# Lesson 6: Multiply Fractions

### Standards Alignments

|  |  |
| --- | --- |
| Addressing | 5.NF.B.4, 5.NF.B.4.b |

### Teacher-facing Learning Goals

* Represent multiplication of two non-unit fractions with expressions.

### Student-facing Learning Goals

* Let’s multiply two non-unit fractions using diagrams and expressions.

### Lesson Purpose

The purpose of this lesson is for students to calculate areas of rectangles where both side lengths are non-unit fractions.

As in previous lessons, students represent a product of fractions with a diagram. This diagram represents the product $\frac{3}{6}×\frac{4}{5}$. The diagram shows $\frac{3}{6}$ of $\frac{4}{5}$ of the square so that’s $\frac{3}{6}×\frac{4}{5}$. The number of shaded pieces is $3×4$, the product of the numerators. The number of pieces in the whole square is $6×5$, the product of the denominators. So the value of the product can also be written as $\frac{3×4}{6×5}$. In the first activity, students relate expressions to the area in diagrams like this and then they use this structure to find products of non-unit fractions in the second activity.



### Access for:

###  Students with Disabilities

* Action and Expression (Activity 2)

### Instructional Routines

Which One Doesn’t Belong? (Warm-up)

### Lesson Timeline

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

### Teacher Reflection Question

With which math ideas from today’s lesson did students grapple most? Did this surprise you or was this what you expected?

## Cool-down

(to be completed at the end of the lesson) 5min

What is the Area?

### Standards Alignments

|  |  |
| --- | --- |
| Addressing | 5.NF.B.4.b |

### Student-facing Task Statement

* 1. Write a multiplication expression to represent the area of the shaded region in square units.
	+ 
	1. What is the area of the shaded region in square units?

### Student Responses

* 1. $\frac{2}{4}×\frac{5}{6}$ or equivalent
	2. $\frac{10}{24}$ or equivalent