnitude of multi-digit whole numbers within 1,000,000 using a number line and place value understanding.

Student-facing Learning Goals

- Let's locate multi-digit numbers on a number line.

Lesson Purpose

The purpose of this lesson is for students to use place value understanding to locate large numbers on a number line and describe number relationships in which one multi-digit number is ten times as much as another.

In this lesson, students both estimate and precisely locate numbers through the hundred-thousands place on a number line. This lesson is designed to deepen students' understanding of the relative position of multi-digit numbers to multiples of 100, 1,000, 10,000, and 100,000. They learn that when numbers are related by ten times as much, they are located in a position on a number line with the same relationship to surrounding benchmark numbers. Students will use the number line in the next section to round large numbers.

This lesson has a Student Section Summary.

Access for:

♿ Students with Disabilities

- Representation (Activity 2)

🌐 English Learners

- MLR8 (Activity 2)

Instructional Routines

Estimation Exploration (Warm-up)

Lesson Timeline

Warm-up	10 min

Teacher Reflection Question

Reflect on times you observed students listening to one another's ideas today in class. What norms would help each student better attend to

Activity 1	20 min
Activity 2	15 min
Lesson Synthesis	10 min
Cool-down	5 min

their classmates' ideas in future lessons?

Cool-down (to be completed at the end of the lesson)   🕐 5 min

Ten Times on a Number Line

Standards Alignments

Addressing   4.NBT.A.1

Student-facing Task Statement

1. Estimate the location of 28,500 on the number line and label it with a point.

2. Which point—A, B, or C—could represent a number that is 10 times as much as 28,500? Explain your reasoning.

Student Responses

1. Response shows a point to the left of A, about a third of the way or halfway between 0 and A.

2. Point B. Sample response: Ten times 28,500 is 285,000, which would be between the tick marks that show 200,000 and 300,000, closer to 300,000. Points A and C are in the 80,000s and 300,000, respectively.