# 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 |
| Activity 1 | 20 min |
| Activity 2 | 15 min |
| Lesson Synthesis | 10 min |
| Cool-down | 5 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 their classmates’ ideas in future lessons?

## Cool-down

(to be completed at the end of the lesson) 5min

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.
* 
1. 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.
* 
1. 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.