Unit 3, Lesson 18

Represent Situations with Multiplication and Division

Let's represent problems with multiplication and division equations.

Warm-up

Number Talk: Three and a Tenth

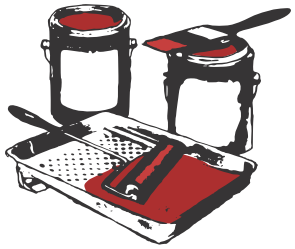
Find the value of each expression mentally.

- $3 \times \frac{1}{10}$
- $\frac{1}{10} \times 3$
- $\frac{1}{10} \div 3$
- $3 \div \frac{1}{10}$

Activity 1

Putting it All Together: Multiplication and Division

1. Diego and some classmates paint one wall of a long hallway. They have 2 gallons of paint to share equally in paint trays. Each paint tray holds $\frac{1}{4}$ gallon of paint. How many paint trays can they fill with the 2 gallons of paint?



   a. Draw a diagram to represent the situation.

   b. Write a division equation to represent the situation.

   c. Write a multiplication equation to represent the situation.

2. Diego and Clare decide to equally share $\frac{1}{4}$ gallon of a special paint that glows in the dark. How many gallons of paint does each person get?

   a. Draw a diagram to represent the situation.

   b. Write a division equation to represent the situation.

   c. Write a multiplication equation to represent the situation.

Activity 2

Multiplication or Division?

For your set of problems:

- Write a multiplication or division expression for each situation.
- Answer the question. Write an equation. Make sure to include appropriate units. Use a diagram if it helps.
- Trade papers with your partner. Check your partner's equations. If you disagree, work to reach an agreement.

Partner A:

1. The distance from Han's house to Priya's house is $\frac{4}{5}$ kilometer. Han walked $\frac{3}{4}$ of the way. How many kilometers did he walk?

2. Clare's science class tests water samples in class. There is a total of $\frac{1}{2}$ gallon of water and 10 groups. How much water does each group get if they split the water equally?

3. A container with 3 kilograms of strawberries is $\frac{1}{5}$ full. How many kilograms can the container hold?

Partner B:

1. It takes Han 4 minutes to walk $\frac{1}{3}$ kilometer. How many minutes will it take him to walk 1 kilometer?

2. Clare's goal is to collect 4 kilograms of soil sample for her science project. She collected $2\frac{2}{3}$ times her goal. How many kilograms of soil did Clare collect?

3. A container that holds a $\frac{1}{2}$ pound of strawberries is $\frac{3}{5}$ full. How many pounds of strawberries are in the container?