Eureka Math

3rd Grade
Module 1
Lesson 9

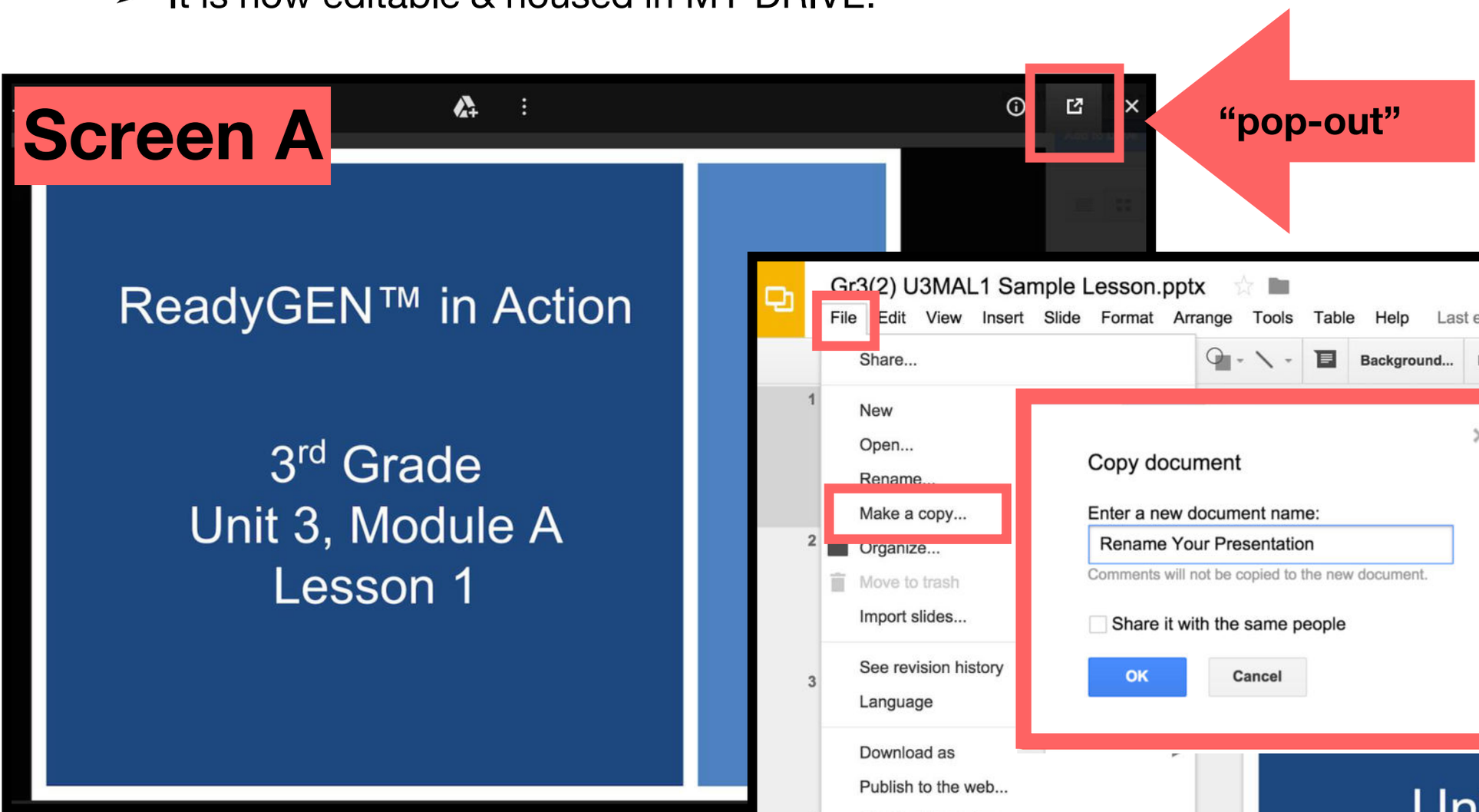
At the request of elementary teachers, a team of Bethel & Sumner educators met as a committee to create Eureka slideshow presentations. These presentations are not meant as a script, nor are they required to be used. Please customize as needed. Thank you to the many educators who contributed to this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

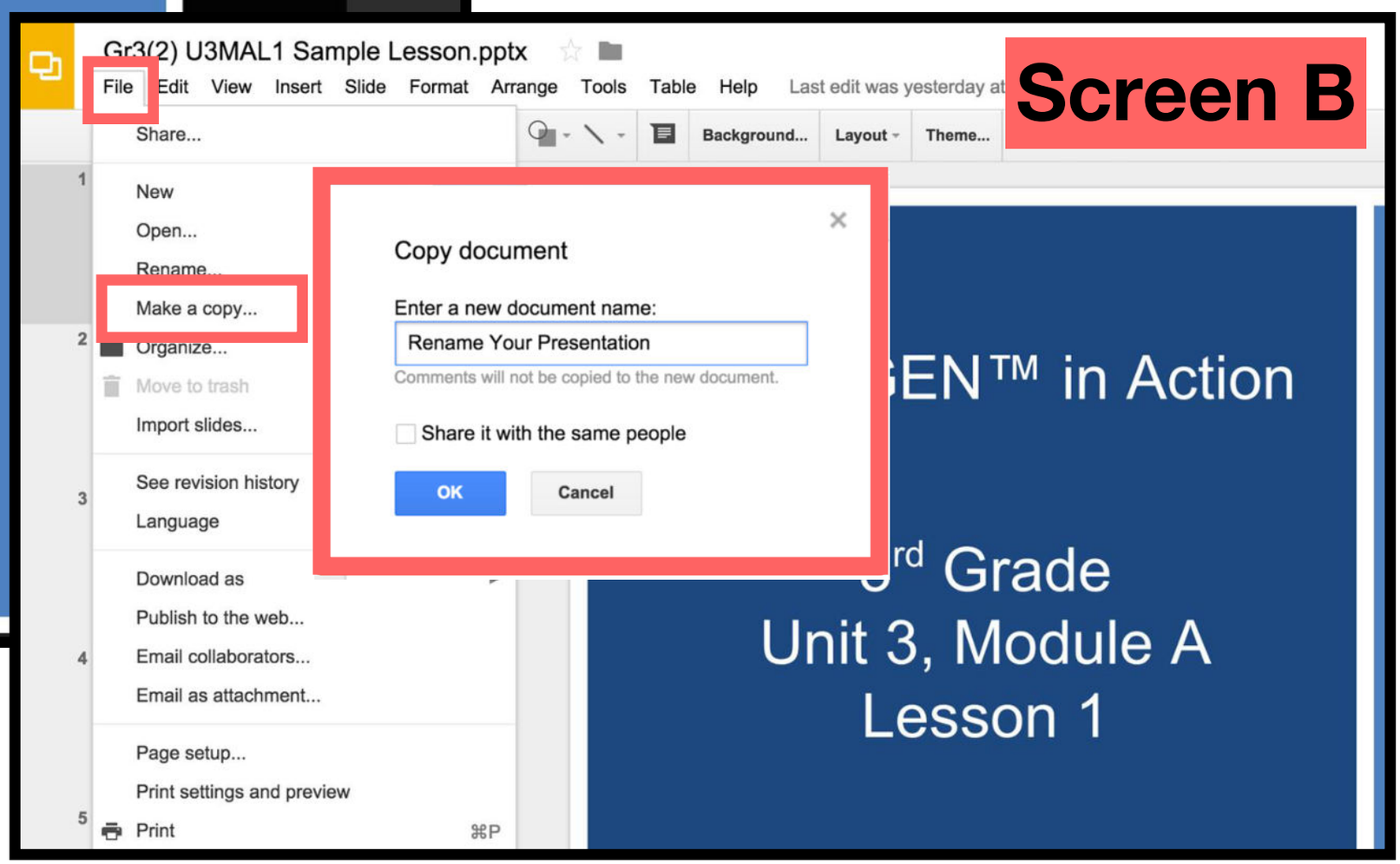
Directions for customizing presentations are available on the next slide.

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.



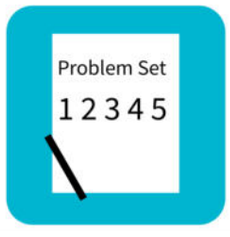


Icons

Read, Draw, Write

Learning Target

Personal White Board

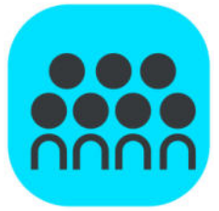


Problem Set

Manipulatives Needed

Fluency

Think Pair Share



Whole Class

Individual

Partner

Small Group

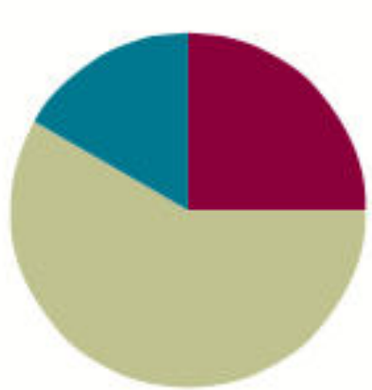
Small Group Time

Lesson 9

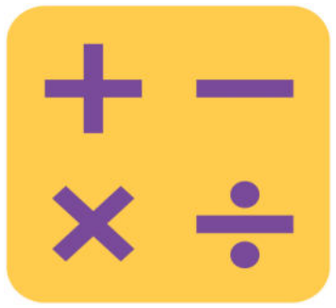
Objective: Find related multiplication facts by adding and subtracting equal groups in array models.

Suggested Lesson Structure

Fluency Practice	(15 minutes)
Concept Development	(35 minutes)
Student Debrief	(10 minutes)
Total Time	**(60 minutes)**



I can find related multiplication facts by adding and subtracting equal groups in array models.



Group Counting

5 x 2 = ____

Let’s skip count by twos to find the answer.

3 x 2 = ____

Let’s skip count by twos again to find the answer.

Group Counting

Let’s see how we can skip-count down to find the answer, too.

Start at 10 with 5 fingers, 1 for each two.

Repeat the process for 4 x 2.

Multiply by 2 Pattern Sheet

A STORY OF UNITS | Lesson 9 Pattern Sheet | 3•1

Multiply.

2 x 1 = _____	2 x 2 = _____	2 x 3 = _____	2 x 4 = _____
2 x 5 = _____	2 x 1 = _____	2 x 2 = _____	2 x 1 = _____
2 x 3 = _____	2 x 1 = _____	2 x 4 = _____	2 x 1 = _____
2 x 5 = _____	2 x 1 = _____	2 x 2 = _____	2 x 3 = _____

Group Counting

Let’s count by **threes.**

Count Up

Count Down

Group Counting

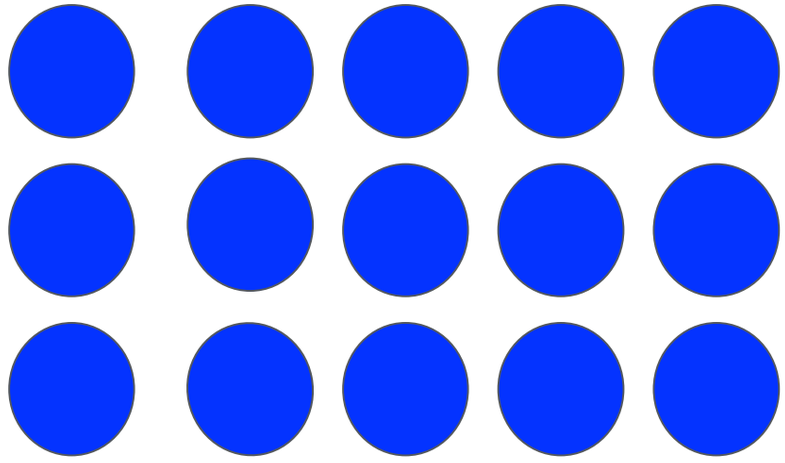
Let’s count by **fours.**

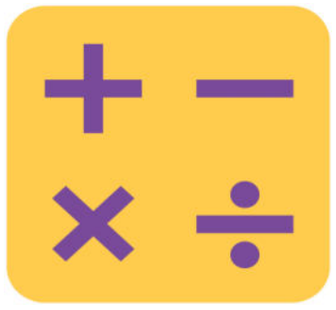
Count Up

Count Down

Forms of Multiplication

Represent this array as a repeated addition sentence using 5 as the size of the groups.

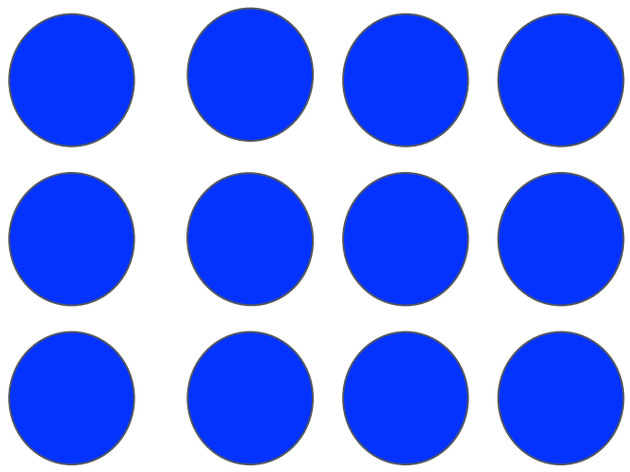




Forms of Multiplication

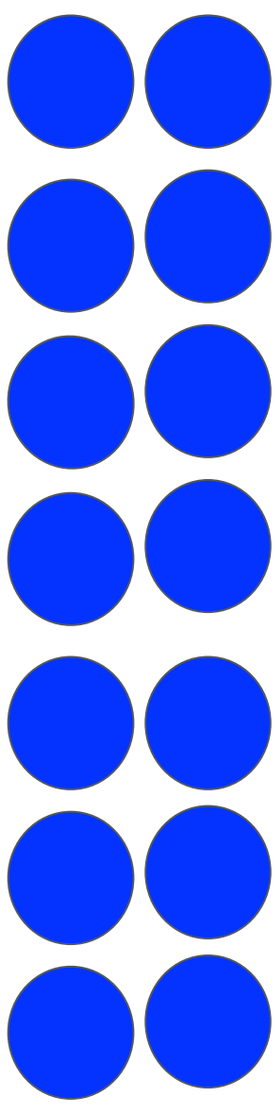
____ fours = _____

Complete the equation on your personal white board.



Forms of Multiplication

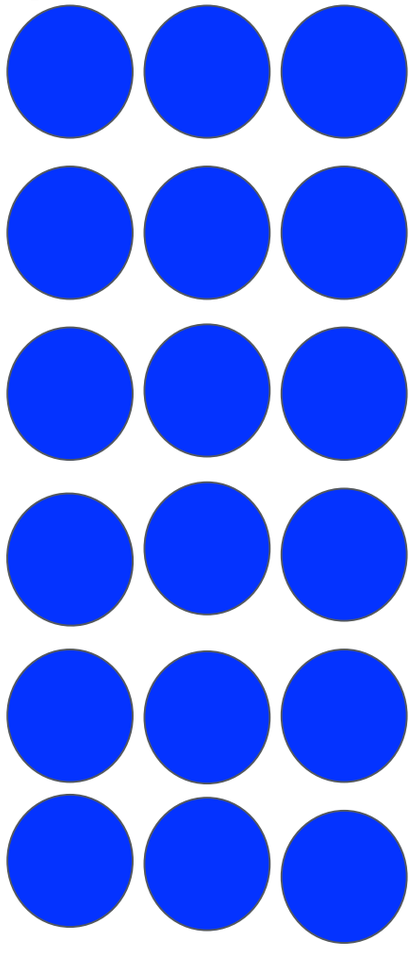
Write two multiplication sentences for 7 groups of 2.



Forms of Multiplication

18 = 6 x ___

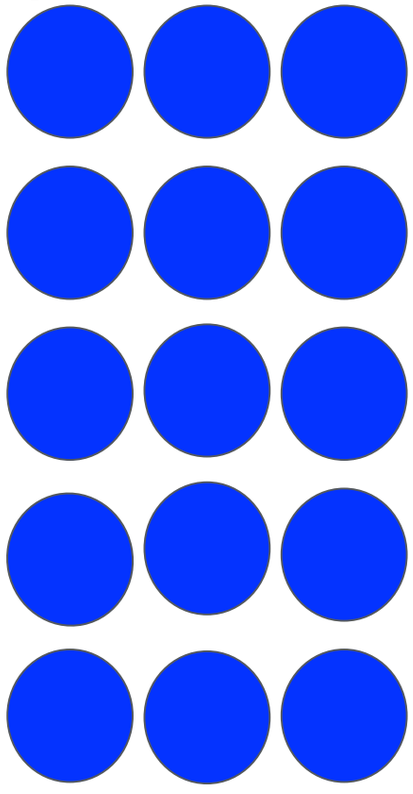
Complete the equation on your personal white board.



Forms of Multiplication

5 threes = ____

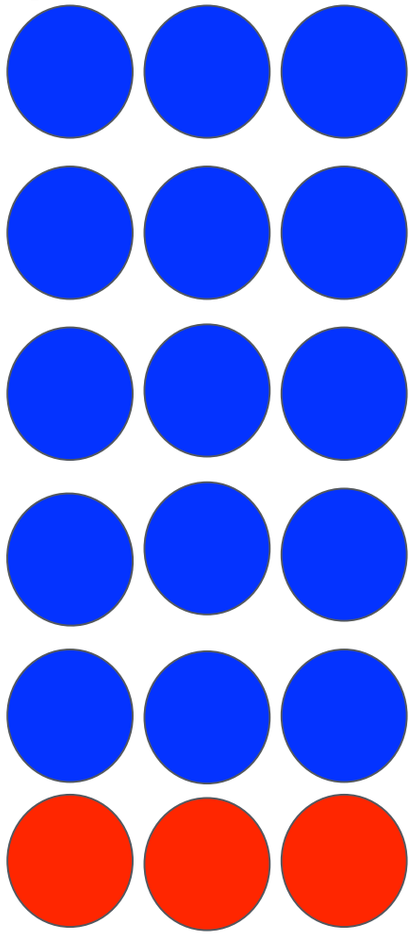
Complete the equation on your personal white board.



Forms of Multiplication

5 threes + 1 three = ____ ones

Complete the equation on your personal white board.

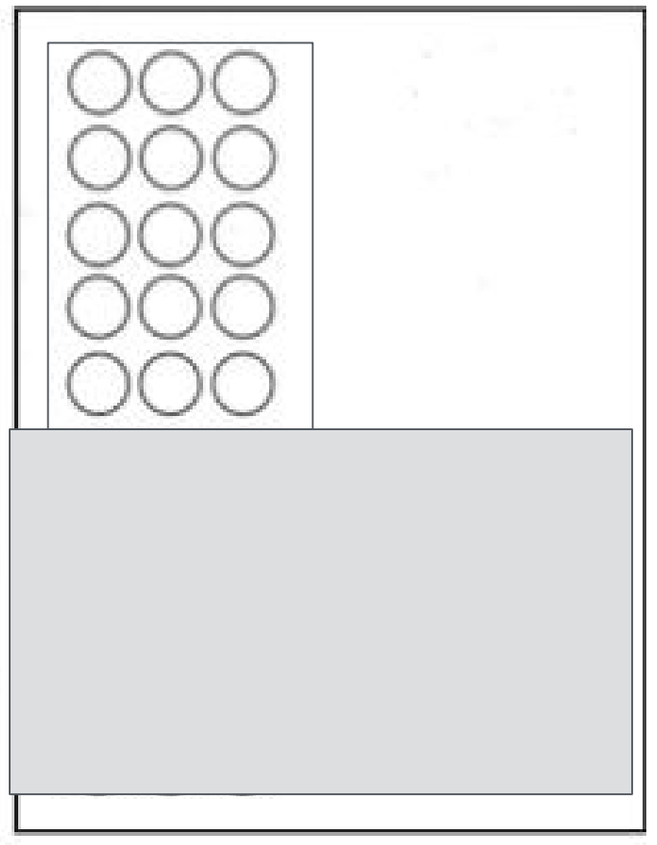


Add two known smaller facts...

Slip the template into your board.

Cover part of the array with blank paper to show 5 rows of 3. Draw a box around the uncovered array.

Write and solve a multiplication sentence to describe it.

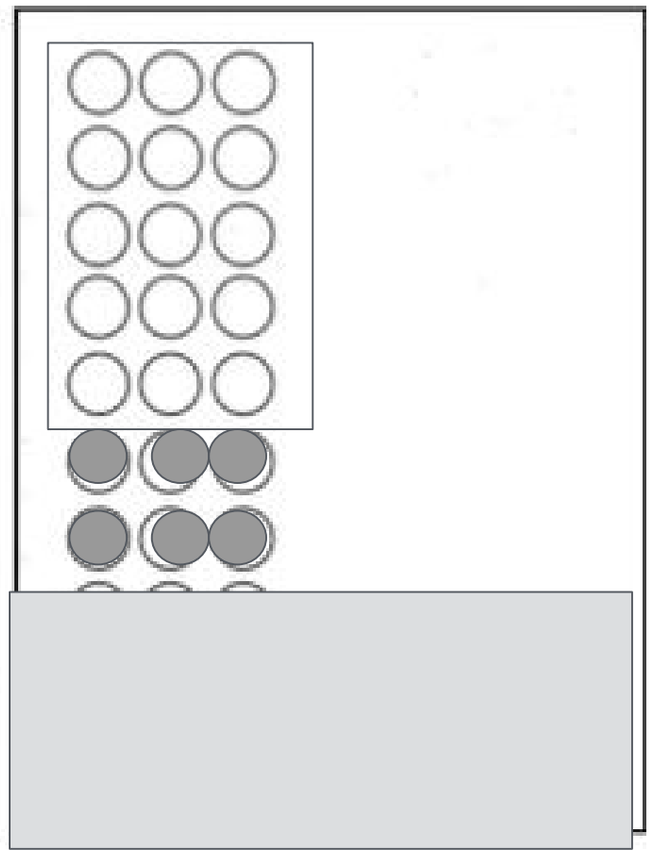


Add two known smaller facts...

Move the paper so that the array shows 7 x 3.

Shade the rows you added.

Write and solve a multiplication sentence to describe the shaded part of the array.

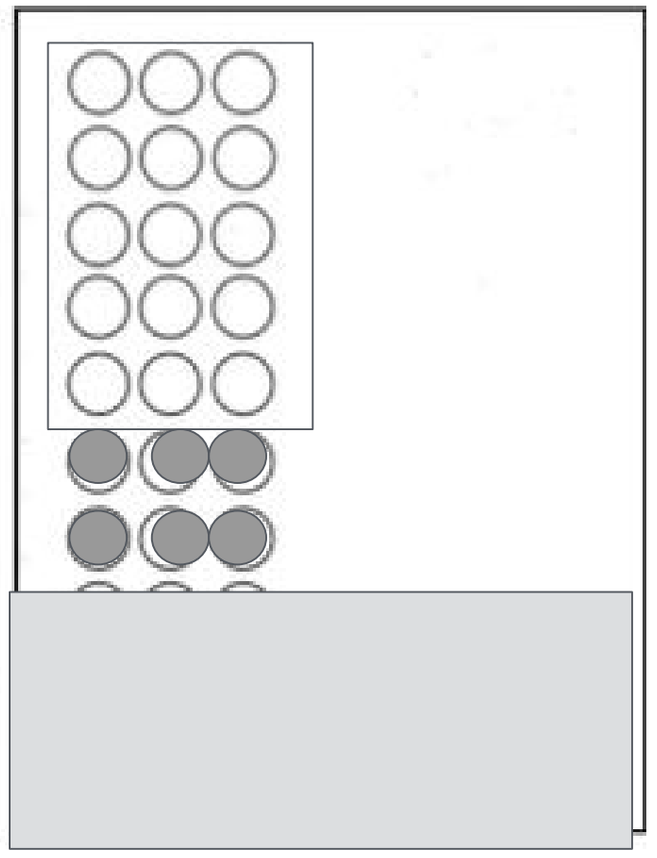


Add two known smaller facts...

How many threes are in 5 x 3?

How many threes did you add to make the array show 7 x 3?

7 threes = 5 threes + 2 threes

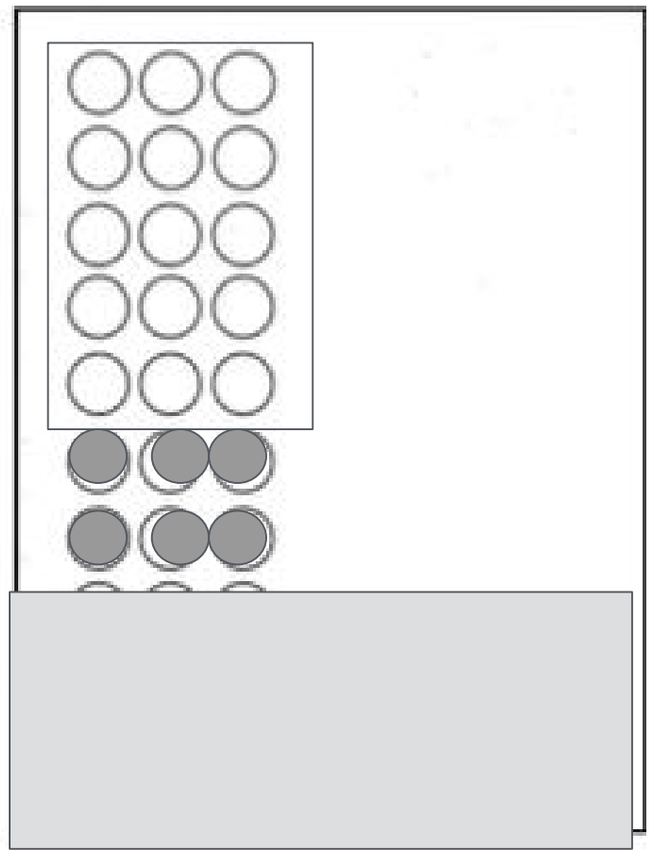


Add two known smaller facts…

7 x 3 = 5 x 3 + 2 x 3

Do you agree or disagree?

We already wrote totals for the two parts of our array. Let’s add those to find the total for the whole array.



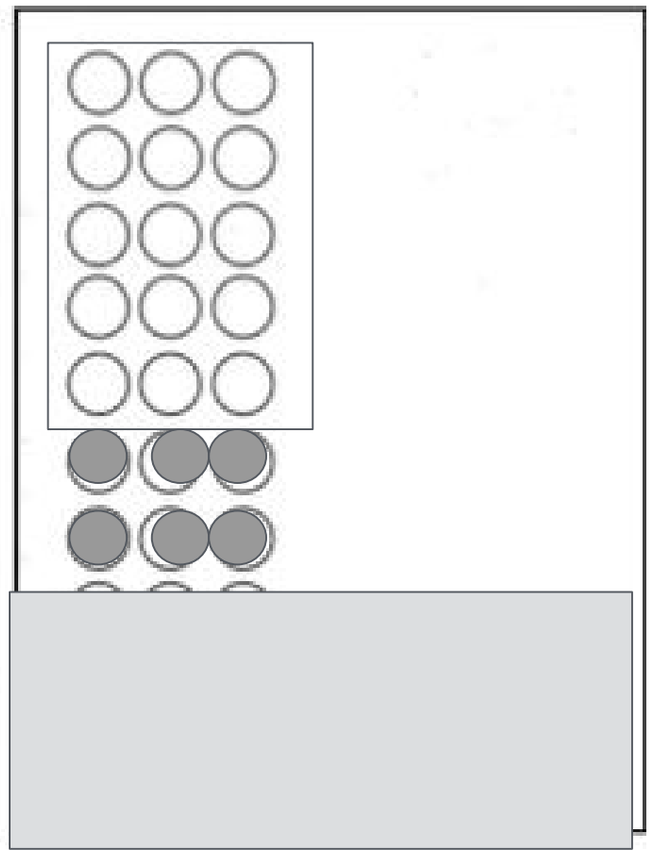
Add two known smaller facts...

What is the total for 5 x 3?

What is the total for 2 x 3?

_____ = 15 + 6

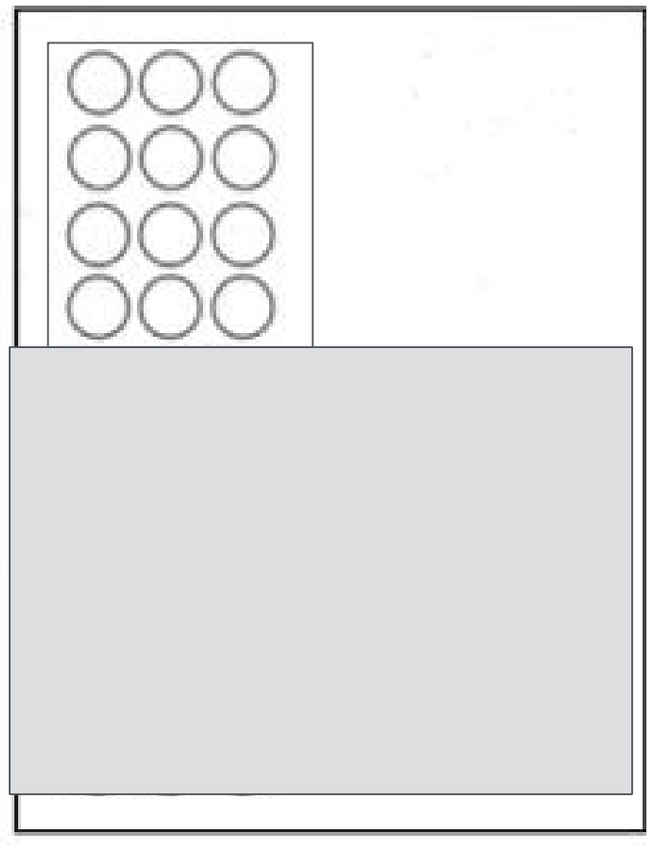
Say the total at the signal.



Add two known smaller facts...

Cover part of the array with blank paper to show 4 rows of 3. Draw a box around the uncovered array.

Write and solve a multiplication sentence to describe it.

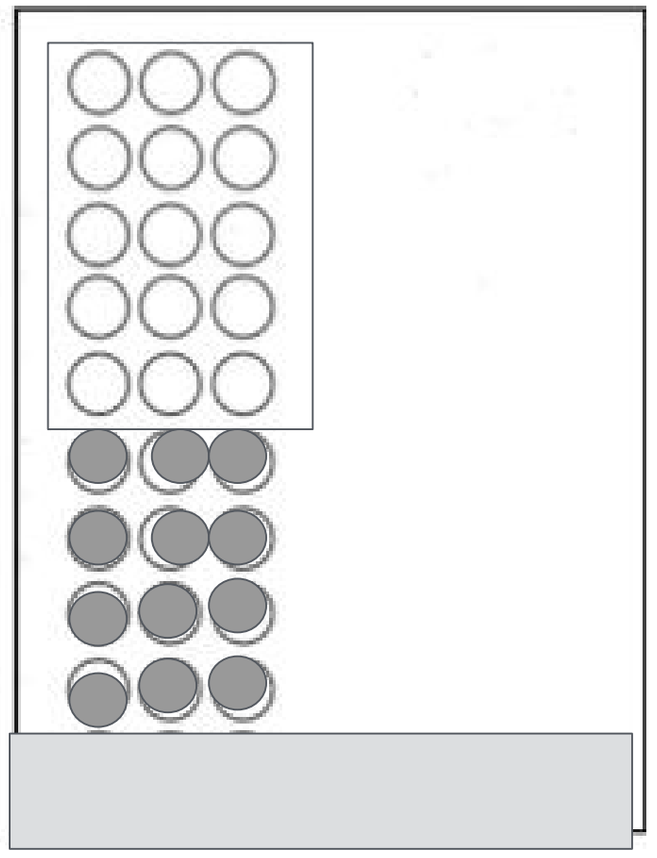


Add two known smaller facts...

Move the paper so that the array shows 8 x 3.

Shade the rows you added.

Write and solve a multiplication sentence to describe the shaded part of the array.

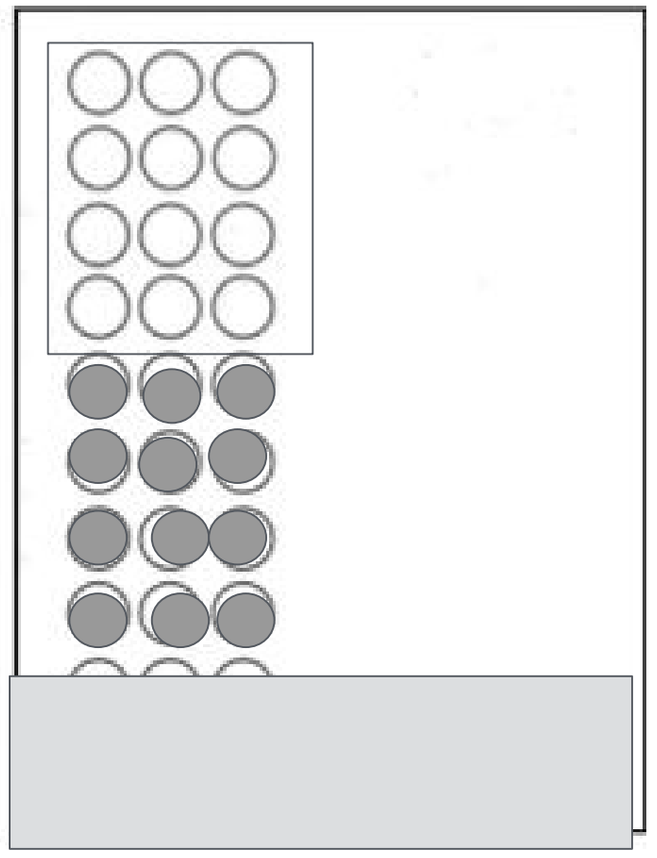


Add two known smaller facts...

How many threes are in 4 x 3?

How many threes did you add to make the array show 8 x 3?

8 threes = 4 threes + 4 threes

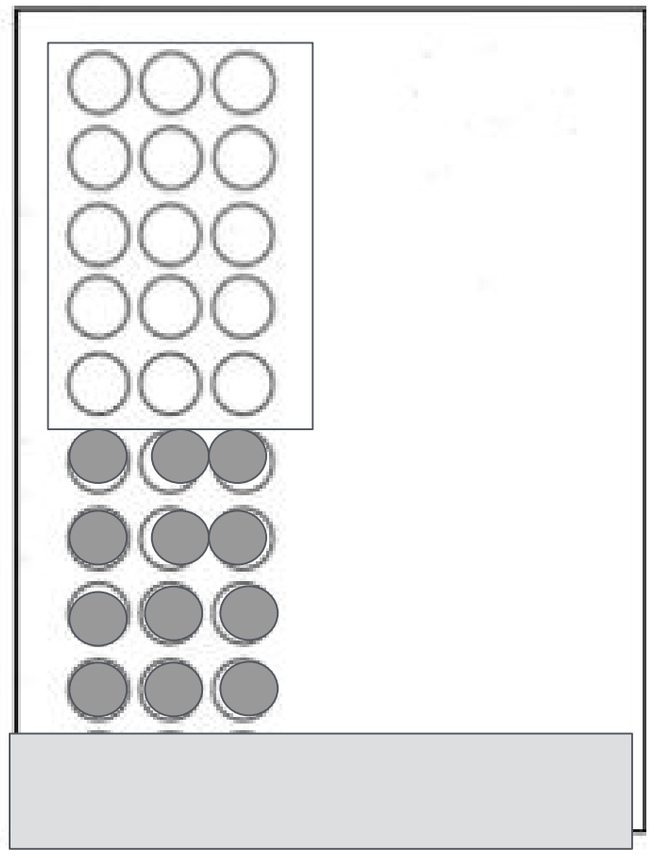


Add two known smaller facts…

8 x 3 = 4 x 3 + 4 x 3

Do you agree or disagree?

We already wrote totals for the two parts of our array. Let’s add those to find the total for the whole array.



Add two known smaller facts...

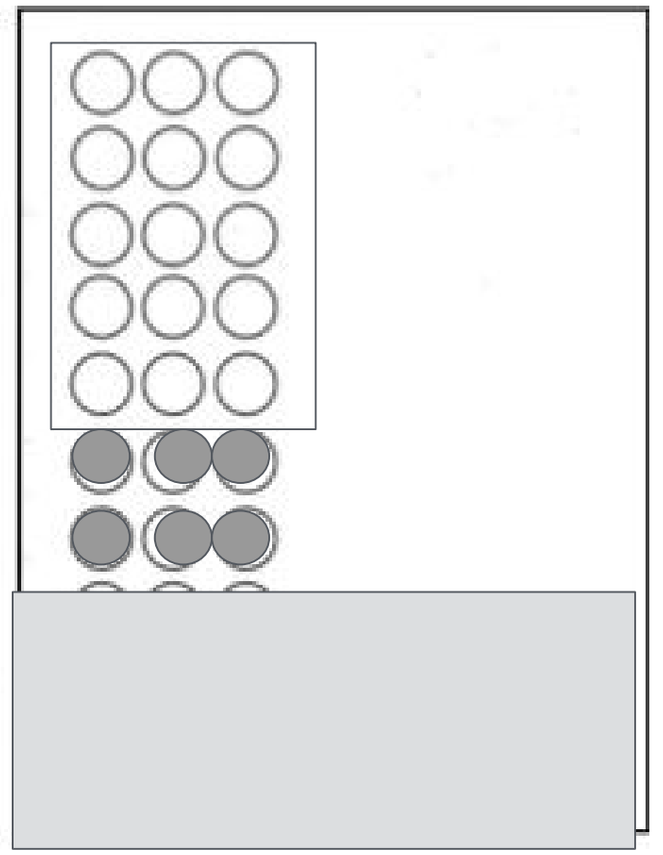
What is the total for 4 x 3?

What is the total for 4 x 3?

_____ = 12 + 12 (Just double the total)

Say the total at the signal.

Explain how we added to find
7 x 3 = 21 and 8 x 3 = 24.

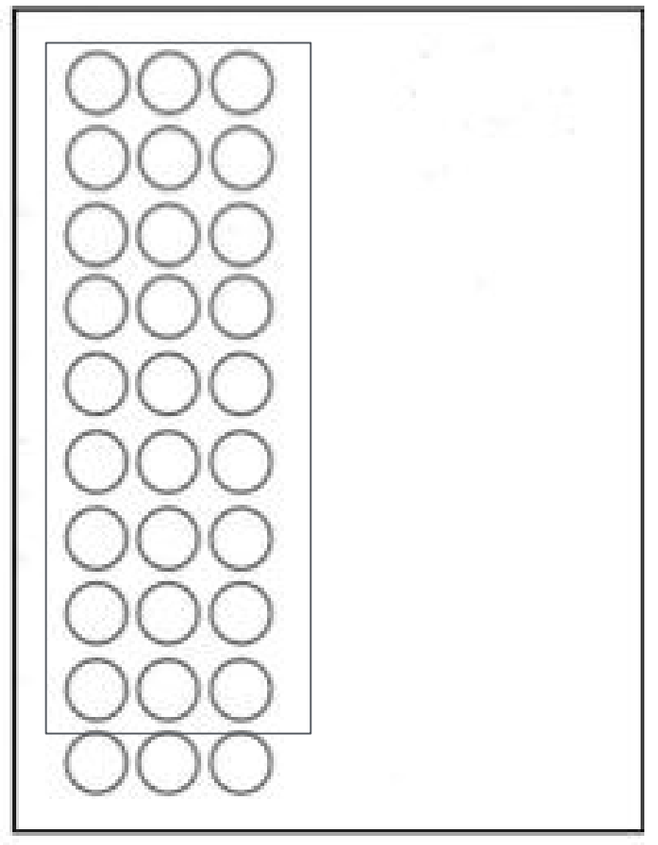


Subtract two known smaller facts...

Draw a box around the array that shows 9 x 3.
Notice that 9 x 3 is close to 10 x 3.

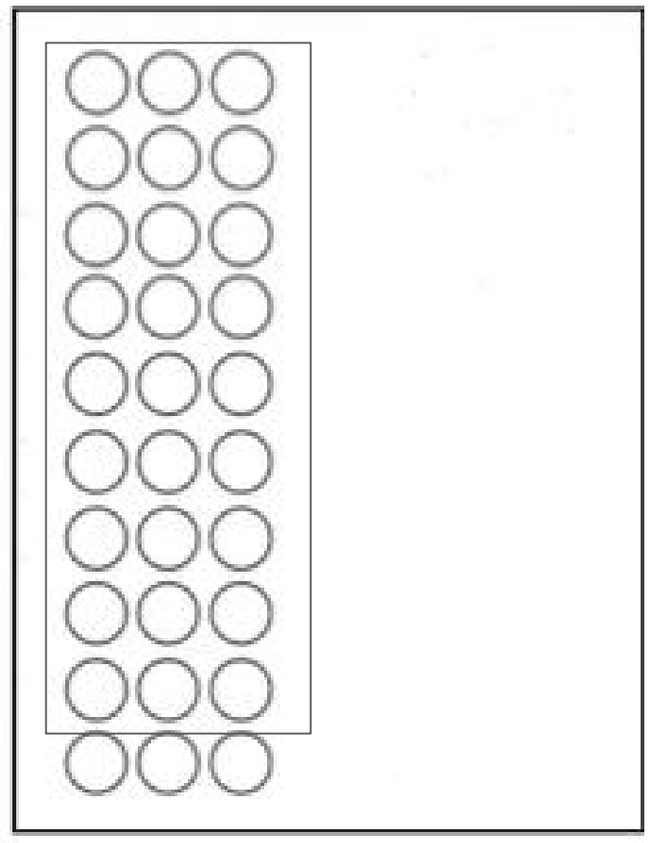
10 x 3 is easier to solve because we count by tens to get the total .

Let’s do that now.



Subtract two known smaller facts...

What should we subtract to show 9 threes instead?

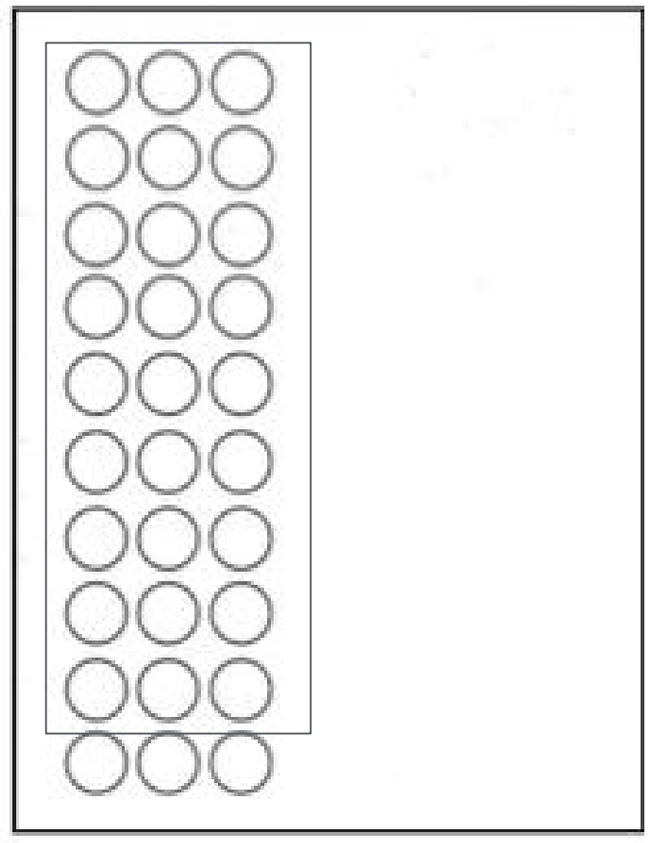


Subtract two known smaller facts...

10 threes - 1 three = _____ threes

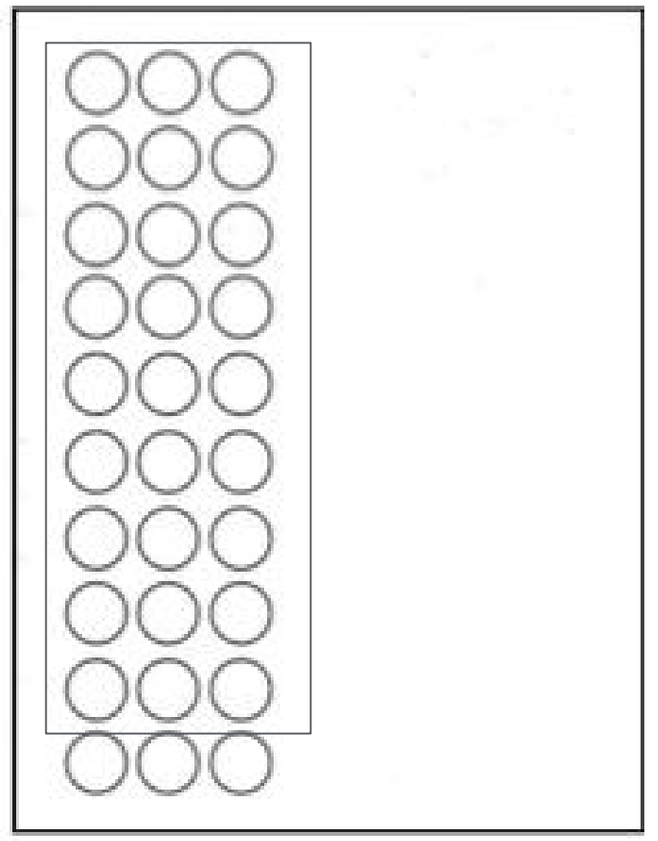
10 threes = _____

1 three = _____



Subtract two known smaller facts...

30 - 3 = _____

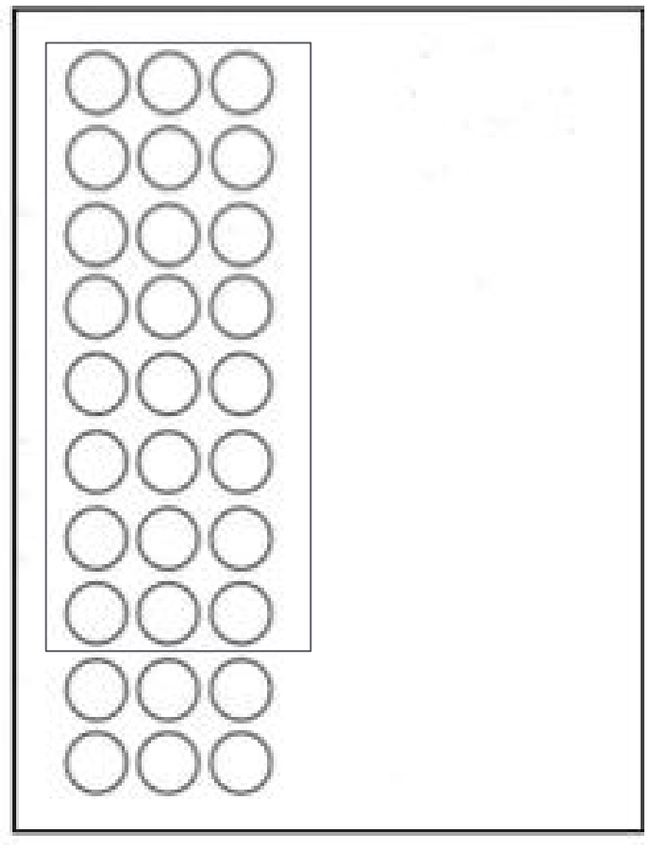


Subtract two known smaller facts...

Draw a box around the array that shows 8 x 3.
Notice that 8 x 3 is close to 10 x 3.

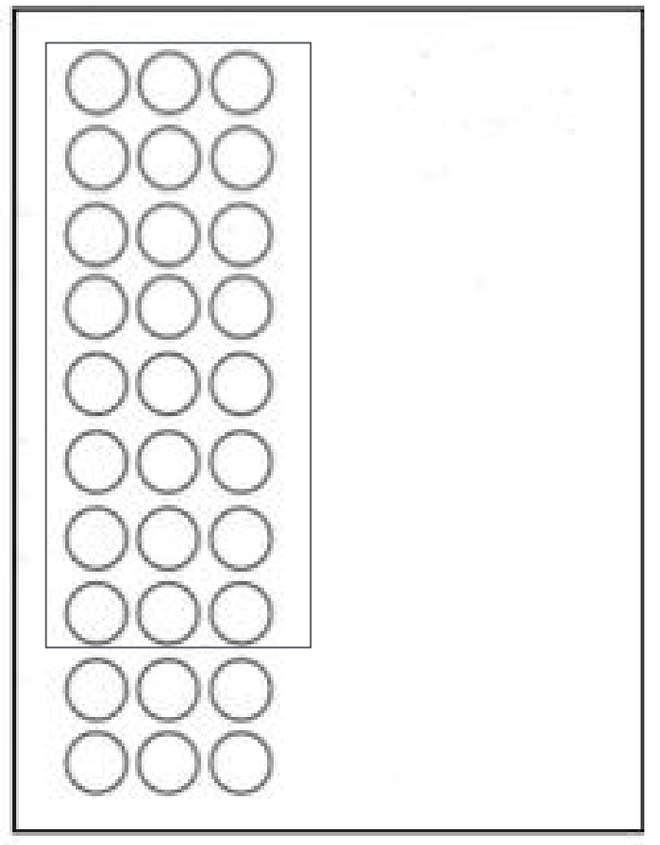
10 x 3 is easier to solve because we count by tens to get the total .

Let’s do that now.



Subtract two known smaller facts...

What should we subtract to show 8 threes instead?

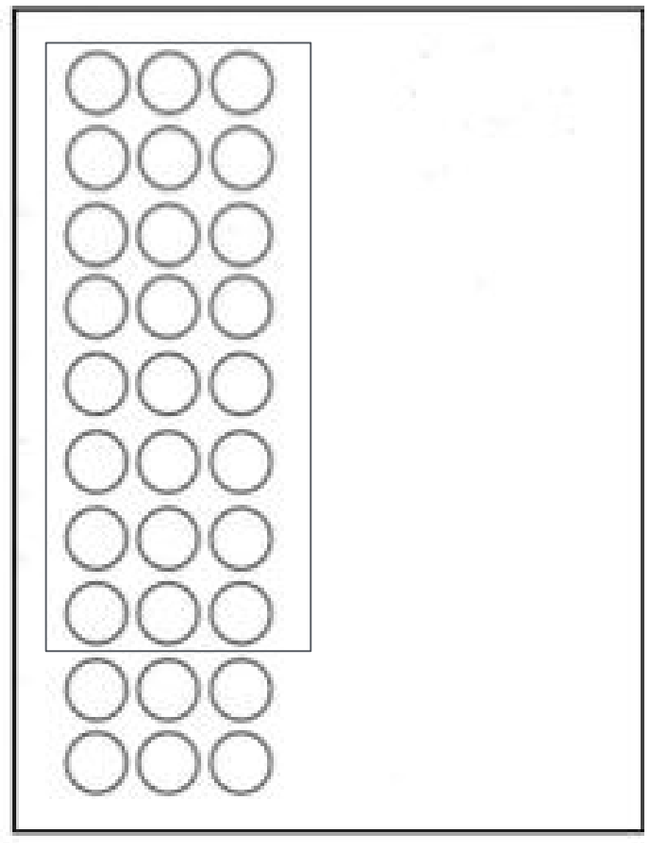


Subtract two known smaller facts...

10 threes - 2 three = _____ threes

10 threes = _____

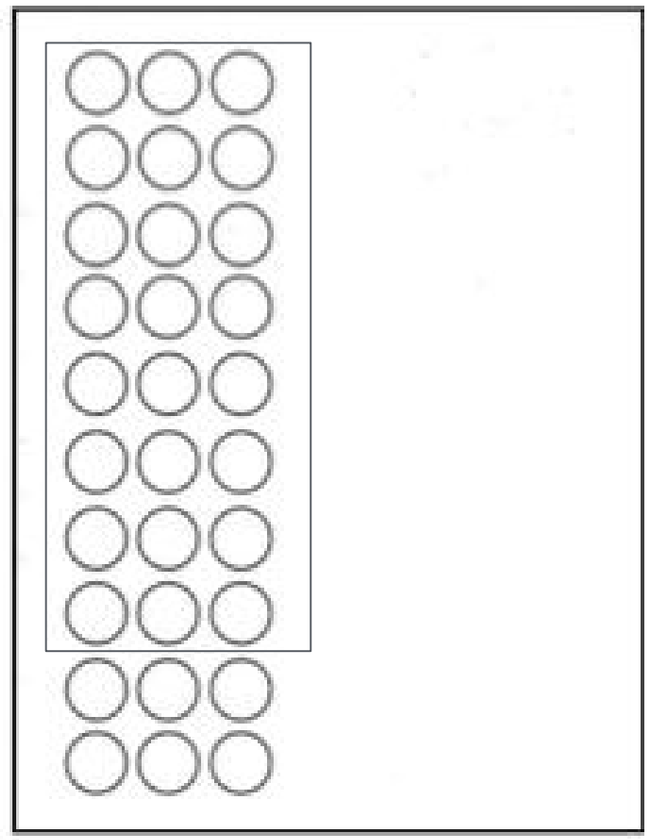
2 three = _____

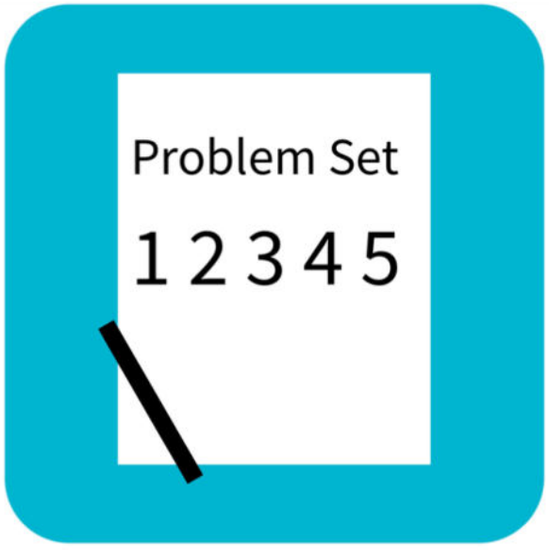


Subtract two known smaller facts...

30 - 6 = _____

Tell your partner how we used 10 x 3 to help us find the answer to 9 x 3 and 8 x 3.





Problem Set

Name _____ Date _____

1. The team organizes soccer balls into 2 rows of 5. The coach adds 3 rows of 5 soccer balls. Complete the equations to describe the total array.

a. (5 + 5) + (5 + 5 + 5) = _____

b. 2 fives + _____ fives = _____ fives

c. _____ × 5 = _____

Debrief

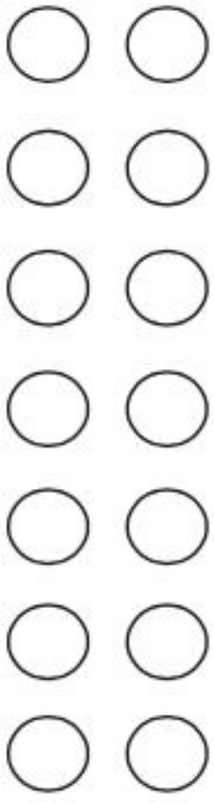
- Review the strategy of adding and subtracting the totals of know “easy” facts for solving unknown facts.

- Differentiate between when to apply addition and subtraction through analysis of the example 8 x 3 from the Concept Development

- Apply this strategy to solve 8 x 4.

Exit Ticket

Name _____ Date _____



1. Mrs. Stern roasts cloves of garlic. She places 10 rows of two cloves on a baking sheet. Write an equation to describe the number of cloves Mrs. Stern bakes.

_____ × _____ = _____

2. When the garlic is roasted, Mrs. Stern uses some for a recipe. There are 2 rows of two garlic cloves left on the pan.

a. Complete the equation below to show how many garlic cloves Mrs. Stern uses.

_____ twos − _____ twos = _____twos