Lesson 6: Relate Division and Multiplication

Standards Alignments

Building On   4.NF.B.4
Addressing   5.NF.B.3, 5.OA.A.2
Building Towards   5.NF.B.4

Teacher-facing Learning Goals

- Explore the relationship between multiplication and division.

Student-facing Learning Goals

- Let's explore the relationship between multiplication and division.

Lesson Purpose

The purpose of this lesson is for students to understand that dividing an amount into a whole number of equal parts can be interpreted as multiplying the same amount by a unit fraction.

In previous lessons, students interpreted a fraction as division of the numerator by the denominator, and equivalently, as a whole number divided into equal sized pieces. In this lesson, students relate division of two whole numbers to multiplying a whole number by a unit fraction. In the first activity, students are given an opportunity to solve a division problem using any strategy and, in the synthesis, they examine how the solution can be interpreted in terms of multiplication or division. In the second activity, students continue to explore the relationship between a fraction, a division expression, and a multiplication expression.

In grade 4, students multiplied a unit fraction by a whole number and in this lesson they begin to explore how to interpret a whole number multiplied by a unit fraction.

Access for:

🌐 English Learners

- MLR1 (Activity 2)

Instructional Routines

MLR2 Collect and Display (Activity 1), Number Talk (Warm-up)

Lesson Timeline

Warm-up	10 min

Teacher Reflection Question

What was the best question you asked today?

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

Why was it the best?

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

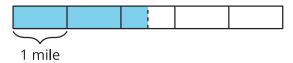A Different Relay Race

Standards Alignments

Addressing   5.NF.B.3

Student-facing Task Statement

1. Lin and Han ran a 5 mile relay race as a team. They each ran the same distance. Draw a diagram to represent the situation.

2. How far did each student run?

Student Responses

1. Sample response:

1 mile

2. $2\frac{1}{2}$ miles or $\frac{5}{2}$ mile. Sample response: The diagram shows 2 whole miles and $\frac{1}{2}$ of another mile.