Unit 3, Lesson 14

Represent Division of Whole Numbers by Unit Fractions

Let's solve problems by dividing a whole number by a unit fraction.

Warm-up

Number Talk: Increasing Quotients

Find the value of each expression mentally.

- $6 \div 1$
- $6 \div \frac{1}{2}$
- $6 \div \frac{1}{3}$
- $6 \div \frac{1}{6}$

Activity 1

Notice Patterns

Set A: Find the value that makes each equation true. Draw a diagram if it is helpful. What patterns do you notice?

- $3 \div \frac{1}{4} =$ _____
- $4 \div \frac{1}{4} =$ _____
- $5 \div \frac{1}{4} =$ _____
- $6 \div \frac{1}{4} =$ _____

Set B: Find the value that makes each equation true. Draw a diagram if it is helpful. What patterns do you notice?

- $3 \div \frac{1}{2} =$ _____
- $3 \div \frac{1}{3} =$ _____
- $3 \div \frac{1}{4} =$ _____
- $3 \div \frac{1}{5} =$ _____

How are problem sets A and B alike? How are they different?

Activity 2

Match the Situation to the Expression

1. Match each problem to an expression that represents the problem. Not all expressions have a match.

   a. One serving of popcorn is $\frac{1}{4}$ cup of kernels. There are 3 cups of kernels in the bowl. How many servings are in the bowl?



   b. One serving of orange juice is $\frac{1}{4}$ liter. The container of juice holds 2 liters. How many servings are in the container?

   c. One serving of granola is $\frac{1}{2}$ cup. The bag of granola holds 5 cups. How many servings are in the bag?

$\frac{1}{4} \div 3$

$\frac{1}{2} \div 5$

$3 \div \frac{1}{4}$

$\frac{1}{4} \div 2$

$5 \div \frac{1}{2}$

$2 \div \frac{1}{4}$

2. Find the value of each expression.