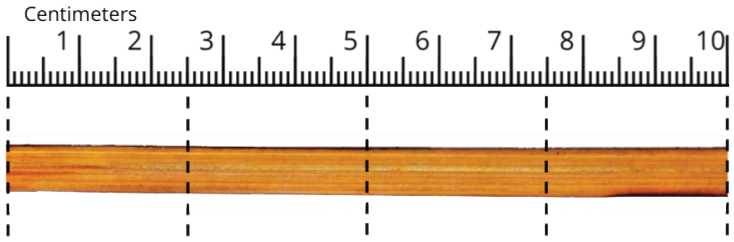
Interpreting Division Situations

Let's explore situations that involve division.

3.1 Which Three Go Together: Situations with 4

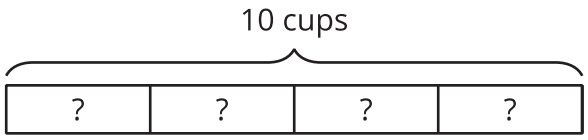
Which three go together? Why do they go together?

A.



B. Jada fills 4 jars with salsa. Each jar has 10 ounces of salsa. How many ounces of salsa are in all the jars?

C.



D. Andre is filling 4-liter jugs with water. How many jugs can he fill if he has 10 liters of water?

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3.2 Making Bubble Mixture

Mai is making a bubble mixture. The recipe says to add sugar to help the bubbles last longer.



1. To make one batch of mixture, 14 grams of sugar is needed. To get that amount, Mai uses 4 packets of sugar.

   a. In this situation, what does the value of $14 \div 4$ represent?

   b. Find the quotient. Show your reasoning. If you get stuck, consider drawing a diagram

2. Mai needs 26 fl oz of water to make a larger amount of the mixture. The only measuring tool she has is a 4-fl oz scoop. How many scoops will it take to measure 26 fl oz of water?

   a. Will the answer be more than 1 or less than 1?

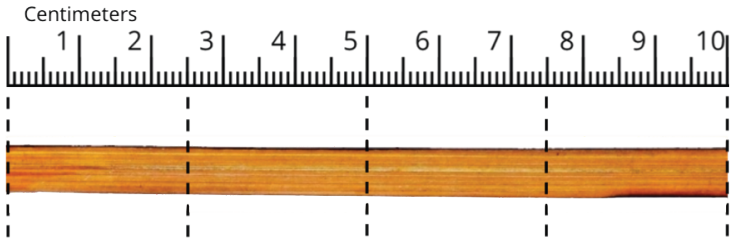
   b. Write a multiplication equation and a division equation that represent this situation. Use "?" to represent the unknown quantity.

   c. Find the unknown quantity. If you get stuck, consider drawing a diagram.

3.3 Revisiting Situations with 4

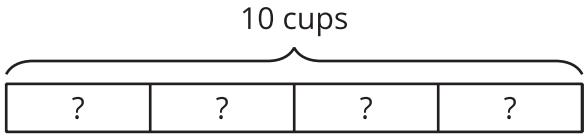
Here are descriptions and diagrams of situations that involve equal-size groups.

A.



B. Jada fills 4 jars with salsa. Each jar has 10 ounces of salsa. How many ounces of salsa are in all the jars?

C.



D. Andre is filling 4-liter jugs with water. How many jugs can he fill with 10 liters of water?

Choose a situation.

1. If you choose one that is described in words, draw a diagram to represent the situation. Be sure to include labels.

   If you choose an image or a diagram, write a story with a question that the image or diagram could represent.

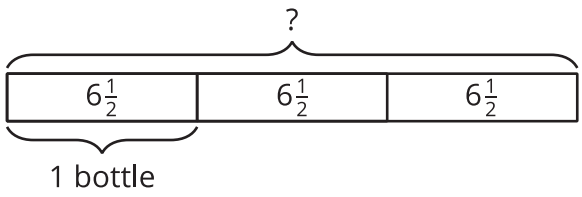
2. Write a multiplication equation and a division equation to represent the relationships between the quantities.

3. Answer the question. Be prepared to explain how you know.

Lesson 3 Summary

When a situation involves equal-size groups, it is helpful to make sense of it in terms of the number of groups, the size of each group, and the total amount. Here are three examples:

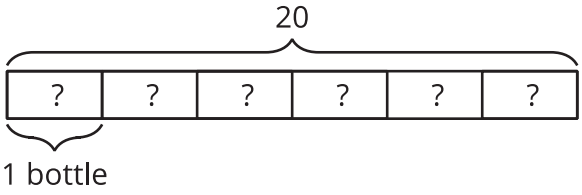
- Suppose we have 3 bottles with $6\frac{1}{2}$ ounces of water in each, and we want to know the total amount of water.



  We can think of this situation as a multiplication problem, "What is 3 groups of $6\frac{1}{2}$?" and represent it with a multiplication equation, $3 \cdot 6\frac{1}{2} = ?$.

  The unknown value is the product. To find it, we can multiply 3 and $6\frac{1}{2}$, which gives $19\frac{1}{2}$.

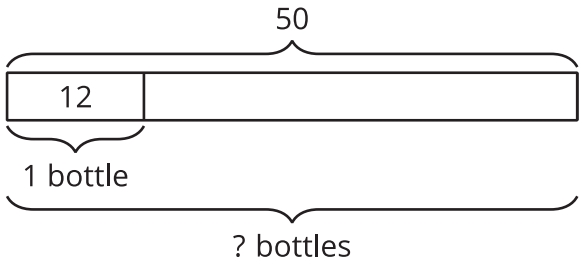
- Next, suppose we have 20 ounces of water to fill 6 bottles equally, and we want to know the amount in each bottle.



  We can also express this situation as a multiplication problem, "Six groups of what number make 20?" and with an equation, $6 \cdot ? = 20$.

  The unknown value is a factor. To find it, we can divide: $20 \div 6 = ?$. The quotient is $\frac{20}{6}$ or $3\frac{1}{3}$.

- Now, suppose we have 50 ounces of water to fill 12-ounce bottles, and we want to know how many bottles will be filled.



  Again, we can see this as a multiplication problem, "How many groups of 12 make 50?" and write a multiplication equation, $? \cdot 12 = 50$.

  The unknown value is a different factor. To find it, we can again use division: $50 \div 12 = ?$. The quotient is $\frac{50}{12}$ or $4\frac{1}{6}$.

In any situation that involves equal-size groups, we can use division to find the amount in each group or the number of groups.