

# Lesson 15: The Nearest Multiples of 1,000, 10,000, and 100,000

## Standards Alignments

Addressing 4.NBT.A.3

Building Towards 4.NBT.A.3

## Teacher-facing Learning Goals

- Identify the nearest multiple of 1,000, 10,000, and 100,000 given a multi-digit whole number.

## Student-facing Learning Goals

- Let's find multiples of 1 thousand, 10 thousand, and 100 thousand that are the nearest to a number.

## Lesson Purpose

The purpose of this lesson is for students to determine the nearest multiple of 1,000, 10,000, and 100,000 and a given multi-digit whole number.

Before this lesson, students named multiples of 10,000 and 100,000 that are near given numbers and identified the closest ones. They reasoned visually—by locating the numbers on a number line and approximating their distance from adjacent tick marks that indicate ten-thousands, or from endpoints that mark hundred-thousands.

In this lesson, students begin to reason numerically—by thinking about the value of the digits in a number to determine its nearest multiple of 1,000, 10,000, and 100,000. They see, for example, that 4,345 is greater than 4,000 but less than 5,000. To determine the multiple of 1,000 that is the nearest to 4,345, they can consider its relationship to 4,500, which is exactly in the middle of 4,000 and 5,000. If it is less than 4,500, it is closer to 4,000. If it is greater than 4,500, then it is closer to 5,000. The number lines play a supporting role here and can be used as needed.

## Access for:

### Students with Disabilities

- Representation (Activity 1)

### English Learners

- MLR8 (Activity 3)

## Instructional Routines

Estimation Exploration (Warm-up)

## Lesson Timeline

|                  |        |
|------------------|--------|
| Warm-up          | 10 min |
| Activity 1       | 20 min |
| Activity 2       | 10 min |
| Activity 3       | 15 min |
| Lesson Synthesis | 10 min |
| Cool-down        | 5 min  |

## Teacher Reflection Question

In grade 3, students learned to round numbers by reasoning about nearby multiples of 10 or 100 on a number line. In the past two lessons, where do you see evidence of students drawing on their earlier experience to reason about nearest multiples of 1,000, 10,000, and 100,000? What ideas or connections might need to be made explicit before they begin rounding large numbers in upcoming lessons?

## Cool-down (to be completed at the end of the lesson)

 5 min

### The Nearest Multiples

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#### Student-facing Task Statement

1. Find each nearest multiple for the number 248,640. Use the number lines if they are helpful.

a. The nearest multiple of 100,000 is \_\_\_\_\_.



b. The nearest multiple of 10,000 is \_\_\_\_\_.



c. The nearest multiple of 1,000 is \_\_\_\_\_.



2. What is the nearest multiple of 1,000 and multiple of 10,000 for the number 173,500?

#### Student Responses

1.
  - a. 200,000
  - b. 250,000
  - c. 249,000

2. Sample responses:

- There are two nearest multiples of 1,000: 173,000 and 174,000. The nearest multiple of 10,000 is 170,000.
- The nearest multiple of 1,000 is 174,000.