Lesson 14: Weight and Capacity Measurements

Standards Alignments

Addressing 4.MD.A.1, 4.MD.A.2, 4.NBT.B, 4.OA.A.2

Teacher-facing Learning Goals

- Use multiplicative comparison and unit conversion to solve multi-step problems about weight and capacity (in pounds, ounces, gallons, quarts, and cups).

Student-facing Learning Goals

- Let's solve problems about weight and capacity.

Lesson Purpose

The purpose of this lesson is for students to apply their understanding of multiplicative comparison and unit conversion to solve multi-step problems about weight and capacity.

In earlier lessons, students were introduced to several units of weight and capacity (kilograms, grams, pounds, ounces, liters, and milliliters). In this lesson, students solve problems involving the units of capacity they worked with in grade 3. They use their knowledge of unit conversion and multiplicative reasoning to solve multi-step problems. Students may need to review the measurement units used in this lesson before the lesson to ensure access to the tasks.

Access for:

Students with Disabilities

- Representation (Activity 1)

English Learners

- MLR8 (Activity 1)

Instructional Routines

MLR6 Three Reads (Activity 2), Number Talk (Warm-up)

Materials to Gather

- Containers of different sizes: Activity 1

Lesson Timeline

Warm-up	10 min

Teacher Reflection Question

The multi-step problems in this lesson require students to carefully make sense of both textual and mathematical information. How did

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

students manage the language demands of those problems? Which types of problems seem to be particularly challenging? What supports or modifications might be needed?

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

5 min

More Clay

Standards Alignments

Addressing 4.MD.A.1, 4.MD.A.2, 4.OA.A.2

Student-facing Task Statement

An art teacher and a kindergarten teacher are getting clay from the craft store. The art teacher buys 6 pounds of clay. This amount is 4 times as much clay as what the kindergarten teacher buys.

How many ounces of clay do the two teachers buy all together? Explain or show your reasoning.

Student Responses

120 ounces. Sample reasoning:

- The art teacher buys 96 ounces, because 1 pound is 16 ounces and $6 \times 16 = 96$. The kindergarten teacher buys 24 ounces, because $4 \times 24 = 96$. In total, they buy $96 + 24$ or 120 ounces.
- The kindergarten teacher buys $\frac{6}{4}$ or $1\frac{1}{2}$ pounds of clay, because $4 \times 1\frac{1}{2} = 6$. In total, they buy $7\frac{1}{2}$ pounds of clay. In ounces, that amount is: $(7 \times 16) + (\frac{1}{2} \times 16) = 112 + 8 = 120$.