Eureka Math

4th Grade
Module 5
Lesson 5

At the request of elementary teachers, a team of Bethel & Sumner educators met as a committee to create Eureka slideshow presentations. These presentations are not meant as a script, nor are they required to be used. Please customize as needed. Thank you to the many educators who contributed to this project!

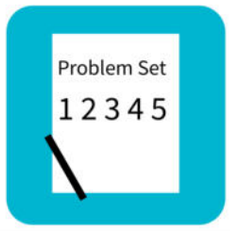
Directions for customizing presentations are available on the next slide.

Icons

Read, Draw, Write

Learning Target

Personal White Board

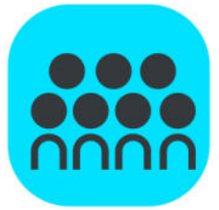


Problem Set

Manipulatives Needed

Fluency

Think Pair Share



Whole Class

Individual

Partner

Small Group

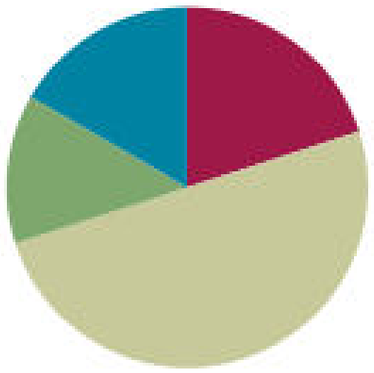
Small Group Time

Lesson 5

Objective: Decompose unit fractions using area models to show equivalence.

Suggested Lesson Structure

Fluency Practice	(12 minutes)
Application Problem	(8 minutes)
Concept Development	(30 minutes)
Student Debrief	(10 minutes)
Total Time	**(60 minutes)**



Decompose unit fractions using area models to show equivalence.

Count by...

Count from 0 fourths to 4 fourths.

What is 4 fourths equivalent to?

Count from 0 halves to 4 halves.

Add fractions

⅘, say this fraction.

Draw a tape diagram to show ⅘

Write an addition sentences to show the sum of ⅘ as unit fractions.

Break apart

Name the fraction of the diagram that is shaded.

Decompose the shaded part into 3 equal parts.

What fraction of the tape diagram is each smaller unit?

Write an addition sentence.

Multiplication sentence?

RDW

Application Problem

A loaf of bread was cut into 6 equal slices. Each of the 6 slices was cut in half to make thinner slices for sandwiches.

Mr. Beach used 4 slices. His daughter said, "Wow! You used $\frac{2}{6}$ of the loaf!" His son said, "No. He used $\frac{4}{12}$." Work with a partner to explain who was correct using a tape diagram.

Area model to show equivalence

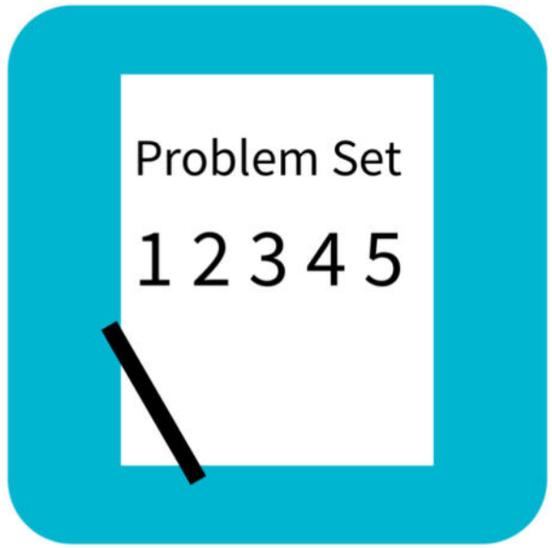
Draw an area model to show ⅕.
Draw a horizontal dotted line to decompose the whole into two equal rows.
What happened?
What is the NEW unit fraction?
How many tenths are now shaded?
What can we say about ⅕ and 2/10?
Write an addition sentence.

Area model to show equivalence

Draw an area model to show ⅓.
What would we need to do to ⅓ to show that it is equivalent to 4/12?
Work with your partner and model this on your white boards.

Area model to show equivalence

½ = 5/10
Work with your partner and use an area model prove it.
Write an addition sentence.
Multiplication senentence?

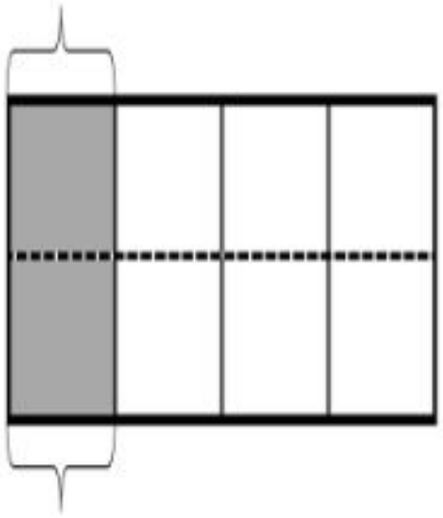


Problem Set

Name _____ Date _____

1. Draw horizontal lines to decompose each rectangle into the number of rows as indicated. Use the model to give the shaded area as both a sum of unit fractions and as a multiplication sentence.

   a. 2 rows



$\frac{1}{4} = \frac{2}{\quad}$

$\frac{1}{4} = \frac{1}{8} + \frac{\quad}{\quad} = \frac{\quad}{\quad}$

$\frac{1}{4} = 2 \times \frac{\quad}{\quad} = \frac{\quad}{\quad}$

Debrief

- In Problem 1, why do you think the directions tell you how many rows to draw?
- How is Problem 2 more difficult than Problem 1?
- Problems 2(a), 2(b), and 2(c) all start with an area of 1 half. What does that tell you about the fractions 3 sixths, 4 eighths, and 5 tenths? What happens to the size and number of units as 1 half is decomposed into sixths, eighths, and tenths?
- Explain to your partner how you determined the answer for Problem 3.

Exit Ticket

Name _____ Date _____

1. Draw horizontal lines to decompose each rectangle into the number of rows as indicated. Use the model to give the shaded area as both a sum of unit fractions and as a multiplication sentence.

a. 2 rows