

Lesson 8: Solve Problems with Multiplication and Division

Standards Alignments

Addressing 4.NBT.B.5, 4.NBT.B.6, 4.OA.A.3

Teacher-facing Learning Goals

- Determine if a solution to a word problem is reasonable using mental strategies and estimation.
- Interpret remainders in word problems involving division.
- Solve multi-step word problems using the four operations.

Student-facing Learning Goals

- Let's make sense of situations and solve word problems.

Lesson Purpose

The purpose of this lesson is for students to practice solving multi-step problems using all operations. Students interpret their solutions (including remainders in division situations) and determine the reasonableness of their answer for a given situation.

In the previous lesson, students solved word problems involving multiplicative comparison. In this lesson, they practice solving a wider variety of problems, with a focus on the relationships among multiple quantities in a situation. Students think about how to represent the relationships with one or multiple equations and using multiple operations. They also interpret their solutions and the solutions of others in context, including interpreting remainders in situations that involve division (MP2). Students also have opportunities to make estimates and to assess their reasonableness when solving problems.

If students need additional support with the concepts in this lesson, refer back to Unit 6, Section D in the curriculum materials.

Access for:



Students with Disabilities

- Engagement (Activity 1)



English Learners

- MLR8 (Activity 2)

Instructional Routines

Number Talk (Warm-up)

Lesson Timeline

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

Teacher Reflection Question

What evidence do you have from student discussions that students used estimation strategies to make sense of problems and explain their thinking? How did students explain their estimates and how did they critique the estimates of others?

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

 5 min

To and Fro

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Student-facing Task Statement

In one week, a train made 8 round trips between its home station and Union Station. At the end of the week, it traveled a few more miles from the home station to a repair center. That week, the train traveled a total of 1,564 miles.

- Which statement is true for this situation? Explain or show your reasoning.
 - The distance traveled for each round trip is 200 miles. The distance to the repair station is 26 miles.
 - The distance traveled for each round trip is 195 miles. The distance to the repair station is 4 miles.
 - The distance traveled for each round trip is 8 miles. The distance to the repair station is 1,500 miles.
 - The distance traveled for each round trip is 193 miles. The distance to the repair station is 8 miles.
- Explain why one of the choices could not be true.

Student Responses

1. B. Sample responses:

- $1,560 - 4 = 1,560$, $1,560 \div 8 = 195$
- $195 \times 8 = 1,560$, $1,560 + 4 = 1,564$

2. Sample responses:

- I know A could not be true because I know $200 \times 8 = 1,600$ and that's more than the total distance the train traveled.
- I know C could not be true because the situation says its just a few more miles to the repair center. 1,500 miles is not a few more miles. $(8 \times 8) + 1,500$ does match the total distance, but it doesn't match the situation.