Lesson 8: Filling up the World's Largest Wagon

Standards Alignments

Addressing   5.MD.C.5, 5.NBT.B.5, 5.NBT.B.6

Teacher-facing Learning Goals

- Multiply and divide multi-digit whole numbers.
- Solve problems involving volume.

Student-facing Learning Goals

- Let's solve more problems about volume.

Lesson Purpose

The purpose of this lesson is for students to solve problems involving volume. Students multiply and divide multi-digit whole numbers using the algorithms learned in the previous sections.

The purpose of this lesson is for students to solve problems about filling the world's largest toy wagon. In the previous lesson students estimated the volume of the Radio Flyer using information from an image. In this lesson, students are given the dimensions of the wagon and they calculate its volume as the first step in solving problems about how many bags of sand and how many boxes of a given dimension it takes to fill the wagon. Students use what they have learned about volume, the standard algorithm for multiplication, and partial quotients to solve these problems.

Access for:

♿ Students with Disabilities

- Representation (Activity 2)

🌐 English Learners

- MLR8 (Activity 2)

Instructional Routines

Notice and Wonder (Warm-up)

Lesson Timeline

Warm-up	10 min
Activity 1	15 min
Activity 2	15 min
Lesson Synthesis	10 min

Teacher Reflection Question

How effective were your questions in supporting students' thinking today? What did students say or do that showed they were effective?

Cool-down	5 min

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

Multiplication and Division

Standards Alignments

Addressing   5.MD.C.5, 5.NBT.B.5

Student-facing Task Statement

How did you use multiplication and division to solve problems about volume?

Student Responses

Sample response: I used multiplication to figure out how many boxes would fit in the wagon and I used division to figure out how many trips the wagon would need to make to deliver 4,000 boxes. I also used division to figure out how many bags of sand it would take to fill the Radio Flyer and multiplication to figure out the wagon's volume.