

Lesson 4: Equal Groups of Non-Unit Fractions

Standards Alignments

Addressing 4.NF.B.4, 4.NF.B.4.b

Teacher-facing Learning Goals

- Recognize that $n \times \frac{a}{b} = \frac{n \times a}{b}$
- Use diagrams to represent and evaluate the product of a whole number and a non-unit fraction.

Student-facing Learning Goals

- Let's multiply any fraction by a whole number.

Lesson Purpose

The purpose of this lesson is to apply understandings from previous lessons to multiply a non-unit fraction by a whole number.

Previously, students learned that any unit fraction multiplied by a whole number results in multiples of that unit fraction. They also learned that any fraction can be written as a multiplication expression of a unit fraction by a whole number. In this lesson, students notice that they can multiply any fraction and a whole number by reasoning about the number of groups and amount in each group. They generalize that they can multiply the numerator by the whole number to find the number of parts. They also see that the denominator remains the same because the size of each part is the same. In other words: $n \times \frac{a}{b} = \frac{n \times a}{b}$.

Access for:

Students with Disabilities

- Representation (Activity 1)

English Learners

- MLR6 (Activity 1)

Instructional Routines

5 Practices (Activity 1), Notice and Wonder (Warm-up)

Lesson Timeline

Warm-up	10 min
Activity 1	15 min

Teacher Reflection Question

What part of the lesson went really well today in terms of students' learning? What did you do that made that part go well?

Activity 2	20 min
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Lesson Synthesis	10 min
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Cool-down	5 min
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Cool-down (to be completed at the end of the lesson)

 5 min

What's the Value?

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Student-facing Task Statement

Find the value of each expression. Explain or show your reasoning. Use a diagram if it is helpful.

1. $6 \times \frac{2}{5}$

2. $5 \times \frac{3}{10}$

Student Responses

1. $\frac{12}{5}$. Sample response: Six groups of 2 fifths make 12 fifths.

2. $\frac{15}{10}$. Sample response: Five groups of $\frac{3}{10}$ make $\frac{15}{10}$.