

Lesson 12: Compare Multi-digit Numbers

Standards Alignments

Addressing 4.NBT.A.2

Teacher-facing Learning Goals

- Compare 2 multi-digit whole numbers within 1,000,000 using place value reasoning.

Student-facing Learning Goals

- Let's compare large numbers.

Lesson Purpose

The purpose of this lesson is for students to compare two multi-digit whole numbers within 1,000,000 by reasoning about place value and to explain how they make comparisons.

Previously, students learned to build, read, name, and write multi-digit whole numbers up to six digits. They also developed an understanding of the relationship between a digit in one place and the same digit in the place immediately to its right. Through that work, students built their intuition for the relative size of numbers.

In this lesson, students use their understanding of place value to compare numbers and articulate how they reason about the size of the numbers. In doing so, they reinforce their understanding of place value and the base-ten number system (MP7). In communicating their thinking, they also practice attending to precision (MP6).

Access for:

Students with Disabilities

- Action and Expression (Activity 2)

English Learners

- MLR2 (Activity 2)

Instructional Routines

Which One Doesn't Belong? (Warm-up)

Materials to Gather

- Materials from a previous activity: Activity 3
- Number cards 0–10: Activity 1

Lesson Timeline

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

Teacher Reflection Question

Today's work on comparison relies on students' understanding of place value and numbers in base ten. How readily did students connect today's activities to their prior knowledge? What connections could have been made but were missed?

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

 5 min

Two Numbers To Compare

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Student-facing Task Statement

Here are two numbers, each with the same digit missing in different places.

$\boxed{1}\boxed{7}, \boxed{}\boxed{4}\boxed{2}$

$\boxed{1}\boxed{}, \boxed{7}\boxed{2}\boxed{4}$

1. If the missing digit in both numbers is 1, which number will be greater: the first or the second?
2. Name all the digits from 0 to 9 that will make the second number greater. Explain how you know.

Student Responses

1. The first number. Sample response: The first number will be 17,142 and the second number 11,724. Seventeen thousand is greater than eleven thousand.
2. 8 and 9. Sample response: Using 8 or 9 in the second number makes 18,724 or 19,724, which is greater than a number in the 17,000s. Using 7 makes 17,724, which is still less than 17,742.