Eureka Math

3rd Grade
Module 1
Lesson 6

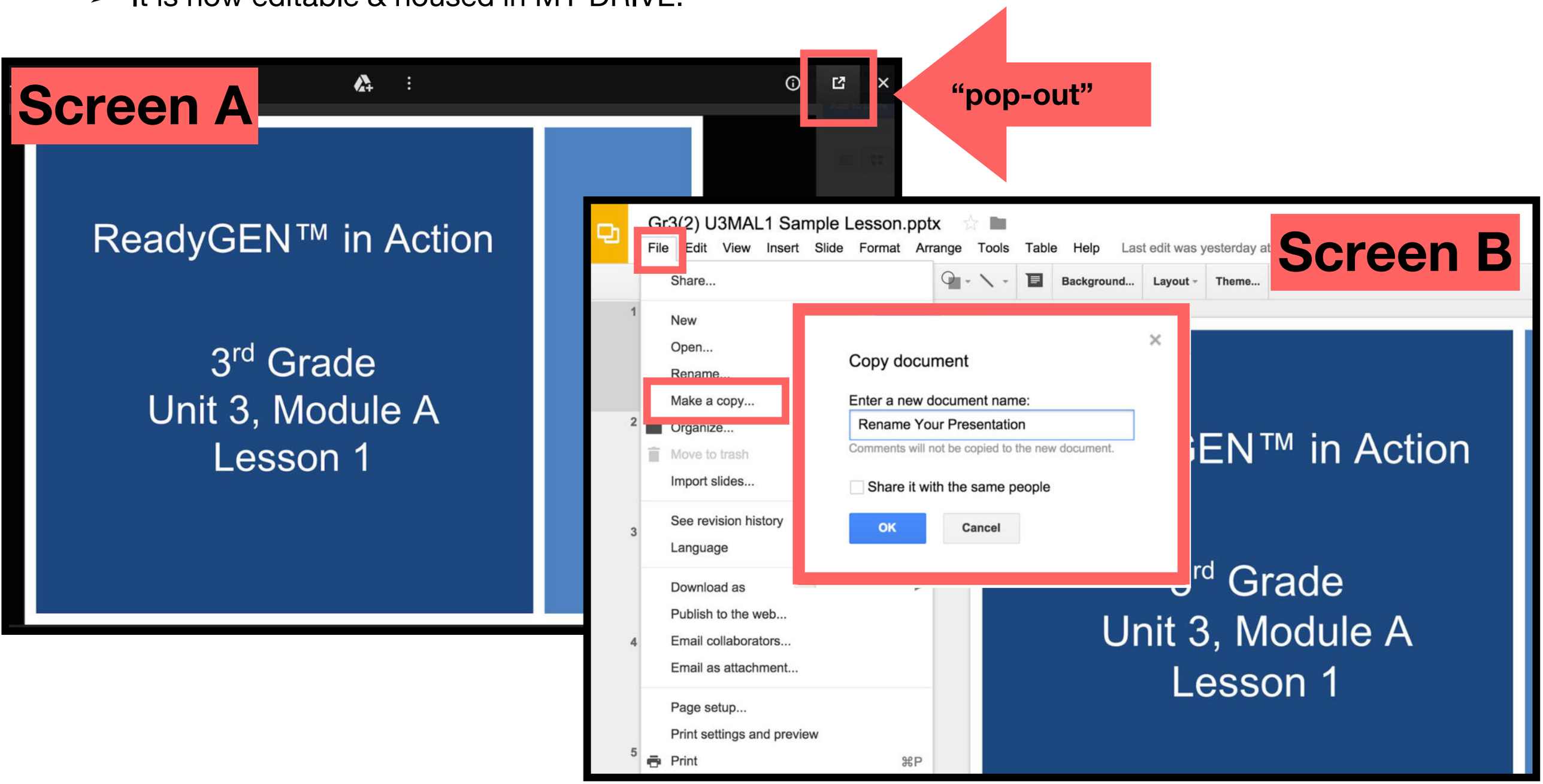
At the request of elementary teachers, a team of Bethel & Sumner educators met as a committee to create Eureka slideshow presentations. These presentations are not meant as a script, nor are they required to be used. Please customize as needed. Thank you to the many educators who contributed to this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

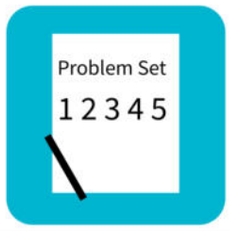


Icons

Read, Draw, Write

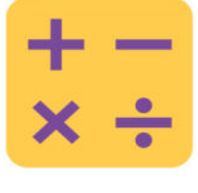
Learning Target

Personal White Board



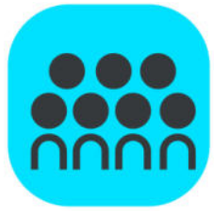
Problem Set

Manipulatives Needed



Fluency

Think Pair Share



Whole Class

Individual

Partner

Small Group

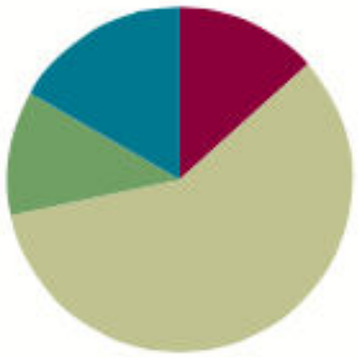
Small Group Time

Lesson 6

Objective: Interpret the unknown in division using the array model.

Suggested Lesson Structure

Fluency Practice	(8 minutes)
Application Problem	(7 minutes)
Concept Development	(35 minutes)
Student Debrief	(10 minutes)
Total Time	**(60 minutes)**

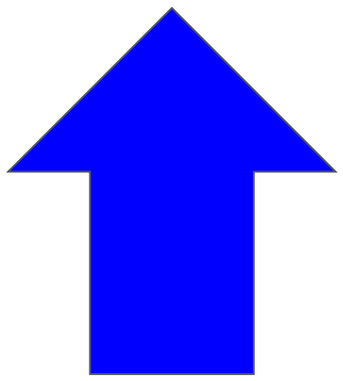


I can interpret the unknown in division using the array model.

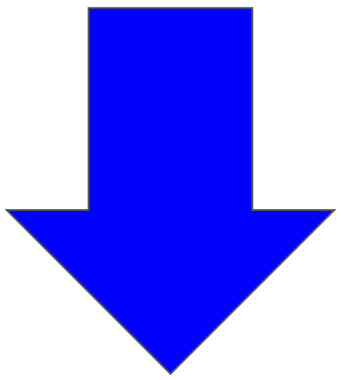
Group Counting

Let's count by **twos**.

Watch my fingers to know whether or not to count up or count down. A closed hand means to stop.



Count up

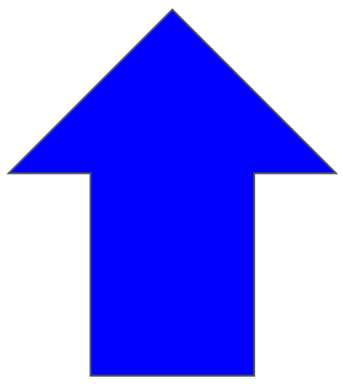


Count down

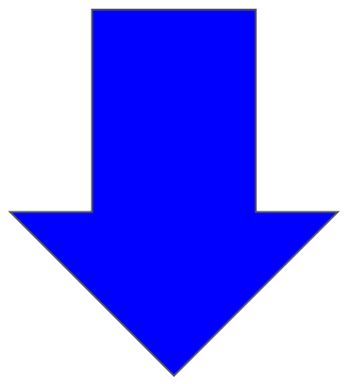
Group Counting

Let’s count by **threes**.

Watch my fingers to know whether or not to count up or count down. A closed hand means to stop.



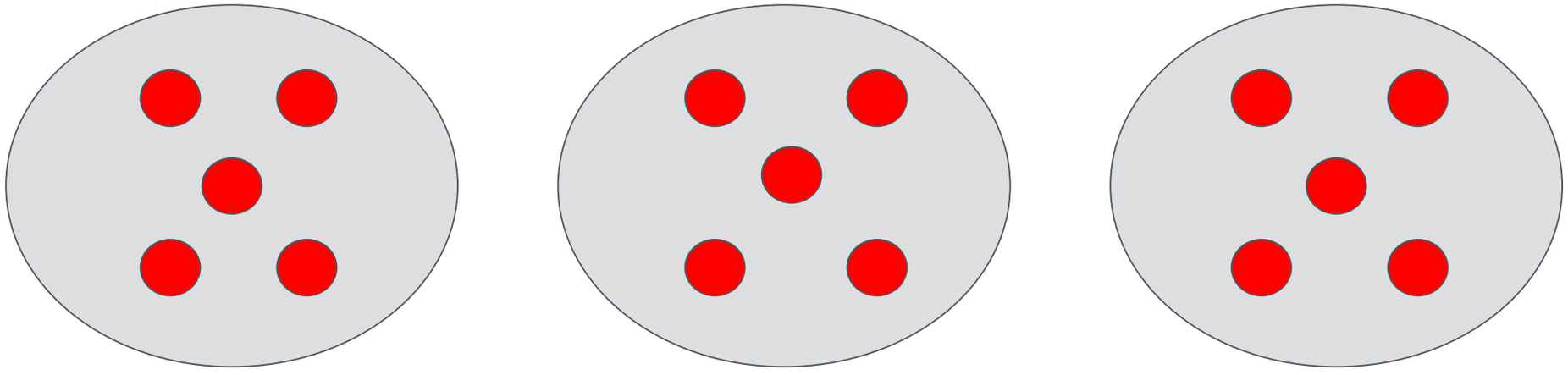
Count up



Count down

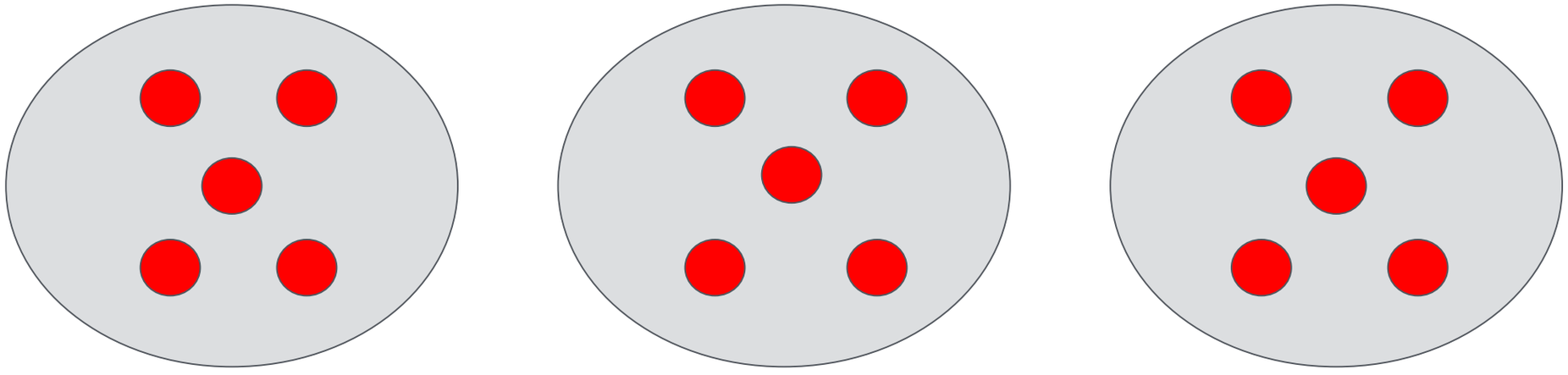
Divide Equal Groups

Say the total as a repeated addition sentence.



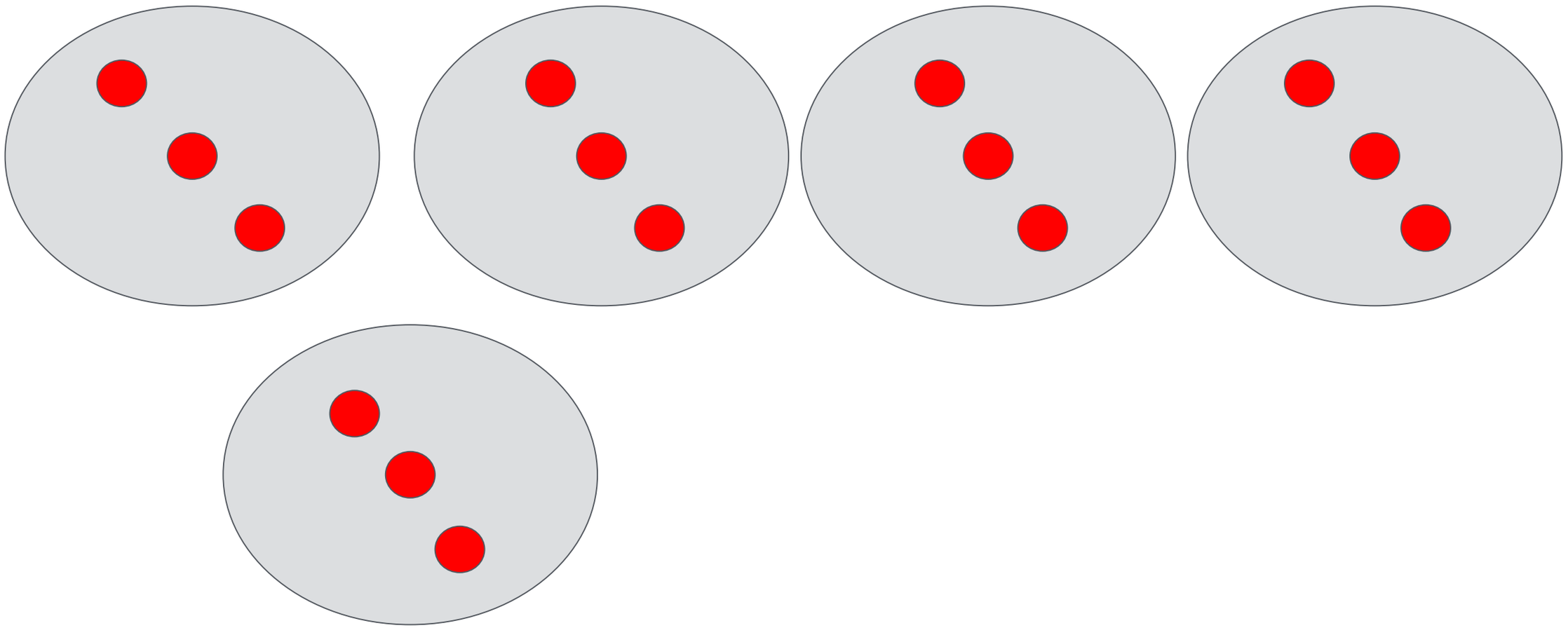
Divide Equal Groups

Write a division sentence for 15 divided into 3 equal groups.



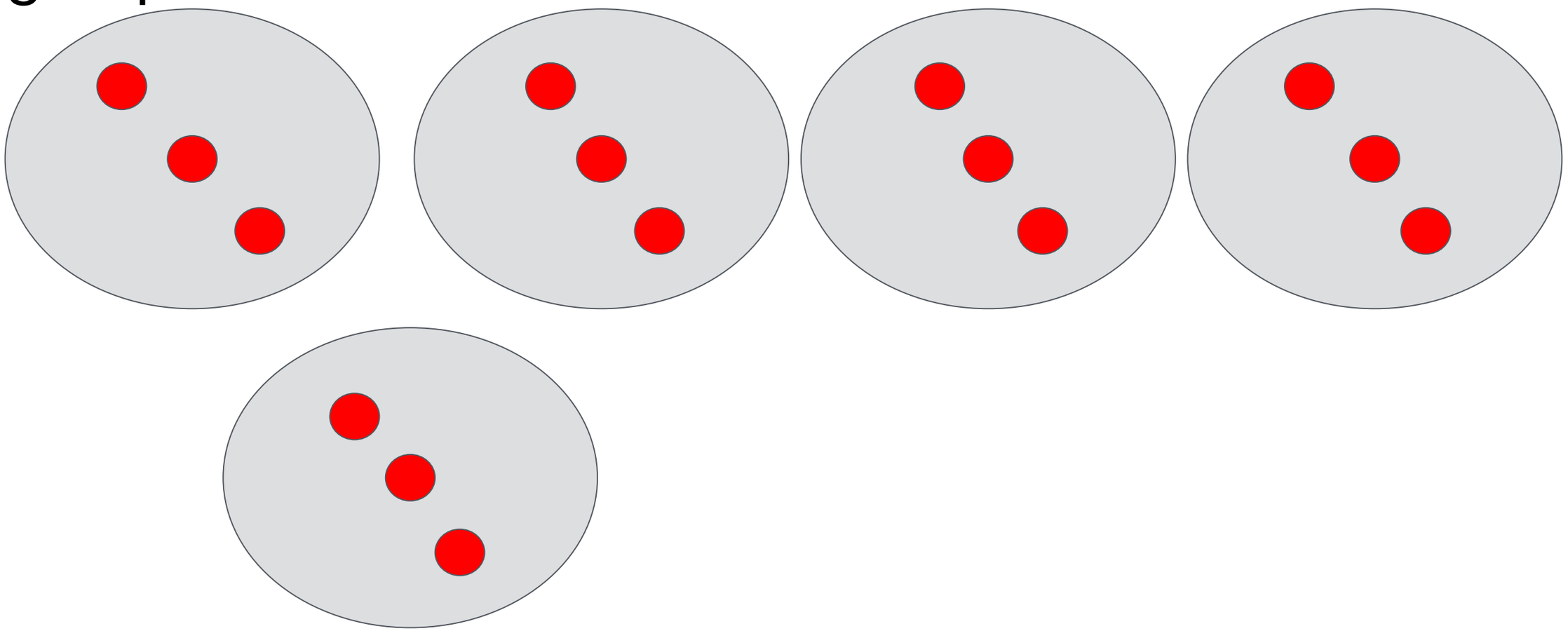
Divide Equal Groups

Say the total as a repeated addition sentence.



Divide Equal Groups

Write a division sentence for 15 divided into 5 equal groups.



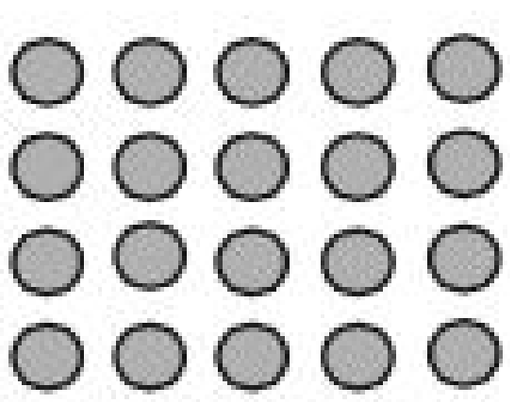
Application Problem

Twenty children play a game. There are 5 children on each team. How many teams play the game? Write a division sentence to represent the problem.

RDW

Relate division to an array model.

Twenty children play a game. There are 5 children on each team. How many teams play the game? Write a division sentence to represent the problem.

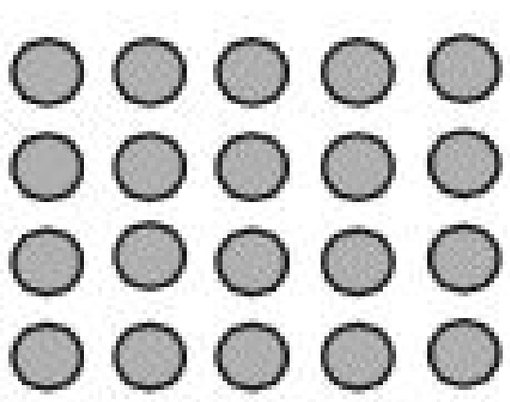


Look at the array and describe the following relationships:

-Total number of children and total number of dots

Relate division to an array model.

Twenty children play a game. There are 5 children on each team. How many teams play the game? Write a division sentence to represent the problem.

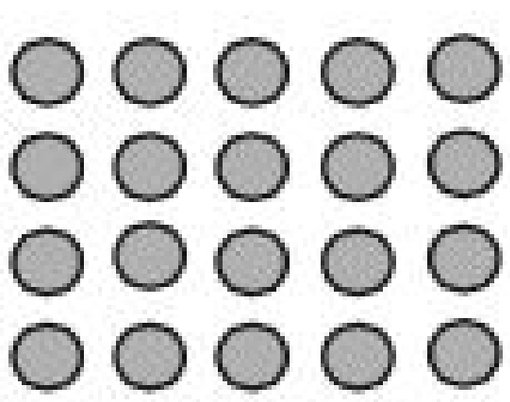


Look at the array and describe the following relationships:

-Number of children on each team and number of dots in each row

Relate division to an array model.

Twenty children play a game. There are 5 children on each team. How many teams play the game? Write a division sentence to represent the problem.



Look at the array and describe the following relationships:

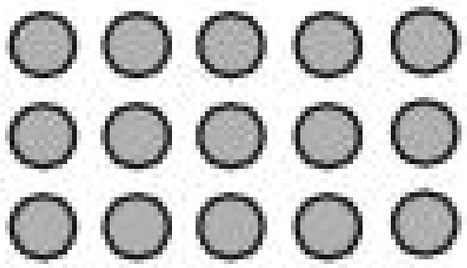
-Number of teams and number of rows

Use an array to relate the unknown factor in multiplication to the quotient in division.

Draw an array that shows the equation 15 ÷ 3 = 5 where the **quotient** - that means the answer - represents the size of groups.

Use an array to relate the unknown factor in multiplication to the quotient in division.

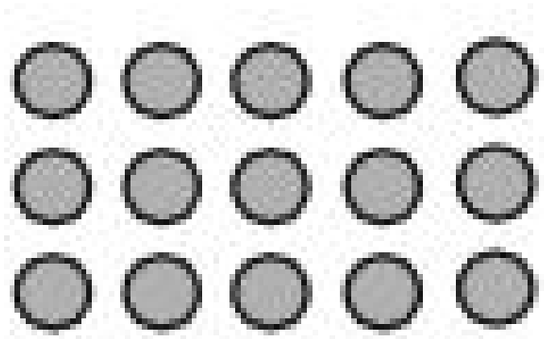
Draw an array that shows the equation 15 ÷ 3 = 5 where the **quotient** - that means the answer - represents the size of groups.



Now, write both a division and a multiplication equation for the array.

Use an array to relate the unknown factor in multiplication to the quotient in division.

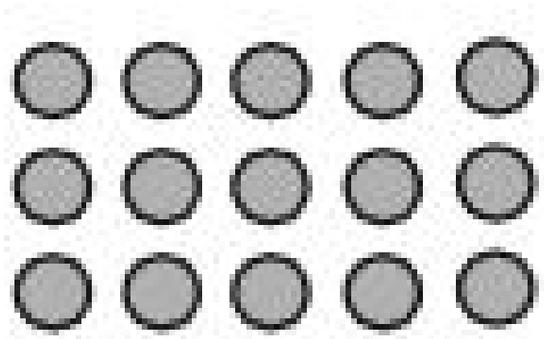
$15 \div 3 = 5$ $3 \times 5 = 15$



Where do you find the quotient in our multiplication equation?

Use an array to relate the unknown factor in multiplication to the quotient in division.

$15 \div 3 = 5$ $3 \times 5 = 15$



Circle the size of groups in both problems.

Relate multiplication and division.

_____ x 3 = 24

Skip-count and track the number of threes to solve.

Relate multiplication and division.

3, 6, 9, 12, 15, 18, 21, 24

$$8 \times 3 = 24$$

How many threes make 24? Answer in a complete sentence.

Relate multiplication and division.

3, 6, 9, 12, 15, 18, 21, 24

$8 \times 3 = 24$

Write a related division equation where the quotient represents the unknown factor.

Relate multiplication and division.

$$24 \div 3 = 8$$

Twenty-four divided in threes makes how many groups? Answer in a complete sentence.

Relate multiplication and division.

$8 \times 3 = 24$ $\quad$ $24 \div 3 = 8$

How are the unknown factor and quotient related in these equations?

Relate multiplication and division.

$8 \times 3 = 24$ $\quad$ $24 \div 3 = 8$

True or false: Both equations ask how many threes are in 24.

Relate multiplication and division.

$$2 \times \_\_\_\_\_ = 18$$

Skip-count and track the number of twos to solve.

Relate multiplication and division.

2, 4, 6, 8, 10, 12, 14, 16, 18

$2 \times 9 = 18$

How many twos make 18? Answer in a complete sentence.

Relate multiplication and division.

2, 4, 6, 8, 10, 12, 14, 16, 18

$2 \times 9 = 18$

Write a related division equation where the quotient represents the unknown factor.

Relate multiplication and division.

$$18 \div 2 = 9$$

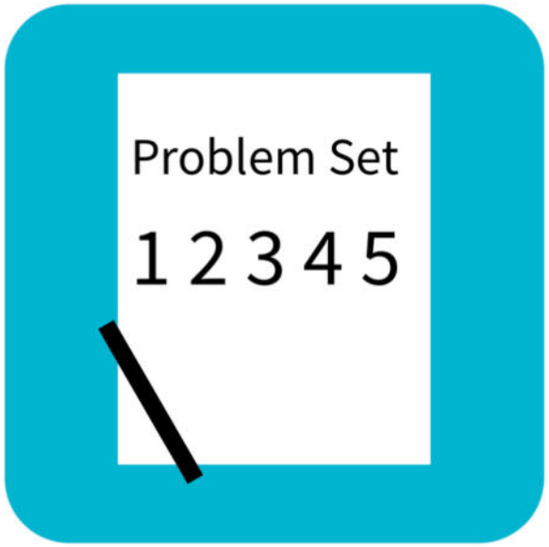
Eighteen divided in twos makes how many groups?

Answer in a complete sentence.

Relate multiplication and division.

$2 \times 9 = 18$ $\quad$ $18 \div 2 = 9$

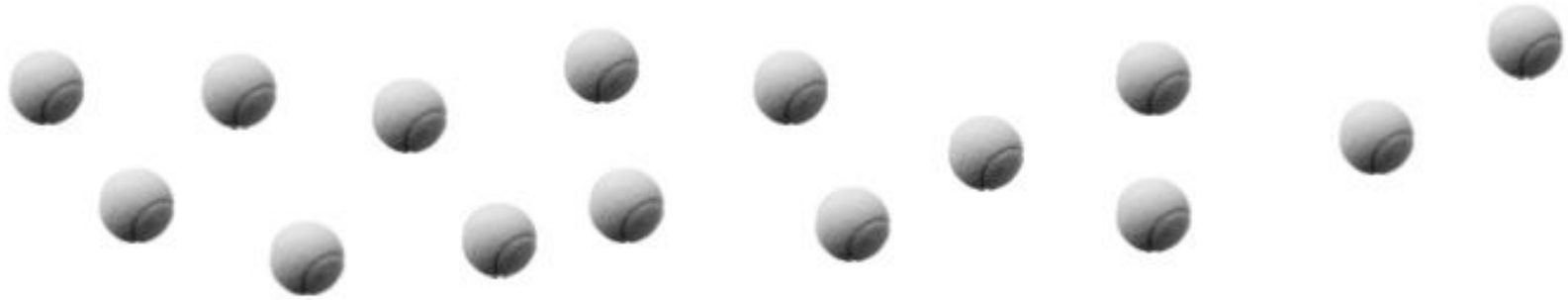
How are the unknown factor and quotient related in these equations?



Problem Set

Name _____ Date _____

1. Rick puts 15 tennis balls into cans. Each can holds 3 balls. Circle groups of 3 to show the balls in each can.



Rick needs _____ cans.

_____ × 3 = 15

15 ÷ 3 = _____

---

2. Rick uses 15 tennis balls to make 5 equal groups. Draw to show how many tennis balls are in each group.

Debrief

Analyze the four equations in Problem 3. Compare the multiplication and division equations, notice the difference in how the problem is represented by each one.

How do arrays represent both multiplication and division?

Based on your observation of arrays, what do multiplication and division have in common?

What is the relationship between the **quotient** in division and the unknown factor in a related

Exit Ticket

Name _____ Date _____

Cesar arranges 12 notecards into rows of 6 for his presentation. Draw an array to represent the problem.

12 ÷ 6 = _____

_____ × 6 = 12

What do the unknown factor and quotient represent? _____