

Lesson 20: Will it Always Work? (Optional)

Standards Alignments

Addressing 5.NF.B.5, 5.NF.B.5.b, 5.OA.A

Teacher-facing Learning Goals

- Make generalizations about multiplying a whole number by a fraction greater than, less than, or equal to 1.

Student-facing Learning Goals

- Let's make generalizations about multiplying a whole number by a fraction.

Lesson Purpose

The purpose of this lesson is for students to explain how the product of two numbers compares to one factor based on the size of the other factor.

The goal of this optional lesson is to compare the size of a product to the size of one factor, applying what students have learned in the last several lessons. They make the comparisons and describe in general how to make comparisons using a strategy that makes sense to them. No representation is provided or suggested so this gives students an opportunity to think about the different methods they have learned, namely calculation, number lines and the distributive property, and choose the one that makes sense in each situation.

Access for:

Students with Disabilities

- Representation (Activity 2)

English Learners

- MLR1 (Activity 1)

Instructional Routines

True or False (Warm-up)

Materials to Gather

- Tools for creating a visual display: Activity 2

Lesson Timeline

Warm-up

10 min

Teacher Reflection Question

What questions did you ask today that helped students reason about the size of a product without performing multiplication?

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

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

 5 min

Compare

Standards Alignments

Addressing 5.NF.B.5.b

Student-facing Task Statement

Write $<$, $=$, or $>$ in each blank to make the statements true.

1. $\frac{13}{18} \times \frac{11}{3}$ _____ $\frac{11}{3}$
2. $\frac{19}{16} \times \frac{22}{3}$ _____ $\frac{22}{3}$
3. $\frac{8}{8} \times \frac{1}{5}$ _____ $\frac{1}{5}$

Student Responses

1. $<$
2. $>$
3. $=$