How Much In Each Group?

(Part 2)

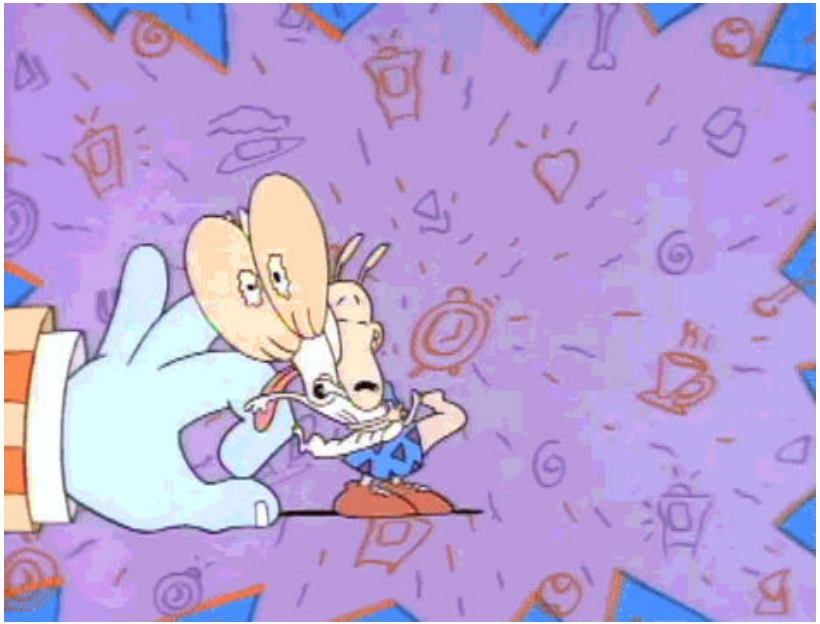
Lesson # 9

Addressing	**6.NS.A.1** Interpret and compute quotien solve word problems involving division of fractions, e.g., by using visual fraction mo represent the problem. For example, crea $(2/3) \div (3/4)$ and use a visual fraction mo quotient; use the relationship between mu division to explain that $(2/3) \div (3/4) = 8/9$ because 3/4 of 8/9 is 2/3. (In general, $(a/b) \div (c/d) = ad/bc$.) How much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 3/4-cup servings are in 2/3 of a cup of yogurt? How wide is a rectangular strip of land with length 3/4 mi and area 1/2 square mi?

Let’s practice dividing fractions in different situations.

Today’s Goals

- ❏ I can find the amount in one group in different real-world situations.



Number Talk: Greater Than 1 or Less Than 1?

Warm Up 9.1

- Number Talk
- MLR8: Discussion Supports

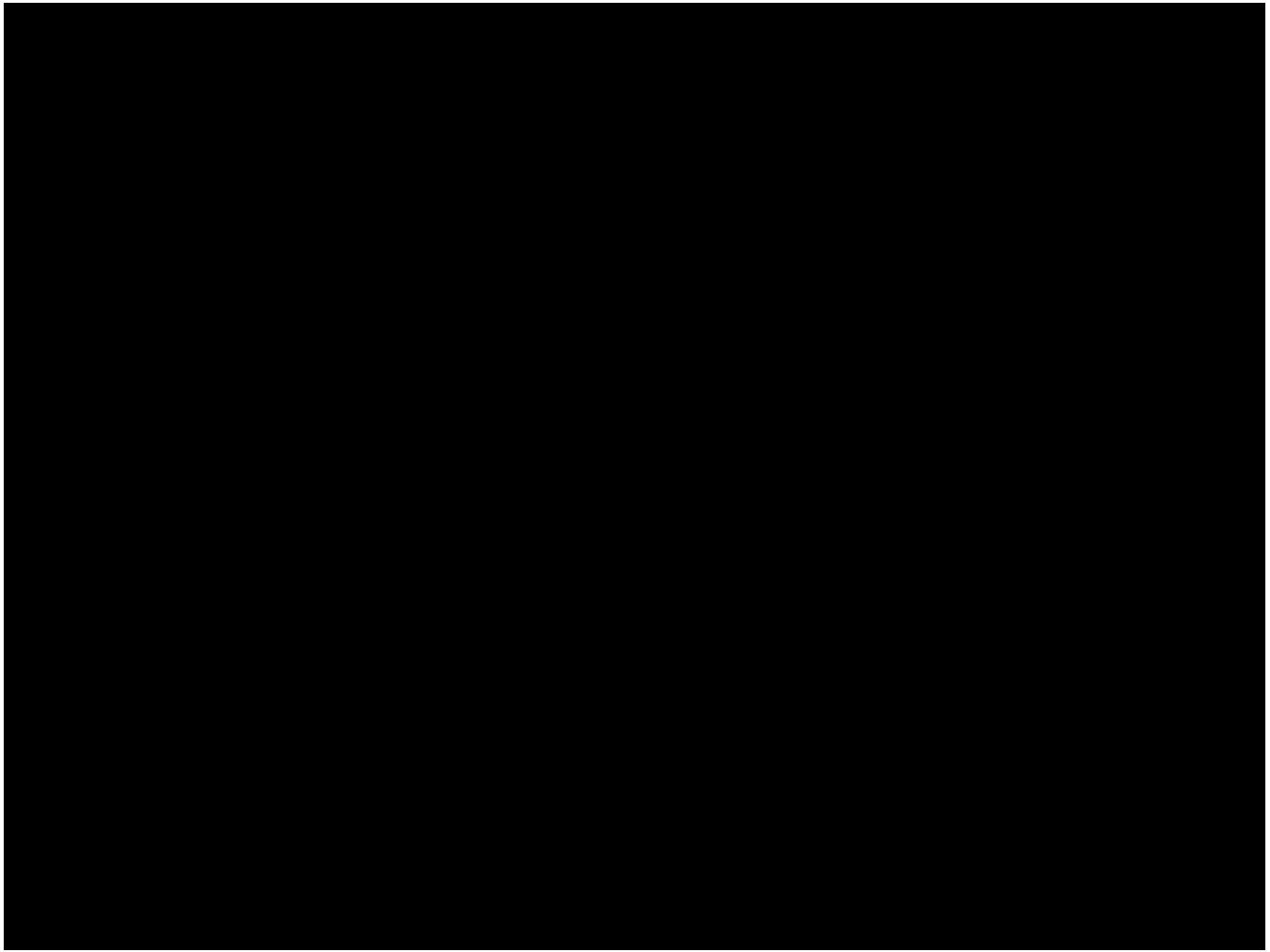
Decide whether each of the following is greater than 1 or less than 1.

1. $\frac{1}{2} \div \frac{1}{4}$
2. $1 \div \frac{3}{4}$
3. $\frac{2}{3} \div \frac{7}{8}$
4. $2\frac{7}{8} \div 2\frac{3}{5}$

Two Water Containers

Activity 9.2

- MLR7: Compare & Connect
- Anticipate, Monitor, Select, Sequence, Connect



1. After looking at these pictures, Lin says, "I see the fraction $\frac{2}{5}$." Jada says, "I see the fraction $\frac{3}{4}$." What quantities are Lin and Jada referring to?

2. How many liters of water fit in the water dispenser?

Write a multiplication equation and a division equation for the question, then find the answer. Draw a diagram, if needed. Check your answer using the multiplication equation.

Amount in One Group

Activity 9.3

- MLR8: Discussion Supports
- Think Pair Share
- Group Presentations

Your group should select 1 even problem and 1 odd problem.

Write a multiplication equation and a division equation and draw a diagram to represent each situation and question. Then find the answer. Explain your reasoning.

1. Jada bought $3\frac{1}{2}$ yards of fabric for $21. How much did each yard cost?
2. $\frac{4}{9}$ kilogram of baking soda costs $2. How much does 1 kilogram of baking soda cost?
3. Diego can fill $1\frac{1}{5}$ bottles with 3 liters of water. How many liters of water fill 1 bottle?
4. $\frac{5}{4}$ gallons of water fill $\frac{5}{6}$ of a bucket. How many gallons of water fill the entire bucket?

Gallery Walk Time!

Look for groups solutions to the same problems your group solved.

Be prepared to share a couple of observations about how your strategies and diagrams are the same or different from others’.

Are you ready for more?

The largest sandwich ever made weighed 5,440 pounds. If everyone on Earth shares the sandwich equally, how much would you get? What fraction of a regular sandwich does this represent?

Inventing a Situation

Activity

- Group Presentations
- MLR8: Discussion Supports

1. Think of a situation that involves a question that can be represented by $\frac{1}{3} \div \frac{1}{4} = ?$ Write a description of that situation and the question.

DO NOT ANSWER YOUR QUESTION!

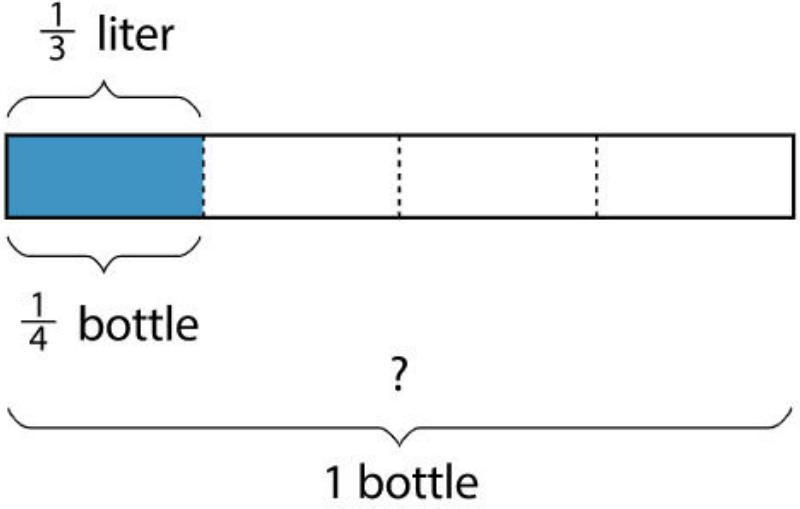
2. Trade descriptions with a member of your group.

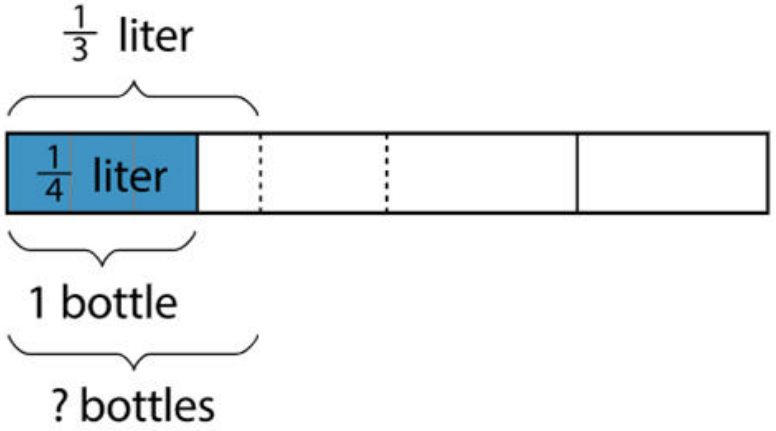
- Review each other's description and discuss whether each invented question is an appropriate match for the equation.
- Revise your description or question based on feedback from your partner.

3. Find the answer to your question. Explain or show your reasoning. If you get stuck, draw a diagram.

When you are ready add your question to your visual display.

Let’s Talk About It





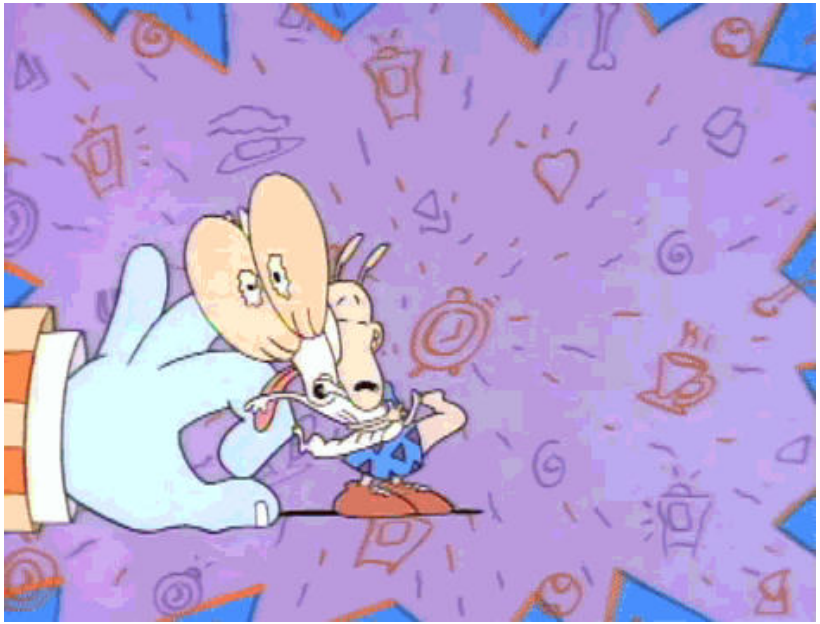
Lesson Synthesis

How long is a whole trip if $\frac{2}{3}$ of a trip is $\frac{4}{5}$ of a mile?

- What is the ‘one group’ we are interested in here?
- Do we know the number of groups or the fraction of a group?
- What multiplication equation and division equation can we write to represent this situation?
- How can we interpret $\frac{2}{3} \cdot ? = \frac{4}{5}$ in this context
- How might we set up a tape diagram to help us answer the question?

Today’s Goals

- ❏ I can find the amount in one group in different real-world situations.



Refilling a Soap Dispenser

Cool Down 9.5

Cool Down

Noah fills a soap dispenser from a big bottle that contains $2\frac{1}{3}$ liters of liquid soap. That amount of soap will fill $3\frac{1}{2}$ dispensers. How many liters of soap fit into one dispenser?

Use the diagram below to answer the question. Label all relevant parts of the diagram.