Lesson 16: Compare Products

Standards Alignments

Addressing	5.NF.B.5.a
Building Towards	5.NF.B.5.a

Teacher-facing Learning Goals

- Compare products in a way that makes sense to them.

Student-facing Learning Goals

- Let's compare products.

Lesson Purpose

The purpose of this lesson is for students to compare the size of a product to the size of one factor using a strategy that makes sense to them.

In previous lessons students have found products of whole numbers, decimals, and fractions. The goal of this lesson is for students to examine the size of the product compared to the size of its factors. For example, students know that if they find a product of two whole numbers greater than 1, such as 5×7, the value of the product is greater than the value of either factor. They also know that the value of a product of fractions, such as $\frac{2}{3} \times \frac{5}{8}$, is less than the value of either factor. In this lesson, students study the situation where one of the factors is a fraction and the other is a whole number. They make the comparison using any strategy that makes sense to them. This might include calculating the value of the product, thinking about the meaning of fractions, or using a diagram.

Access for:

Students with Disabilities

- Action and Expression (Activity 2)

Instructional Routines

MLR2 Collect and Display (Activity 1), True or False (Warm-up)

Lesson Timeline

Warm-up	10 min
Activity 1	15 min

Teacher Reflection Question

Identify ways the math community you are working to foster is going well. What aspects would you like to work on? What actions can you take to improve those areas?

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

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

5 min

Greater Than or Less Than

Standards Alignments

Addressing 5.NF.B.5.a

Student-facing Task Statement

1. Is $\frac{1}{8} \times 20$ greater than or less than 20? Explain or show your reasoning.
2. Is $\frac{10}{8} \times 20$ greater than or less than 20? Explain or show your reasoning.

Student Responses

1. Less than. Sample response: It takes eight $\frac{1}{8}$s to make a whole so $\frac{1}{8}$ of 20 is less than 20.
2. Greater than. Sample response: Since $\frac{10}{8}$ is more than 1 whole $\frac{10}{8} \times 20$ is more than 1 group of 20.