Lesson 6: Problems with Equal Groups of Fractions

Standards Alignments

Addressing 4.NF.B.4.a, 4.NF.B.4.b, 4.NF.B.4.c

Teacher-facing Learning Goals

- Represent and solve problems involving multiplication of a fraction by a whole number.

Student-facing Learning Goals

- Let's solve problems with fractions.

Lesson Purpose

The purpose of this lesson is for students to apply their understandings about multiplication of a fraction by a whole number to solve problems.

Students may choose to draw diagrams, write equations, or make use of patterns to understand the situations and answer the questions. As students make sense of representations and quantities in context, they practice reasoning quantitatively and abstractly (MP2).

This lesson has a Student Section Summary.

Access for:

Students with Disabilities

- Engagement (Activity 2)

English Learners

- MLR7 (Activity 2)

Instructional Routines

True or False (Warm-up)

Materials to Gather

- Chart paper: Activity 2

Lesson Timeline

Warm-up	10 min
Activity 1	15 min

Teacher Reflection Question

What new mathematical connections did you see students make today as they were solving problems about multiplication of fractions? How can those connections be leveraged in

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

upcoming work?

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

5 min

The Same or Not the Same?

Standards Alignments

Addressing 4.NF.B.4.c

Student-facing Task Statement

1. Tyler bought 5 cartons of milk. Each carton contains $\frac{3}{4}$ liter. How many liters of milk did Tyler buy? Explain or show your reasoning.
2. Han bought 3 cartons of chocolate milk. Each carton contains $\frac{5}{8}$ liter. Did Han buy the same amount of milk as Tyler? Explain or show your reasoning.

Student Responses

1. $\frac{15}{4}$ liters. Sample response: $5 \times \frac{3}{4} = \frac{15}{4}$
2. No, Han bought less milk than Tyler did. Sample response: $3 \times \frac{5}{8} = \frac{15}{8}$, and $\frac{15}{8}$ is less than $\frac{15}{4}$ because an eighth is less than a fourth, so 15 eighths is less than 15 fourths.