Eureka Math

3rd Grade
Module 3
Lesson 4

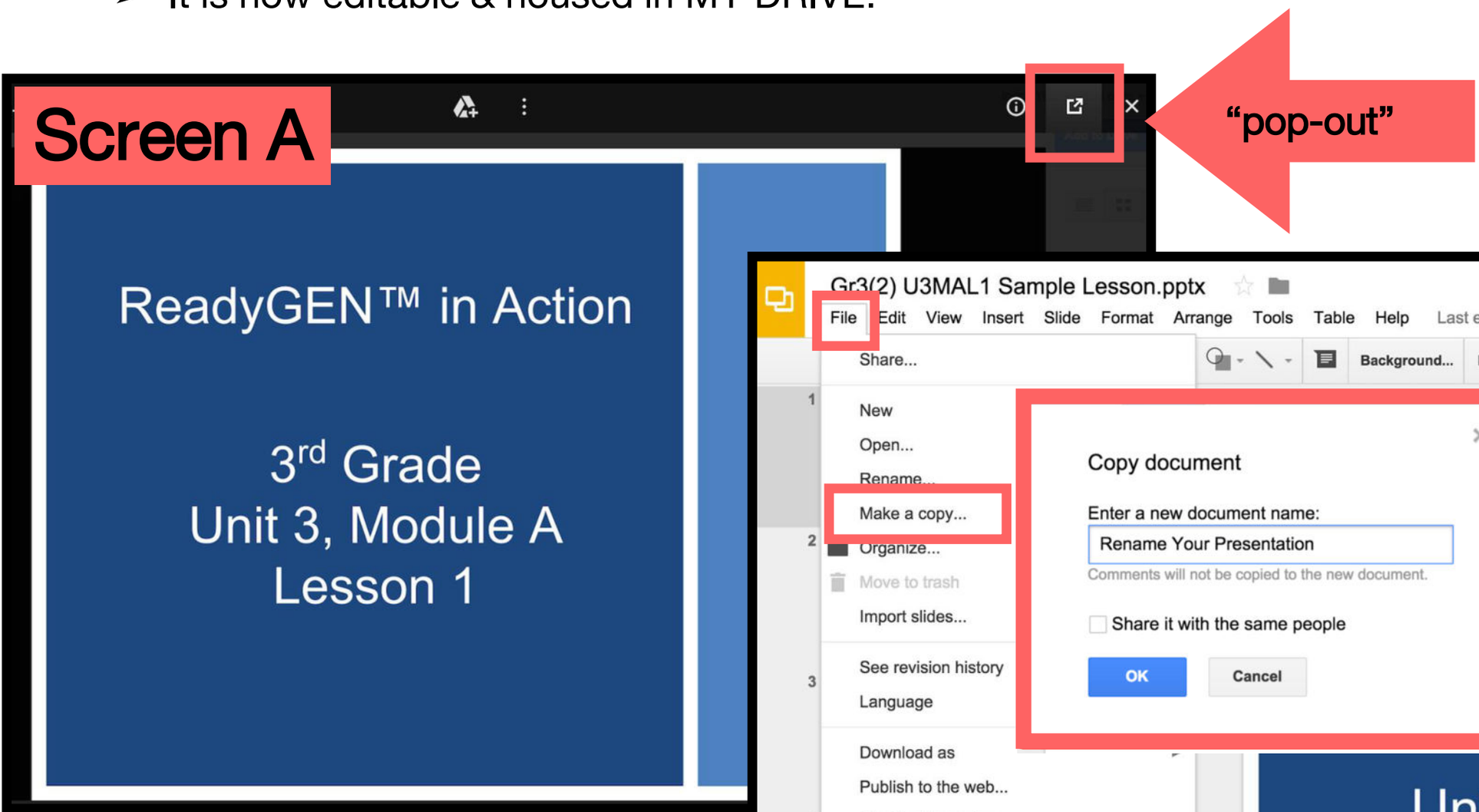
At the request of elementary teachers, a team of Bethel & Sumner educators met as a committee to create Eureka slideshow presentations. These presentations are not meant as a script, nor are they required to be used. Please customize as needed. Thank you to the many educators who contributed to this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

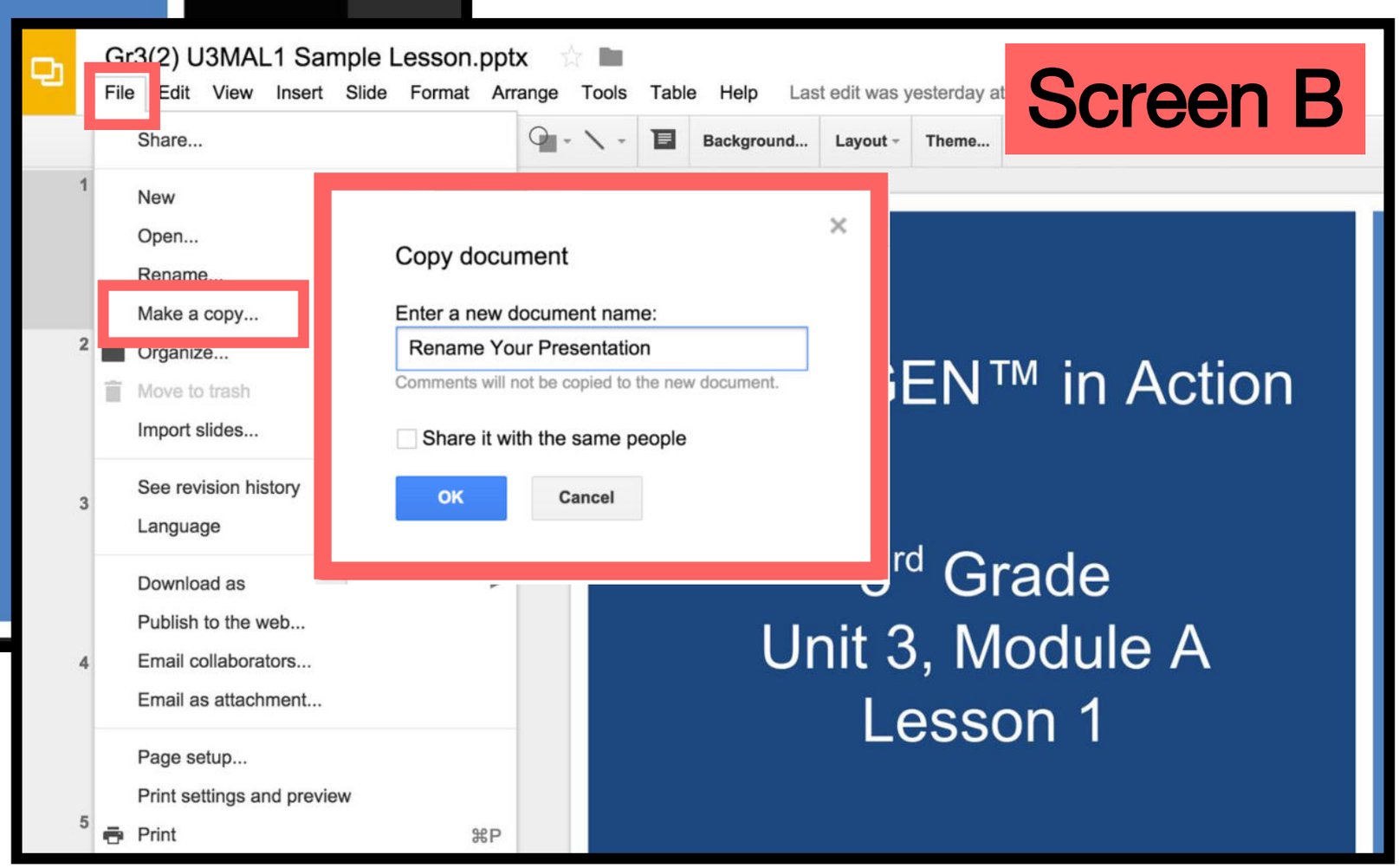
Directions for customizing presentations are available on the next slide.

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.



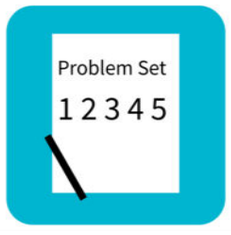


Icons

Read, Draw, Write

Learning Target

Personal White Board

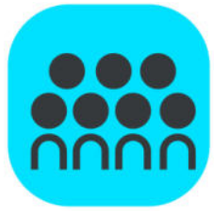


Problem Set

Manipulatives Needed

Fluency

Think Pair Share



Whole Class

Individual

Partner

Small Group

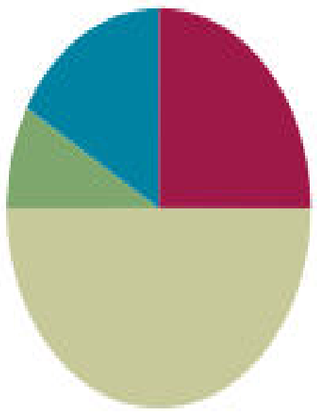
Small Group Time

Lesson 4

Objective: Count by units of 6 to multiply and divide using number bonds to decompose.

Suggested Lesson Structure

Fluency Practice	(15 minutes)
Application Problem	(5 minutes)
Concept Development	(30 minutes)
Student Debrief	(10 minutes)
Total Time	**(60 minutes)**



Objective: I can count by units of 6 to multiply and divide using number bonds to decompose.

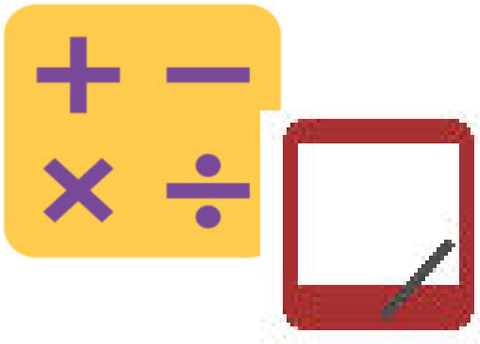
Group Counting

Sixes to 60

Sevens to 70

Eights to 80

Nines to 90

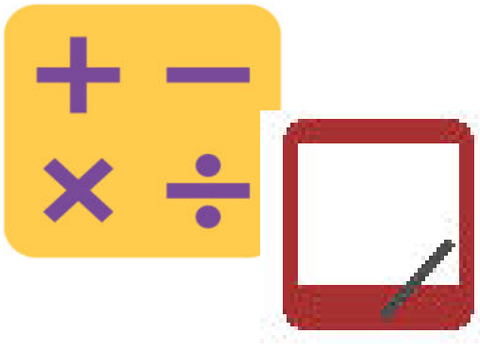


Familiar Facts

$$6 \times 2 = a$$

What is the value of *a*?

a = _____

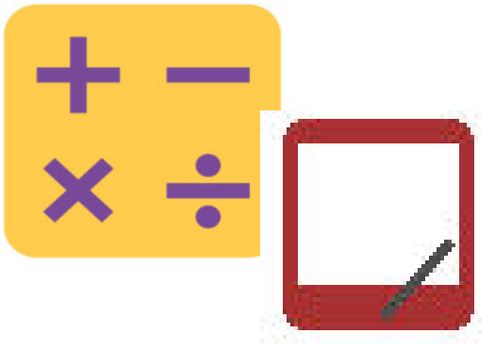


Familiar Facts

$6 \times 2 = 12$ $\qquad$ $12 \div 6 = b$

What is the value of b ?

$b =$ ____



Familiar Facts

$$b = 2$$

What is the value of the unknown ?

$7 \times 3 = c$ $\quad$ $21 \div 7 = d$

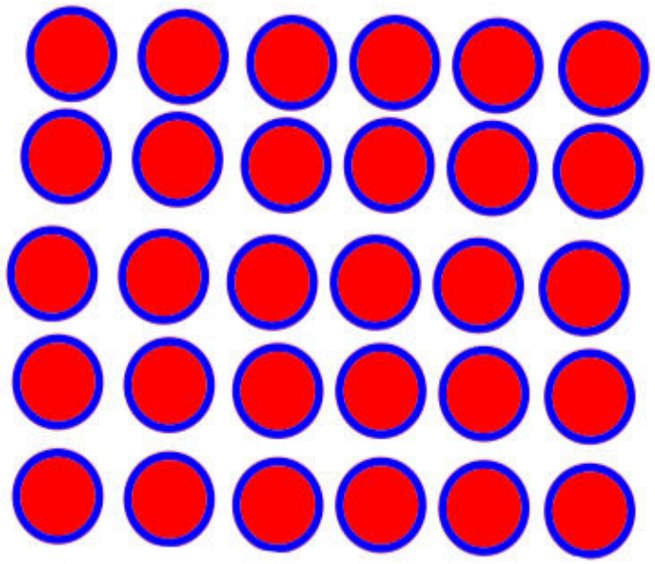
$e \times 4 = 24$ $\quad$ $24 \div 4 = f$

$g \times 2 = 18$ $\quad$ $18 \div 2 = h$

$16 = i \times 2$ $\quad$ $18 \div 8 = j$

$45 = 5 \times k$ $\quad$ $45 \div 9 = m$

Multiply Using the Distributive Property



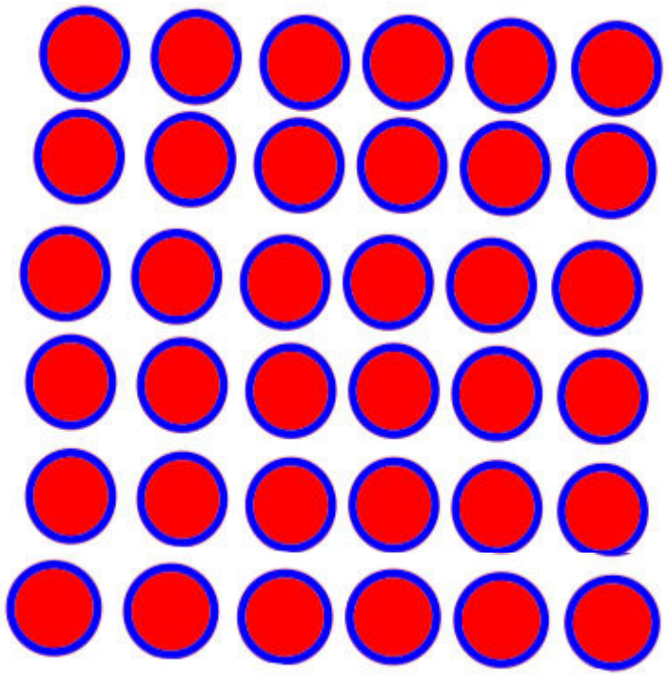
How many groups of 6 are there?

Let's find out how many are in the array by counting by 5s.

Let's find out how many are in the array by counting by 6s.

Write 2 multiplication sentences for this array.

Multiply Using the Distributive Property



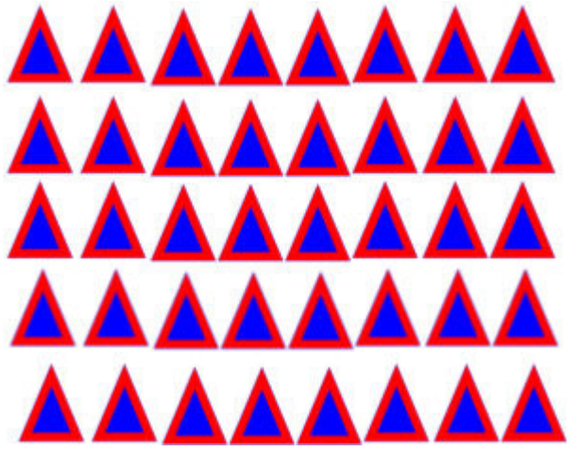
How many groups of 6 are there now?

Add 1 group of 6 to 30.
30 + 6 = ____

Write the addition sentence.

Write a multiplication sentence for this array.

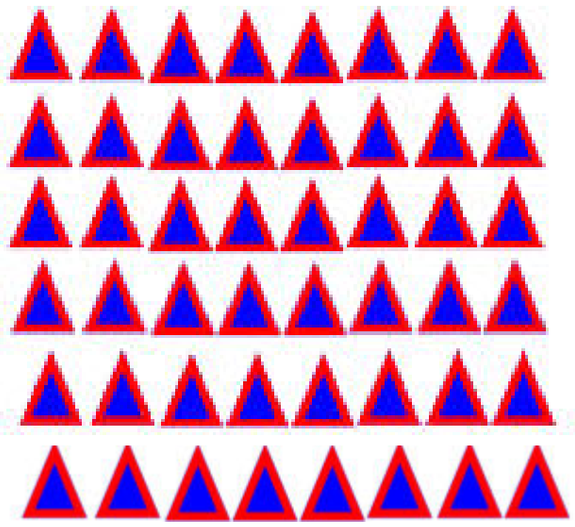
Multiply Using the Distributive Property



How many groups of 8?

How many in the array?
Count by eights.

Write two multiplication sentences for this array.

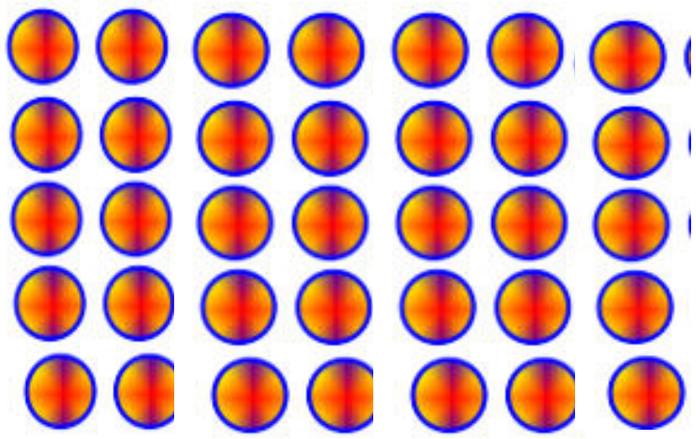


How many groups of 8 ?

Add 1 more group of 8 to 40. 40 + 8 = _____

Write two multiplication sentences for this array.

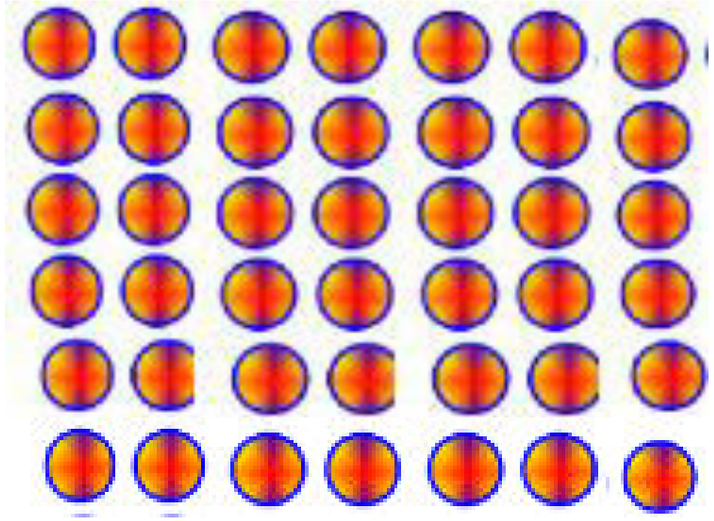
Multiply Using the Distributive Property



How many groups of 7 ?

How many in the array?
Count by sevens.

Write two multiplication sentences for this array.

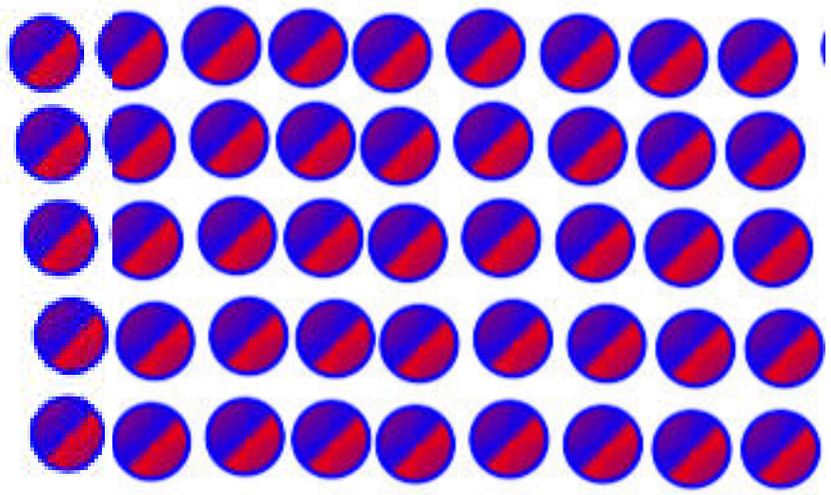


How many groups of 7 ?

Add 1 more group of 7 to 35. 35 + 7 = _____

Write two multiplication sentences for this array.

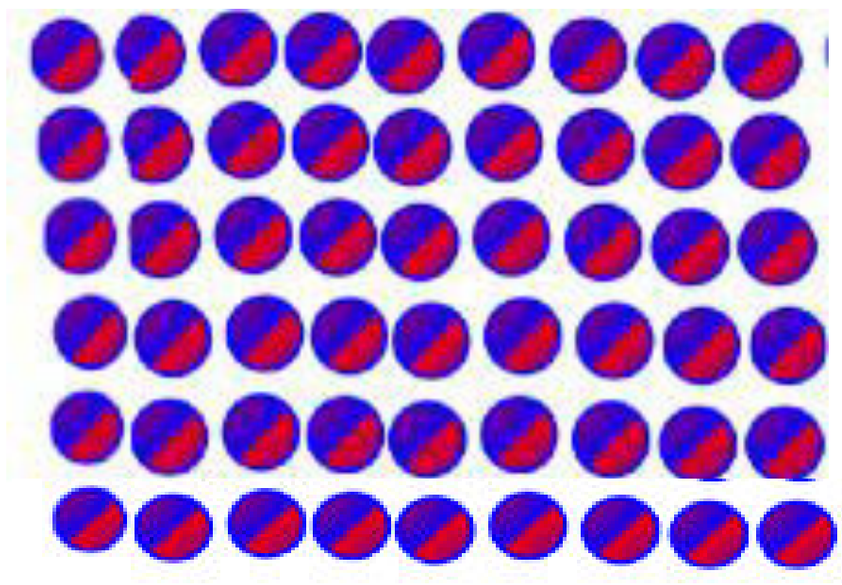
Multiply Using the Distributive Property



How many groups of 9 ?

How many in the array?
Count by nines.

Write two multiplication sentences for this array.



How many groups of 9 ?

Add 1 more group of 9 to 45. 45 + 9 = ____

Write two multiplication sentences for this array.

Make Ten Game

Students play in pairs. Each pair has a set of 9 cards, each with a number 1-9.

Directions: Spread the cards out in front of you. Put your hands behind your back. I'll write a number in the first blank. When you know that belongs in the second blank, touch the card that shows the number. The first person to touch the card keeps it. Whoever has the most cards at the end wins.

_____ + _____ = 10

Make Ten Game

8 + _____ = 10

Make Ten Game

5 + _____ = 10

Make Ten Game

2 + _____ = 10

Make Ten Game

7 + _____ = 10

Make Ten Game

1 + _____ = 10

Make Ten Game

4 + _____ = 10

Make Ten Game

3 + _____ = 10

Make Ten Game

6 + _____ = 10

Application Problem

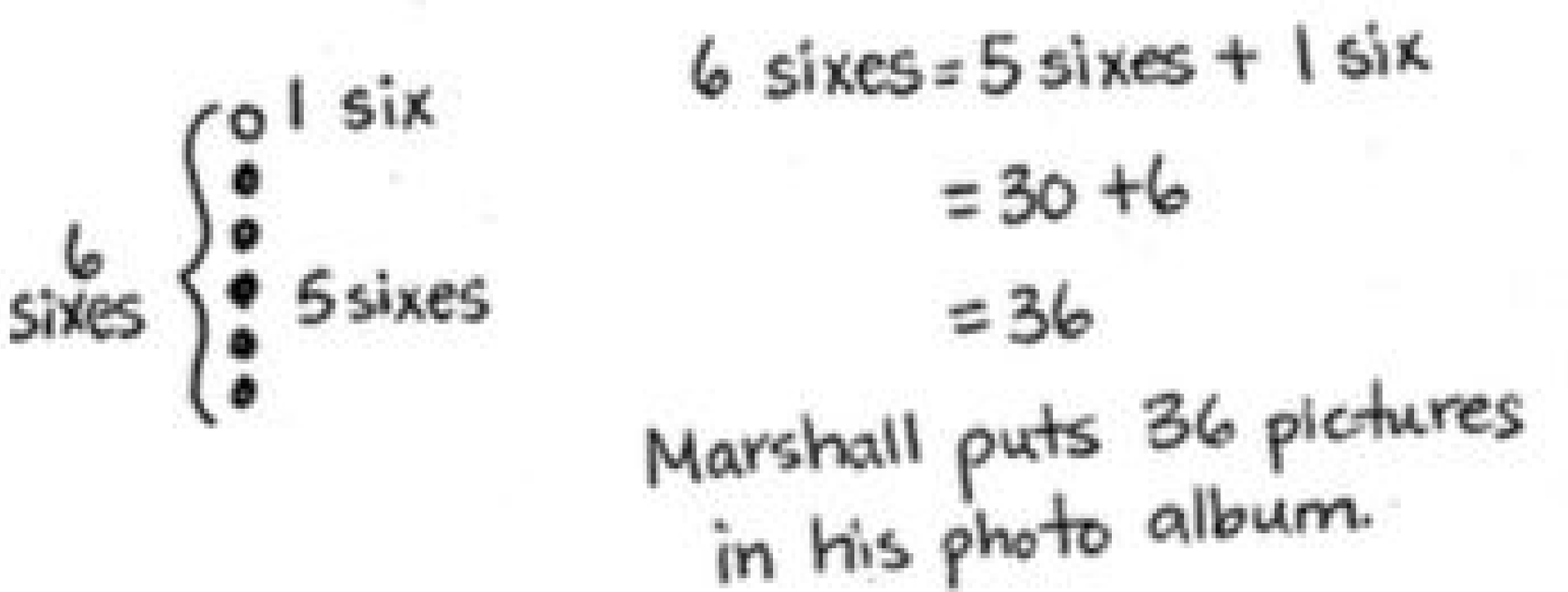
Marshall puts 6 pictures on each of the 6 pages in his photo album.

How many pictures does he put in the photo album in all?

Application Problem

Marshall puts 6 pictures on each of the 6 pages in his photo album.

How many pictures does he put in the photo album in all?



Concept Development

Part 1: Use number bonds to decompose and skip-count using units of 6.

Some of you may have skip-counted by six to get the answer to Marshall's problem. When we're skip-counting by six, how do we get the next number in our sequence?

Concept Development

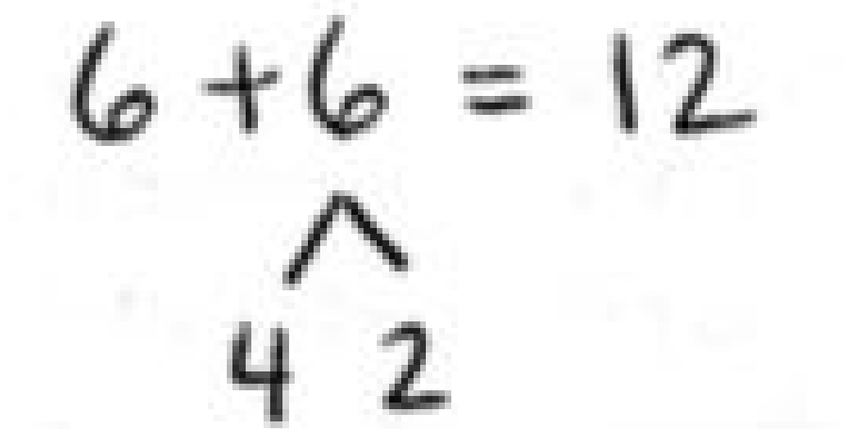
Add 6!

6 + 6 = 12

Think back to our Fluency Practice today. What number should I add to 6 to make 10?

Concept Development

Write my equation on your board. Then, draw a number bond to break apart the second six, showing how to solve using a make ten strategy. (Draw the number bond as shown.)



Concept Development

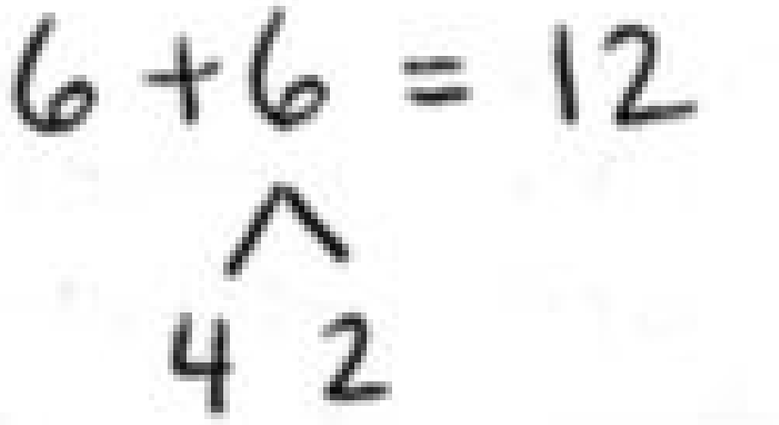
6 plus 4 equals?

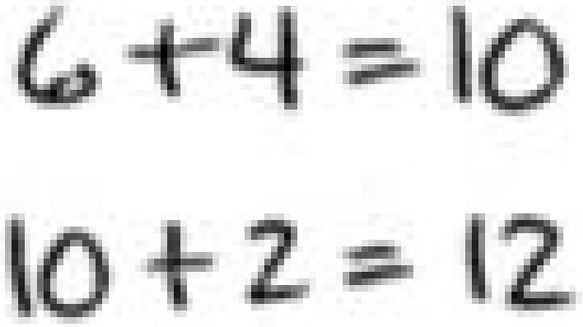
Write it next to 6+6

10 plus 2 equals … ?

Write that under 6+4=10

So, what is 6 plus 6?





Concept Development

6+6=12, 12+6=18, …Continue to 60.

What patterns did you notice counting by six?

Concept Development

How did adding 6 and 6 help you add 36 and 6?

How did adding 18 and 6 help you add 48 and 6?

Concept Development

Why is a make ten strategy with number bonds helpful for counting by sixes?

What other count-bys is it helpful for? Is it helpful for the fives?

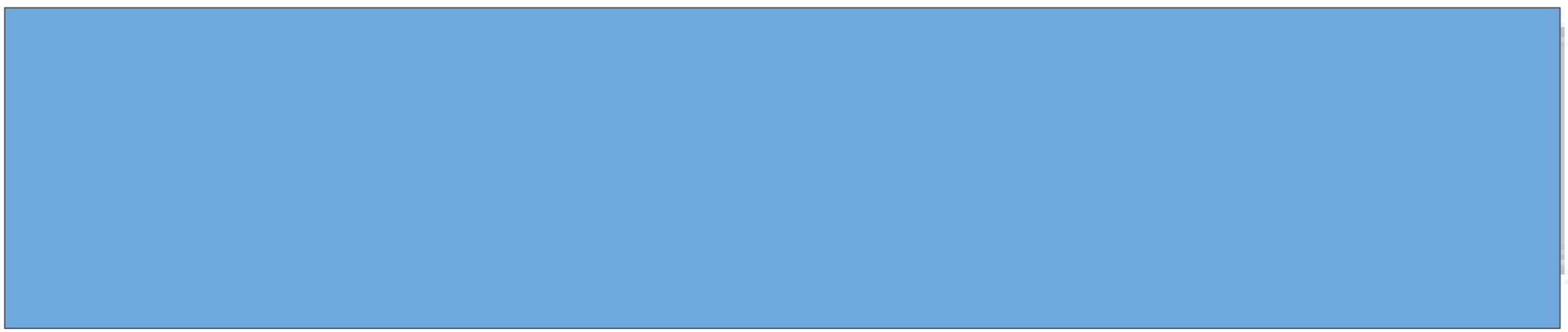
Is it helpful for sevens?

The make ten strategy makes skip-counting sixes more efficient.

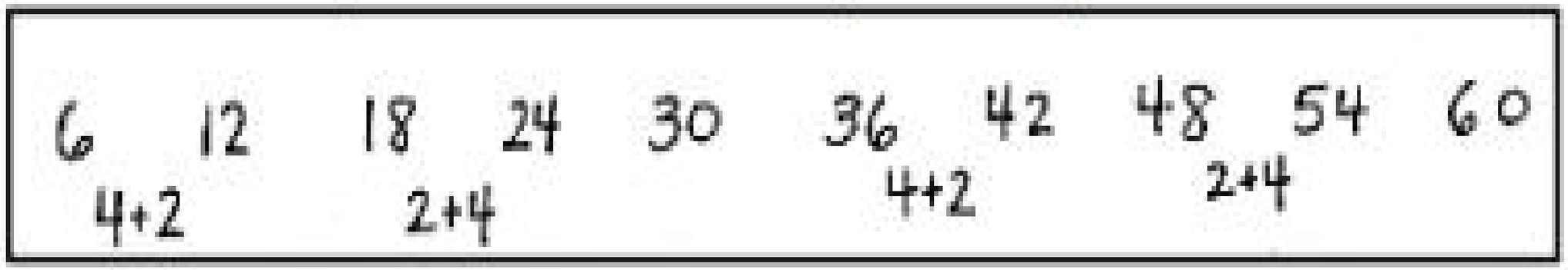
Concept Development

Part 2: Use skip-counting by sixes to solve multiplication and division problems.

Skip-count by six 10 times. Write the count-by sequence on your board. You can also record your addition on your board.



Concept Development



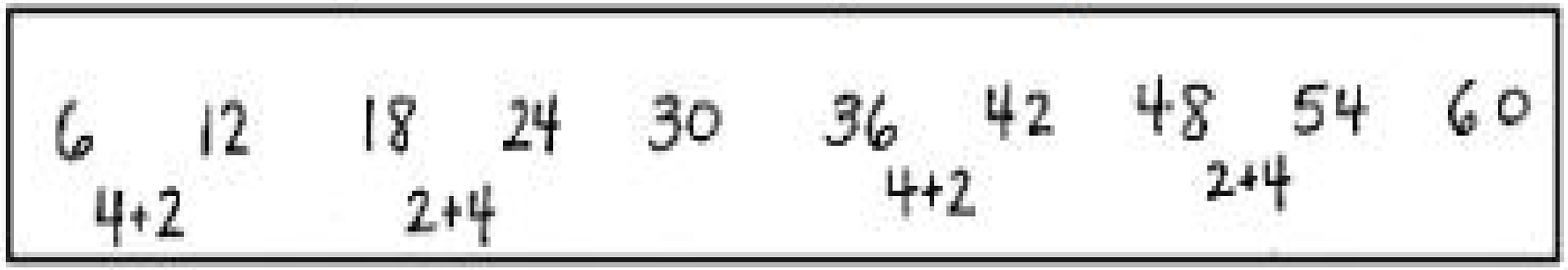
What is the last number in the sequence?

60 is the same as how many sixes?

What multiplication problem?

Skip-counting helped us solve this multiplication problem.

Concept Development



Skip-counting can also help us solve division problems.

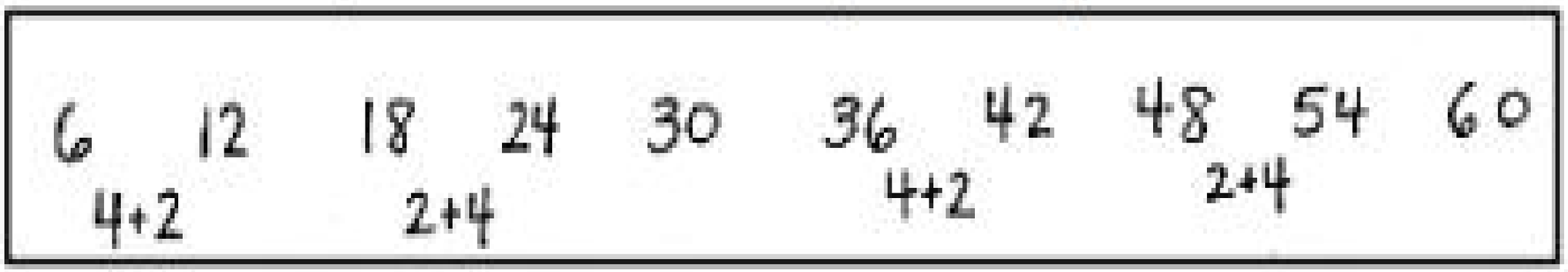
Write the last number in the sequence, followed by division sign.

What did we count by to get to 60?
How many times did we count by six to get to 60?

$60 \div \square = \square$

Read the equation to a partner.

Concept Development



What do you notice about the multiplication and division problems we solved?

$6 \times 10 = 60$ $60 \div 6 = 10$

Now, you have learned another strategy to solve multiplication and division facts with sixes!

Problem Set

Problem Set (10 minutes)

Name _____ Date _____

1. Skip-count by six to fill in the blanks. Match each number in the count-by with its multiplication fact.

6

_____

18

9 × 6

6 × 6

4 × 6

A STORY OF UNITS Lesson 4 Problem Set 3•3

2. Count by six to fill in the blanks below.

6, _____, _____, _____

Complete the multiplication equation that represents the final number in your count-by.

6 × _____ = _____

3. Count by six to fill in the blanks below.

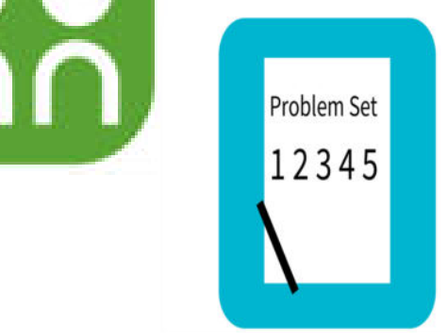
6, _____, _____, _____, _____, _____, _____

Complete the multiplication equation that represents the final number in your count-by.

6 × _____ = _____

Student Debrief

Lesson Objective: Count by units of 6 to multiply and divide using number bonds to decompose.



A STORY OF UNITS **Lesson 4 Problem Set** 3•3

Name _____ Date _____

1. Skip-count by six to fill in the blanks. Match each number in the count-by with its multiplication fact.

6	9 × 6
_____	6 × 6
18	4 × 6
_____	7 × 6
30	2 × 6
36	1 × 6
_____	3 × 6
48	10 × 6
_____	5 × 6
60	8 × 6

A STORY OF UNITS **Lesson 4 Problem Set** 3•3

2. Count by six to fill in the blanks below.

6, _____, _____, _____

Complete the multiplication equation that represents the final number in your count-by.

6 × _____ = _____

Complete the division equation that represents your count-by.

_____ ÷ 6 = _____

3. Count by six to fill in the blanks below.

6, _____, _____, _____, _____, _____, _____

Complete the multiplication equation that represents the final number in your count-by.

6 × _____ = _____

Complete the division equation that represents your count-by.

_____ ÷ 6 = _____

4. Mrs. Byrne's class skip-counts by six for a group counting activity. When she points up, they count up by six, and when she points down, they count down by six. The arrows show when she changes direction.

a. Fill in the blanks below to show the group counting answers.

↑ 0, 6, _____, 18, _____ ↓ _____, 12 ↑ _____, 24, 30, _____ ↓ 30, 24, _____ ↑ 24, _____, 36, _____, 48

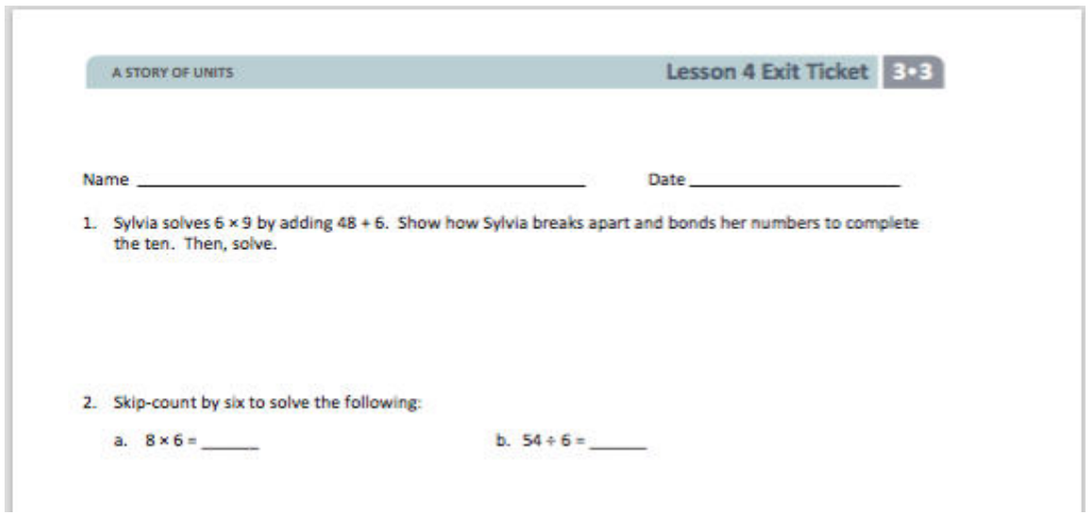
b. Mrs. Byrne says the last number that the class counts is the product of 6 and another number. Write a multiplication sentence and a division sentence to show she's right.

6 × _____ = 48 48 ÷ 6 = _____

5. Julie counts by six to solve 6 × 7. She says the answer is 36. Is she right? Explain your answer.

Exit Ticket

After the Student Debrief, instruct students to complete the Exit Ticket. A review of their work will help with assessing students' understanding of the concepts that were presented in today's lesson and planning more effectively for future lessons. The questions may be read aloud to the students.



A STORY OF UNITS — Lesson 4 Exit Ticket 3•3

Name _____ Date _____

1. Sylvia solves 6 × 9 by adding 48 + 6. Show how Sylvia breaks apart and bonds her numbers to complete the ten. Then, solve.

2. Skip-count by six to solve the following:

   a. 8 × 6 = _____ b. 54 ÷ 6 = _____