Eureka Math

4th Grade
Module 3
Lesson 14

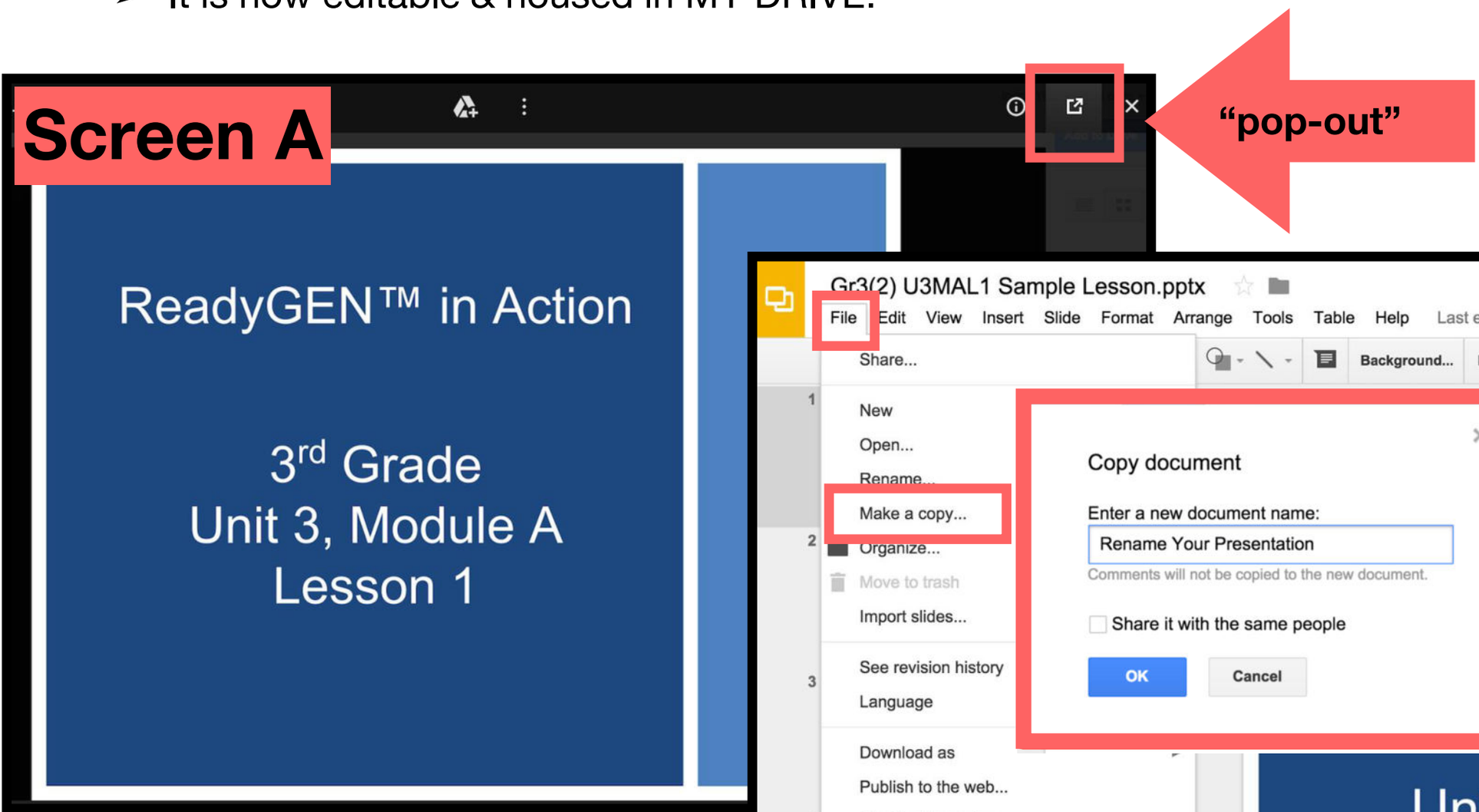
At the request of elementary teachers, a team of Bethel & Sumner educators met as a committee to create Eureka slideshow presentations. These presentations are not meant as a script, nor are they required to be used. Please customize as needed. Thank you to the many educators who contributed to this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

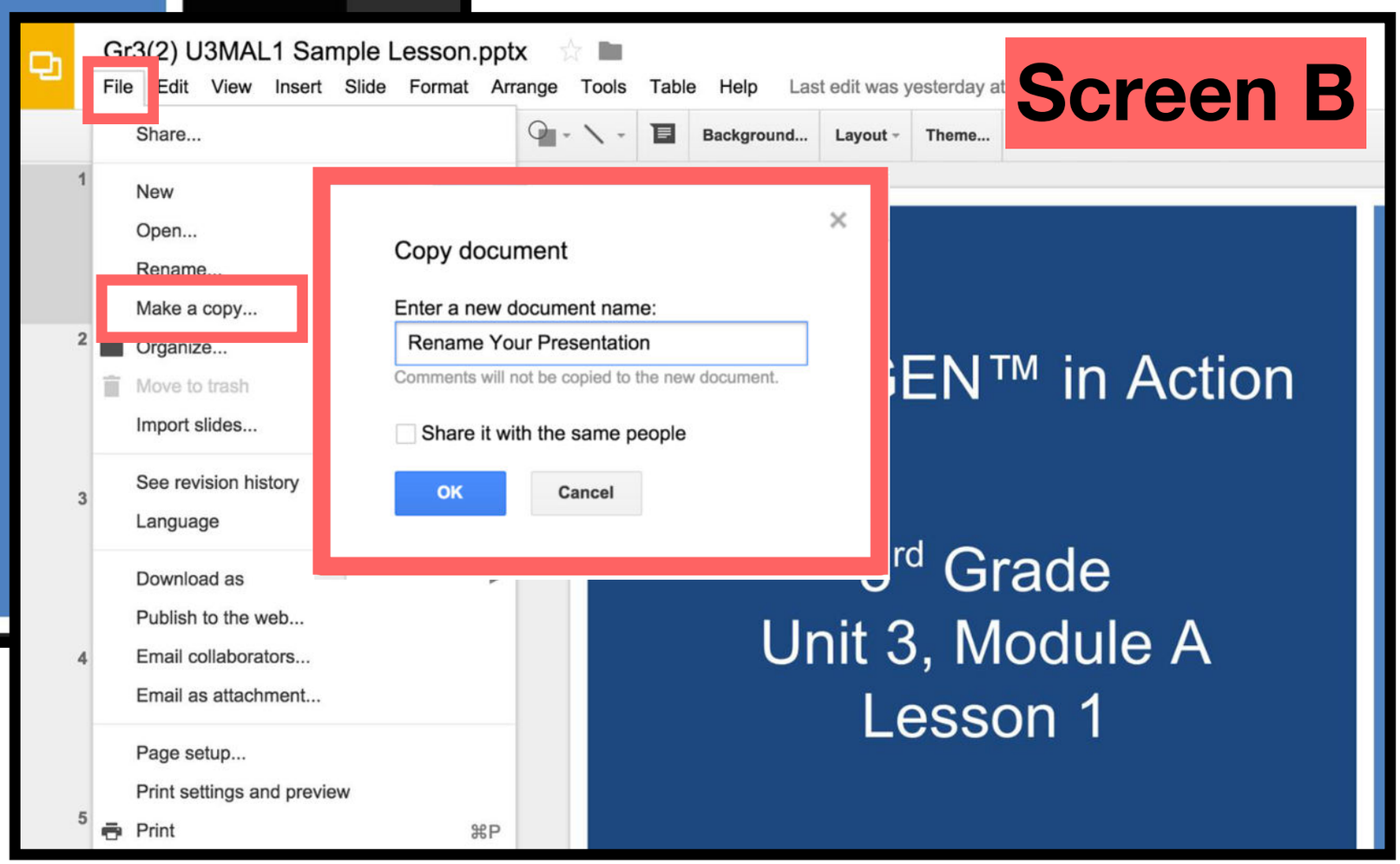
Directions for customizing presentations are available on the next slide.

Customize this Slideshow

Reflecting your Teaching Style and Learning Needs of Your Students

- When the Google Slides presentation is opened, it will look like Screen A.
- Click on the “pop-out” button in the upper right hand corner to change the view.
- The view now looks like Screen B.
- Within Google Slides (not Chrome), choose FILE.
- Choose MAKE A COPY and rename your presentation.
- Google Slides will open your renamed presentation.
- It is now editable & housed in MY DRIVE.



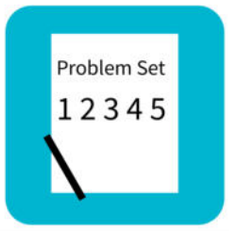


Icons

Read, Draw, Write

Learning Target

Personal White Board

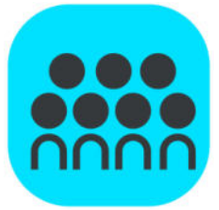


Problem Set

Manipulatives Needed

Fluency

Think Pair Share



Whole Class

Individual

Partner

Small Group

Small Group Time

Lesson 14

Objective: Solve division word problems with remainders.

Suggested Lesson Structure

Application Problem	(8 minutes)
Fluency Practice	(12 minutes)
Concept Development	(32 minutes)
Student Debrief	(8 minutes)
Total Time	**(60 minutes)**

Solve division word problems with remainders.

Read Draw Write

Read the problem.

Draw and Label.

Write a number sentence.

Write a word sentence.

Application Problem

Tyler planted potatoes, oats, and corn. He planted 23 acres of potatoes. He planted 3 times as many acres of oats as potatoes, and he planted 4 times as many acres of corn as oats. How many acres did Tyler plant with potatoes, oats, and corn in all?

Group Count to Divide

8 ÷ 2 = ___.

Let’s find the quotient, counting by twos. Show a finger for each multiple you count by.

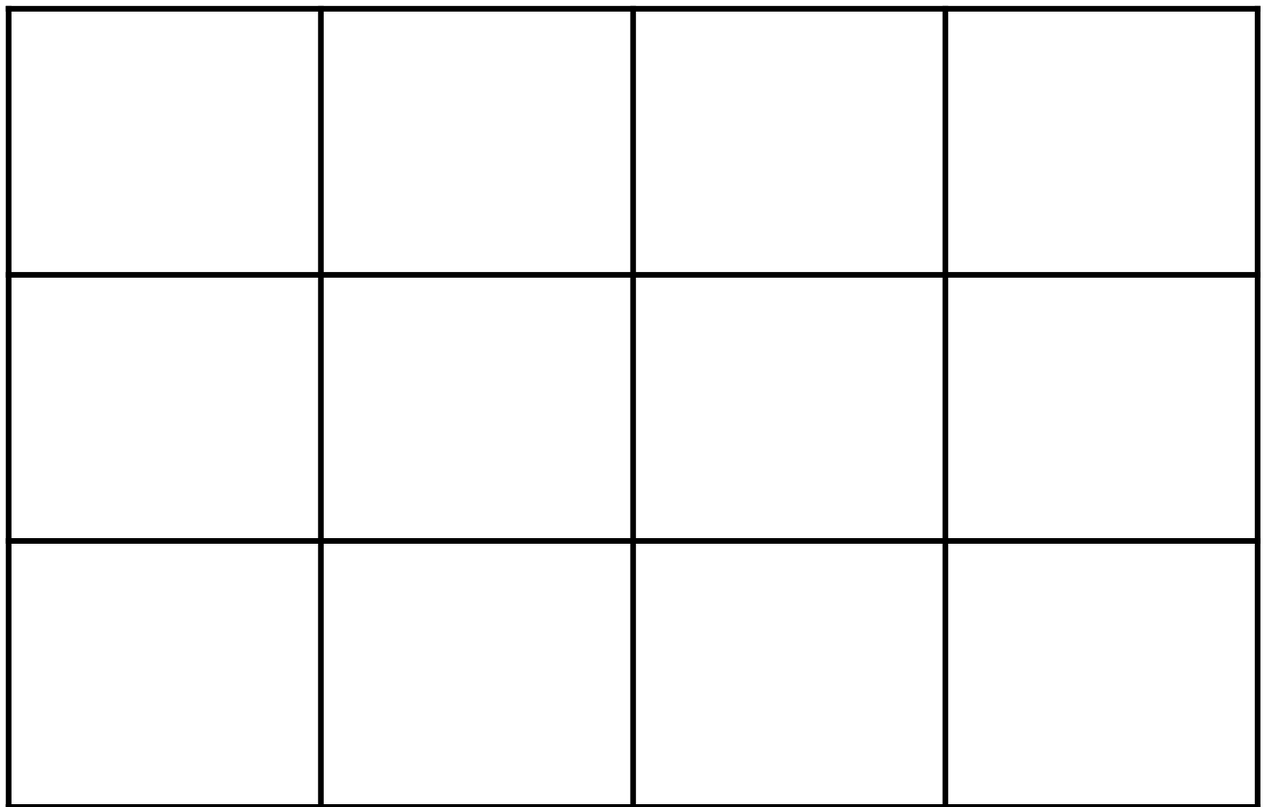
What’s 8 ÷ 2?

Number Sentences in an Array

How many boxes do you see altogether?

Let’s count by threes to check.

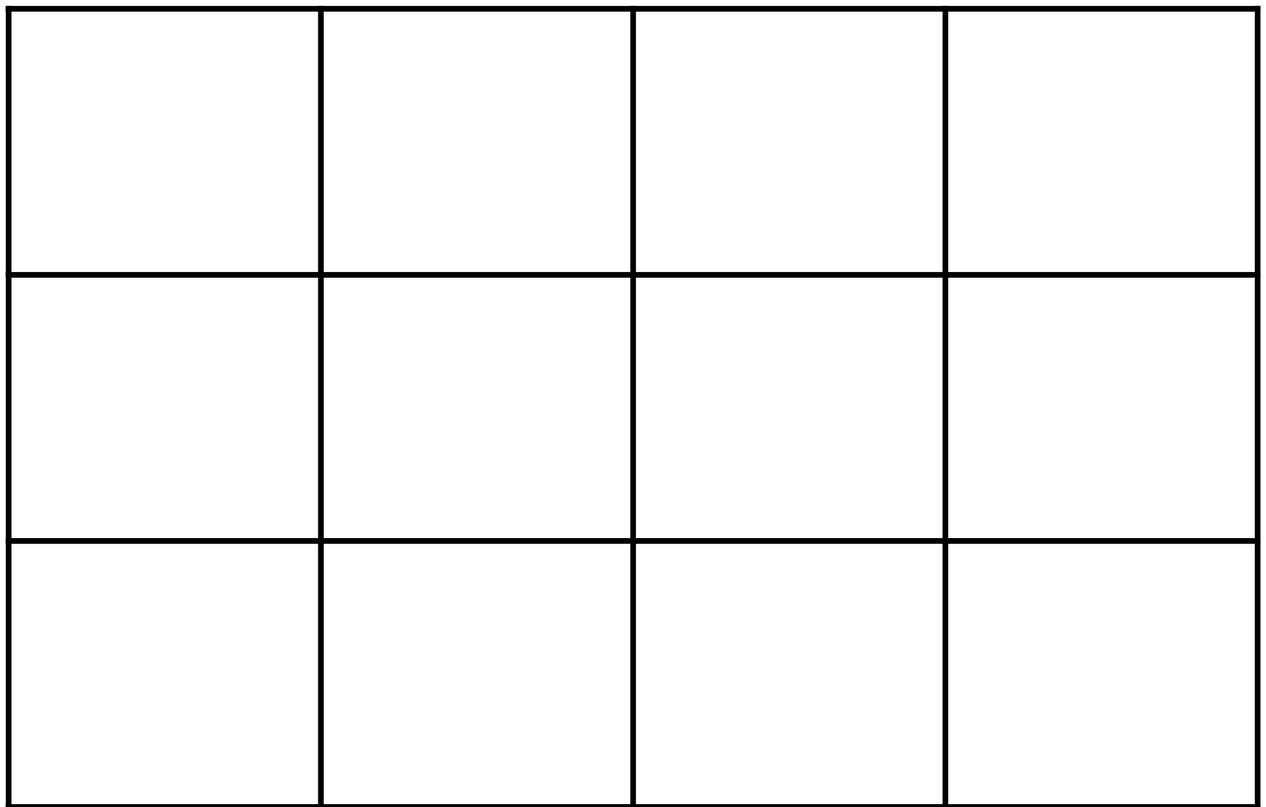
Let’s count by fours to check.

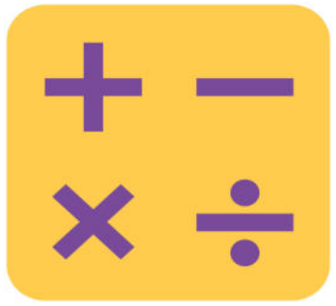


Number Sentences in an Array

On your whiteboard, write two multiplication sentences to show how many boxes are in this array.

Write two division sentences for this array.





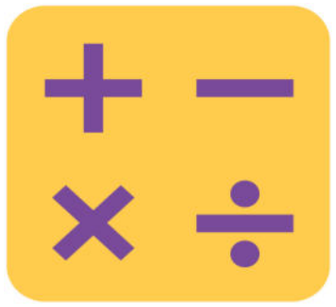
Number Sentences in an Array

Divide with Remainders

How many groups of 2 are in 10?

Let’s prove it by counting by twos. Use your fingers as you count.

Show and say how many groups of 2 are in 10.



Divide with Remainders

$$11 \div 2$$

Let’s find out how many groups of 2 are in 11. Count with me.

How many groups?

How many left?

Divide

There are 12 students in PE class separated into 4 teams. How many students are on each team?

Read the problem and draw an array to represent the division.

Tell me a division expression that matches the situation.

Divide

There are 12 students in PE class separated into 4 teams. How many students are on each team?

What is the quotient?

How many students are on each team?

How can you check to make sure your division was correct?

Does this quotient tell us the size of the group or the number of groups?

Divide

Let’s revise the story a bit.

Again, there are 12 students in PE class but now 3 students are needed on each team. How many teams can be made?

What is the division expression for this new story?

Does the quotient tell use the size of the group of the number of groups?

Divide

The same array can represent a situation with the group size unknown or number of groups unknown.

Divide With a Remainder

One more student joined the class described at the beginning of Problem 1. There are now 13 students to be divided into 4 teams.

Draw an array to find how many students are on each team.

What did you find?

Tell me an expression to represent this problem.

Divide With a Remainder

When we divide a number into equal groups, sometimes there is an amount leftover. We call the number that we have left a **remainder**.

What is the amount left over, the remainder?

We state our answer by saying the quotient and then the remainder. The quotient is 3. The remainder is 1. We can also say or write, “The quotient is 3 with a remainder of 1.”

Divide With a Remainder

Discuss with your partner how you can use multiplication to check your work for this answer.

Let’s return again to a second story.

Divide With a Remainder

There are 13 students in PE class. Exactly 3 students are needed on each team. How many teams can be made?

Tell me the new expression.

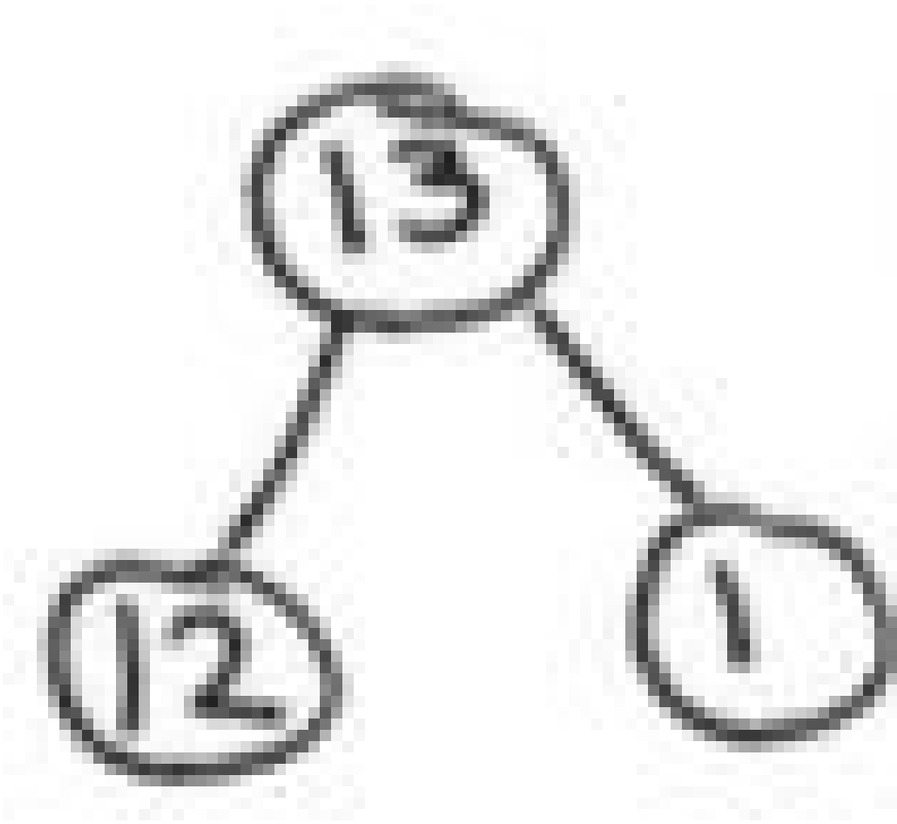
State the quotient and remainder.

Divide With a Remainder

The quotient is 4, and the remainder is 1.

Talk to your partner. What do the quotient and the remainder mean in the second story?

Compare my number bond with the quotient and the remainder.



Model Remainders With a Tape Diagram

Kristy bought 13 roses. If she puts 6 roses in each vase, how many cases will she use? Will there be any roses left over?

Draw an array. Solve for 13 ÷ 6.

Tell your partner a statement that tells the quotient and remainder for this problem.

Describe to your partner what that statement tells us.

Model Remainders With a Tape Diagram

Again, let's revise our story a bit.

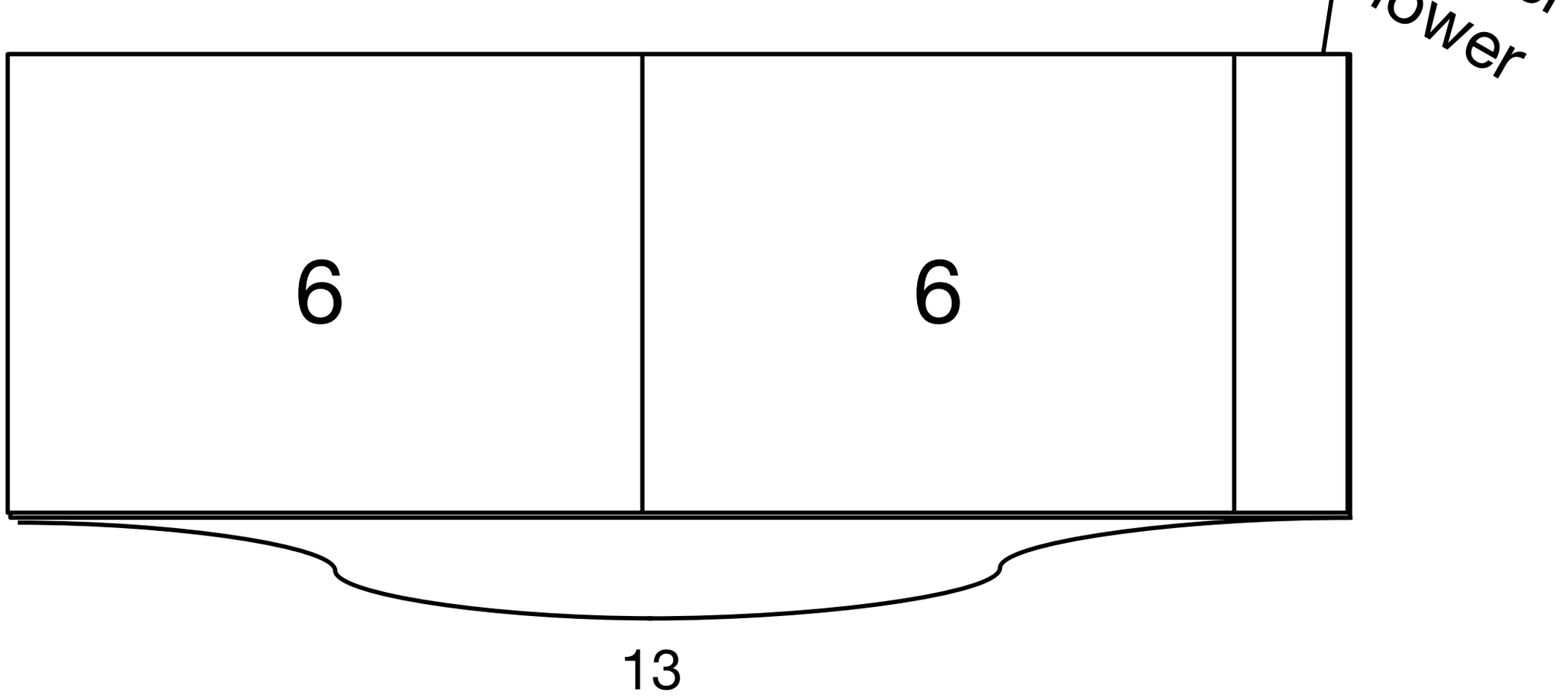
Now Kristy bought 13 roses and wants to put them in 2 vases. How many roses will be in each vase? Is this the same array?

Talk to your partner. How has our interpretation of teh array changed?

How can we check our work for both situation?

Model Remainders With a Tape Diagram

Let’s turn our array into a tape diagram to show 13 in 2 groups of 6 with a remainder of 1.



Model Remainders With a Tape Diagram

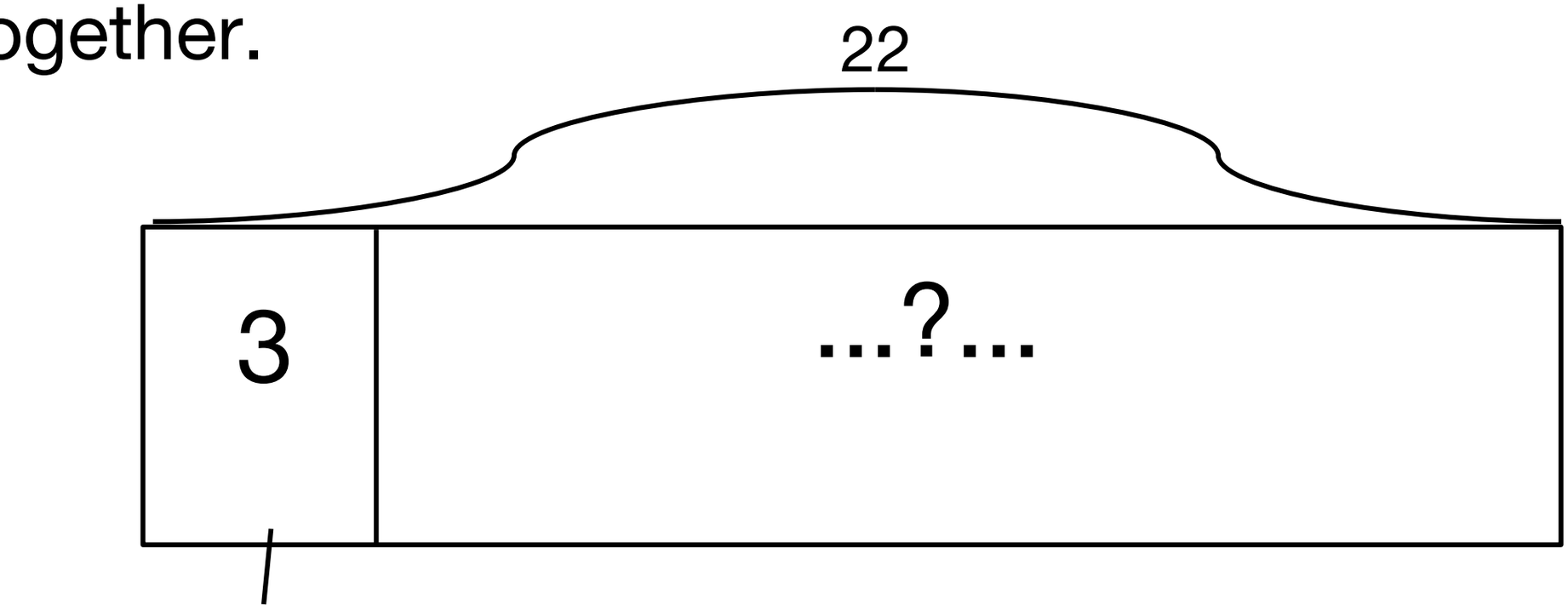
With your partner, draw a tape diagram to show 13 roses divided equally into vases.

Look at your tape diagram. Is the model the same when we don't know the number of groups, when we know that there are 3 flowers in each vase but we know the number of vases?

Interpreting the Remainder

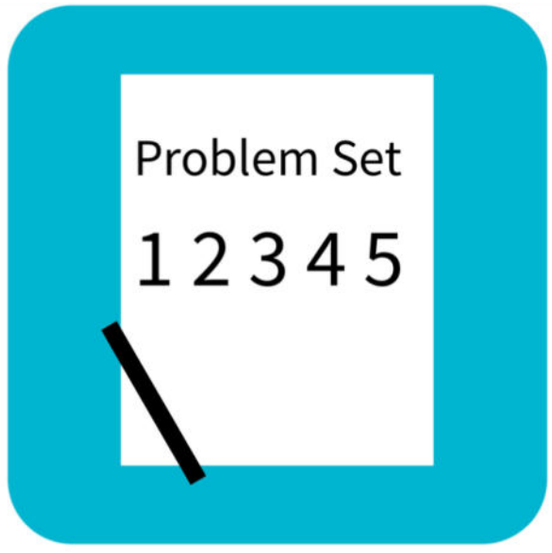
Allison has 22 meters of fabric to sew dresses. She uses 3 meters of fabric for each dress. After how many dresses will Allison need to buy more fabric?

Let's represent this problem using a tape diagram together.



Interpreting the Remainder

With your partner, discuss your answer to the question. After how many dresses will Allison need to buy more fabric?



Problem Set

Name _____ Date _____

Use the RDW process to solve the following problems.

1. There are 19 identical socks. How many pairs of socks are there? Will there be any socks without a match? If so, how many?

Debrief

Participate in the discussion by...

- Thinking about the question.
- Sharing your work.
- Explaining your strategy.
- Listening to others.

Debrief

In Problem 4, how many full days of baking can be done? HOw much more flour is needed to bake on the sixth day?

How does an array help you to determine a remainder?

What complications are there in modeling a division problem with a remainder using a tape diagram?

New math vocabulary:

remainder

Exit Ticket

Name _____ Date _____

Use the RDW process to solve the following problems.

1. There are 19 identical socks. How many pairs of socks are there? Will there be any socks without a match? If so, how many?