Eureka Math

4th 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.
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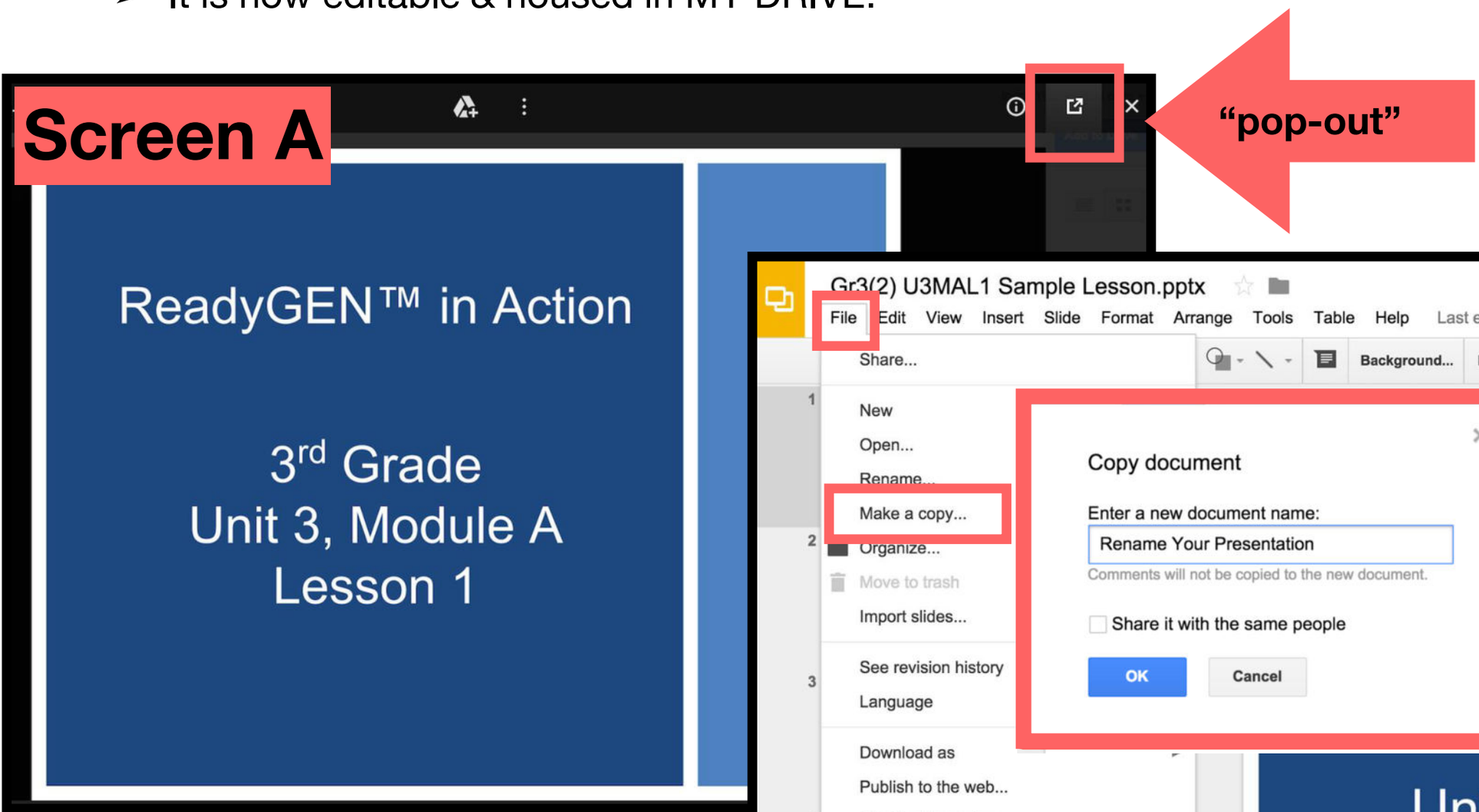
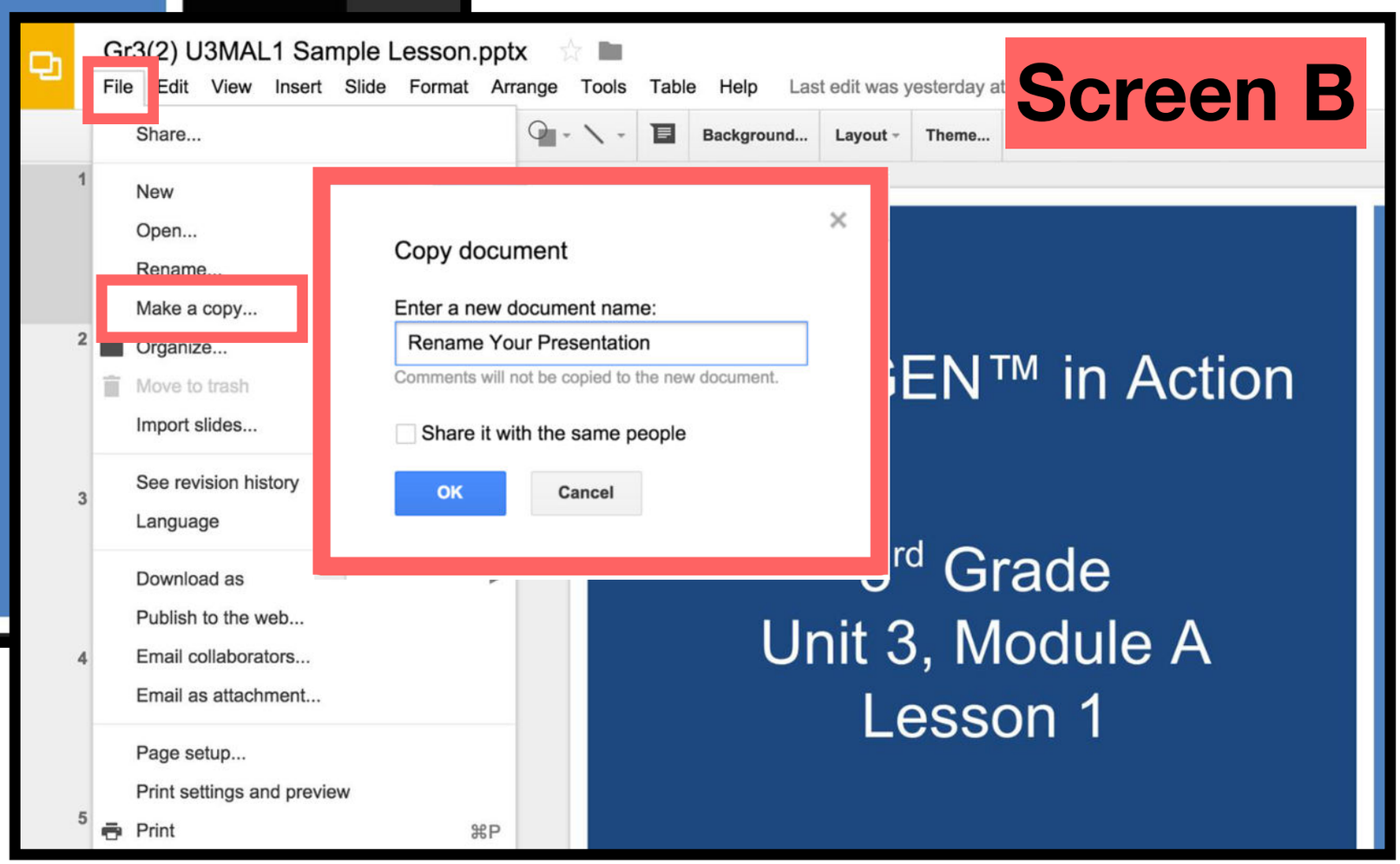
- Choose MAKE A COPY and rename your presentation.
- Google Slides will open your renamed presentation.
- It is now editable & housed in MY DRIVE.





Icons

Read, Draw, Write

Learning Target

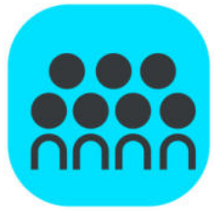
Personal White Board

Problem Set

Manipulatives Needed

Fluency

Think Pair Share



Whole Class

Individual

Partner

Small Group

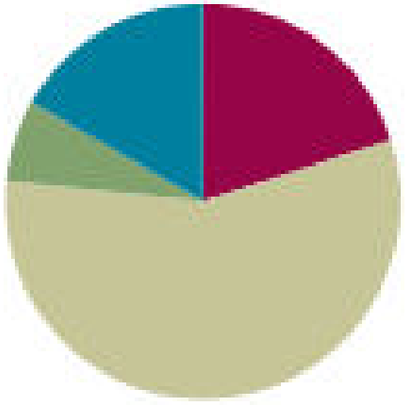
Small Group Time

Lesson 4

Objective: Interpret and represent patterns when multiplying by 10, 100, and 1,000 in arrays and numerically.

Suggested Lesson Structure

Fluency Practice	(12 minutes)
Application Problem	(4 minutes)
Concept Development	(34 minutes)
Student Debrief	(10 minutes)
Total Time	**(60 minutes)**



I can interpret and represent patterns when multiplying by 10, 100, and 1,000 in arrays and numerically.

Fluency Practice

Rename the Unit

Materials:

Personal White boards

Fluency Practice

Rename the Unit

14 tens = _____

Fluency Practice

Rename the Unit

14 tens = 140

Fluency Practice

Rename the Unit

14 hundreds = _____

Fluency Practice

Rename the Unit

14 hundreds = 1,400

Fluency Practice

Rename the Unit

14 thousands = _____

Fluency Practice

Rename the Unit

14 thousands = 14,000

Fluency Practice

Rename the Unit

18 tens = _____

Fluency Practice

Rename the Unit

18 tens = 180

Fluency Practice

Rename the Unit

28 tens = _____

Fluency Practice

Rename the Unit

28 tens = 280

Fluency Practice

Rename the Unit

28 hundreds = _____

Fluency Practice

Rename the Unit

28 hundreds = 2,800

Fluency Practice

Rename the Unit

28 thousands = _____

Fluency Practice

Rename the Unit

28 thousands = 28,000

Fluency Practice

Group Count by Multiples of 10 and 100

Count by threes to 30.

Fluency Practice

Group Count by Multiples of 10 and 100

Now count by 3 tens.

When I raise my hand, stop counting.

Fluency Practice

Find the Area and Perimeter

On your personal white board, write a multiplication sentence to find the area.

9 cm

Fluency Practice

Find the Area and Perimeter

Use the formula for perimeter to solve.

9 cm

Fluency Practice

Find the Area and Perimeter

On your personal white board, write a multiplication sentence to find the area.

cm

Fluency Practice

Find the Area and Perimeter

Use the formula for perimeter to solve.

7

cm

Fluency Practice

Find the Area and Perimeter

This is a square.
Say the length of each side

Fluency Practice

Find the Area and Perimeter

On your personal white board, write a multiplication sentence to find the area.

Fluency Practice

Find the Area and Perimeter

Use the formula for perimeter to solve.

Fluency Practice

Find the Area and Perimeter

This is a square.
Say the length of each side

Fluency Practice

Find the Area and Perimeter

On your personal white board, write a multiplication sentence to find the area.

Fluency Practice

Find the Area and Perimeter

Use the formula for perimeter to solve.

Fluency Practice

Find the Area and Perimeter

The area is 10 square cm.
On your white boards, write the division equation to find the width.

Fluency Practice

Find the Area and Perimeter

The area is 54 square cm.
Write the division equation to find the width.

Fluency Practice

Find the Area and Perimeter

The area is 35 square cm.
Write the division equation to find the width.

Application Problem

Samantha received an allowance of $3 every week. By babysitting, she earned an additional $30 every week.

How much money did Samantha have in four weeks, combining her allowance and her babysitting?

Concept Development

Materials

(T) Thousands place value chart

(S) Personal white boards, thousands place value chart (template)

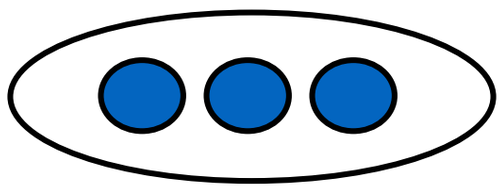
Concept Development

How many do you see?

thousands	hundreds	tens	ones
			

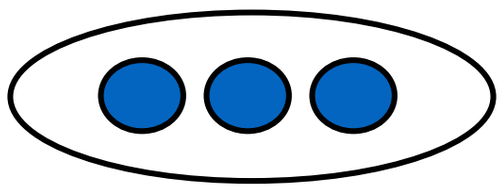
Concept Development

How many groups of 3 ones do you see?

thousands	hundreds	tens	ones
			

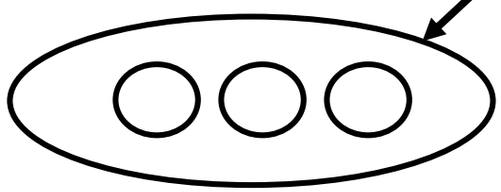
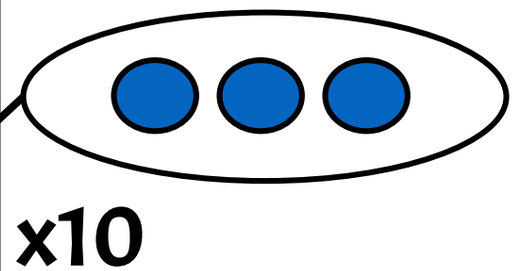
Concept Development

Suppose I wanted to multiply 3 ones by ten instead. How would I do that?

thousands	hundreds	tens	ones
			 x10

Concept Development

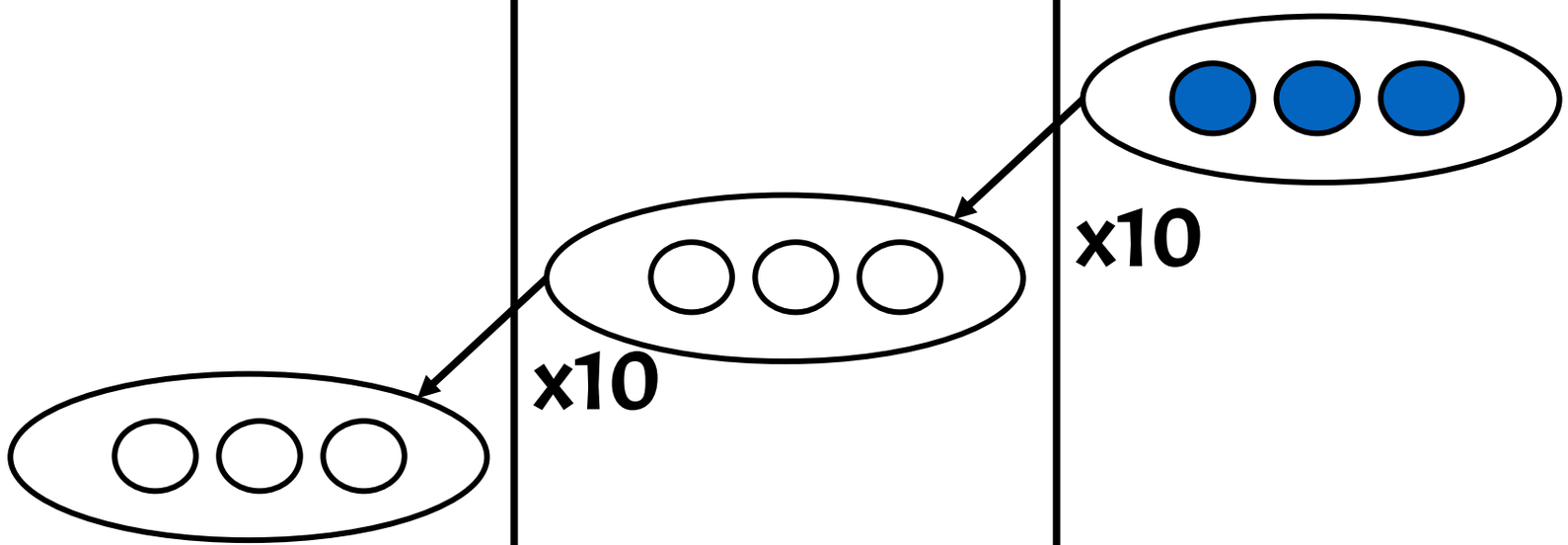
Suppose I wanted to multiply 3 ones by ten instead. How would I do that?

thousands	hundreds	tens	ones
			 x10

Concept Development

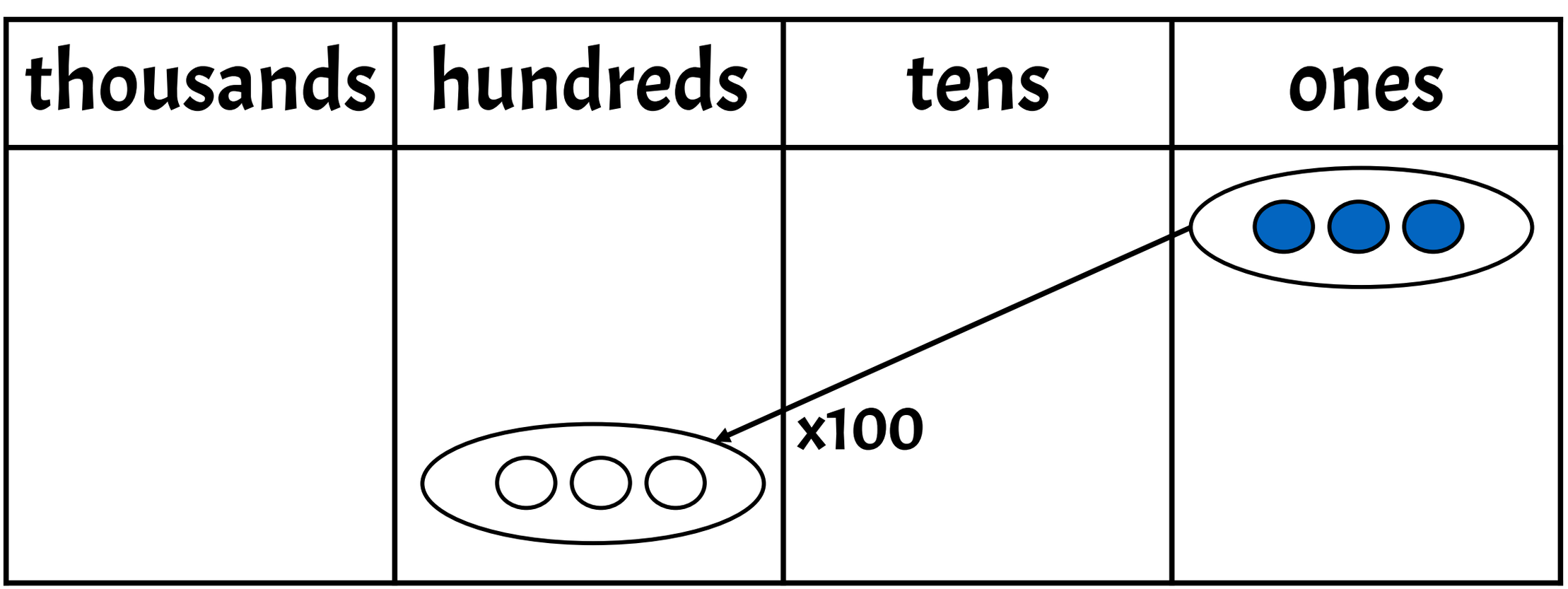
What if I wanted to multiply that by 10?

thousands	hundreds	tens	ones



Concept Development

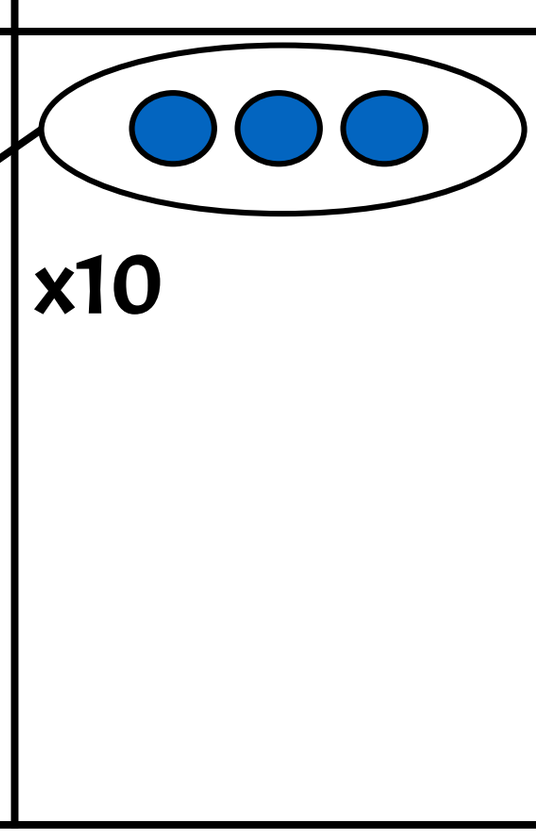
Look at my equation. I started with 3 ones.
What did I multiply 3 ones by to get 3 hundreds?



Concept Development

Work with your partner.

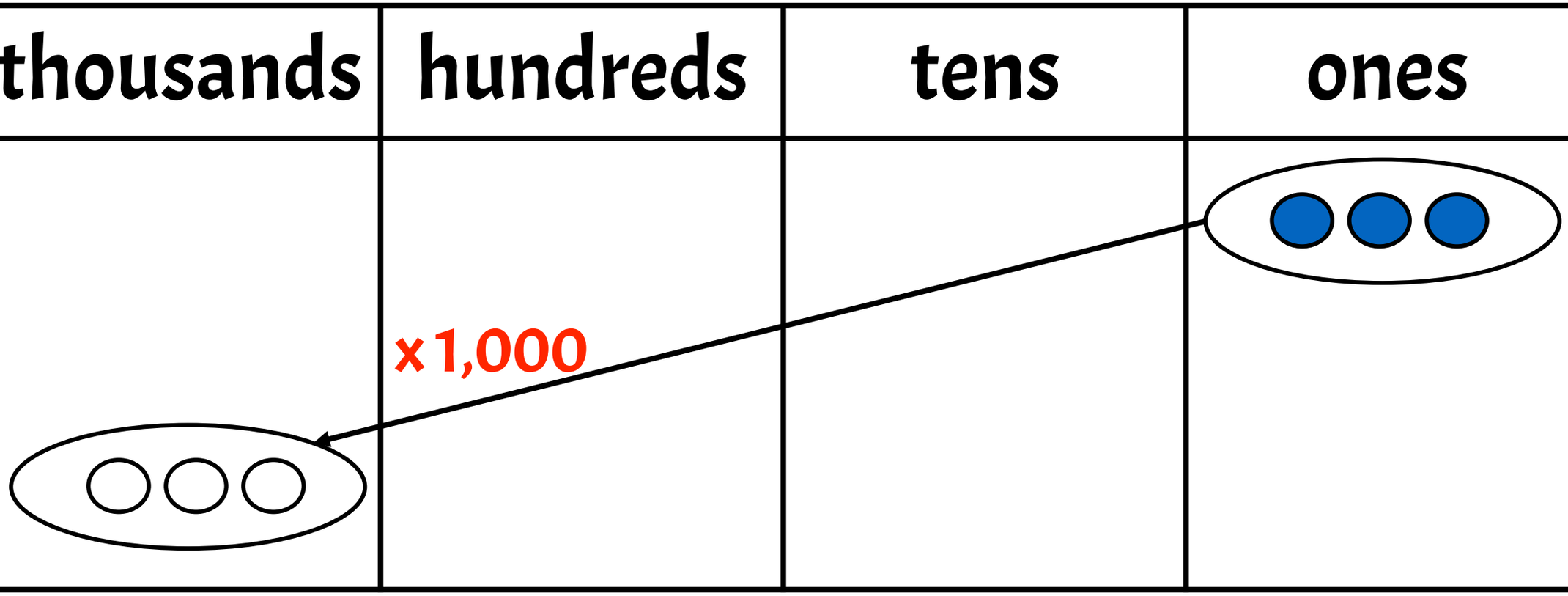
How can you solve 3 x 1,000?

thousands	hundreds	tens	ones
			

Concept Development

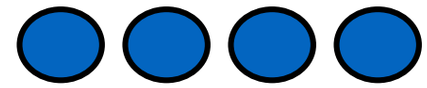
What is 3 x 10 x 10 x 10 or 3 x 1,000?

thousands	hundreds	tens	ones



Concept Development

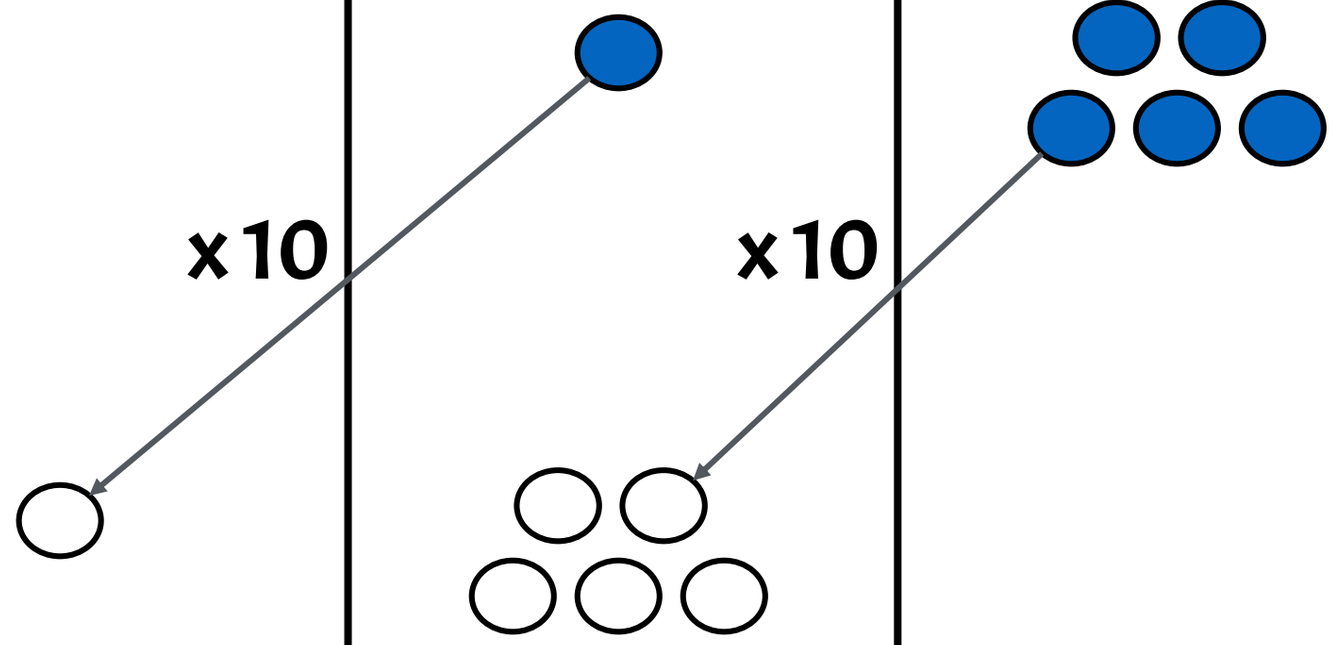
Now repeat the process with four

thousands	hundreds	tens	ones
			

Concept Development

15 x 10

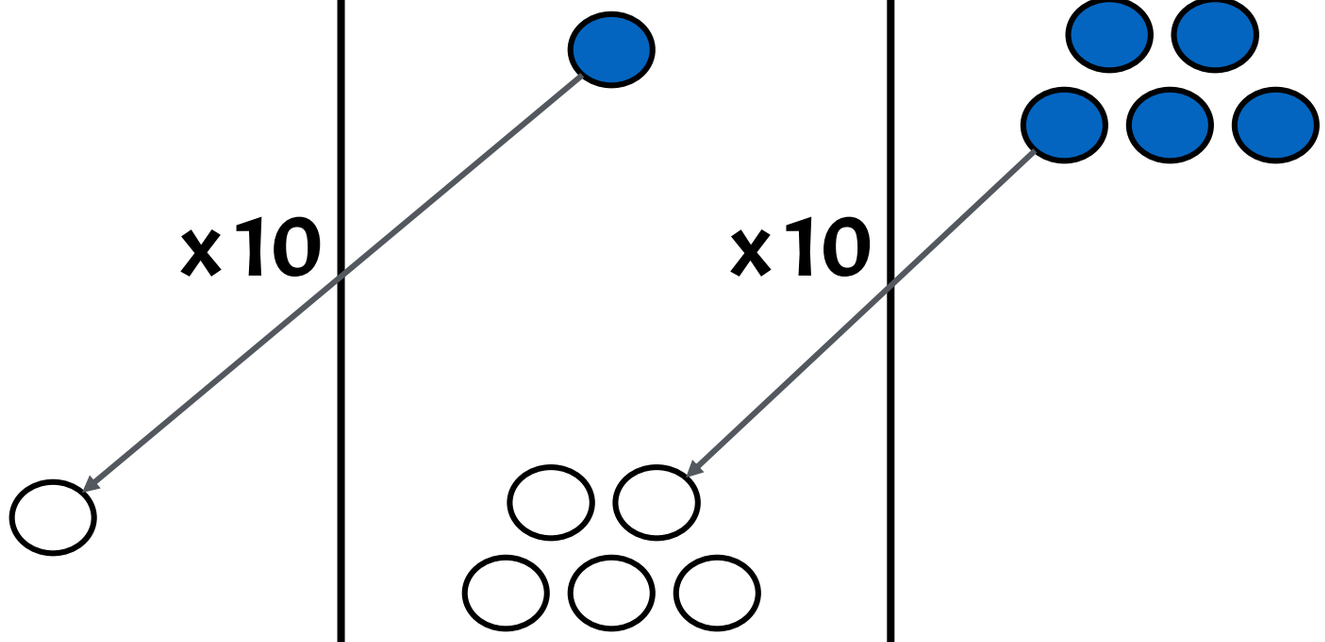
thousands	hundreds	tens	ones
	x10	x10	



Concept Development

What is 1 ten x 10?

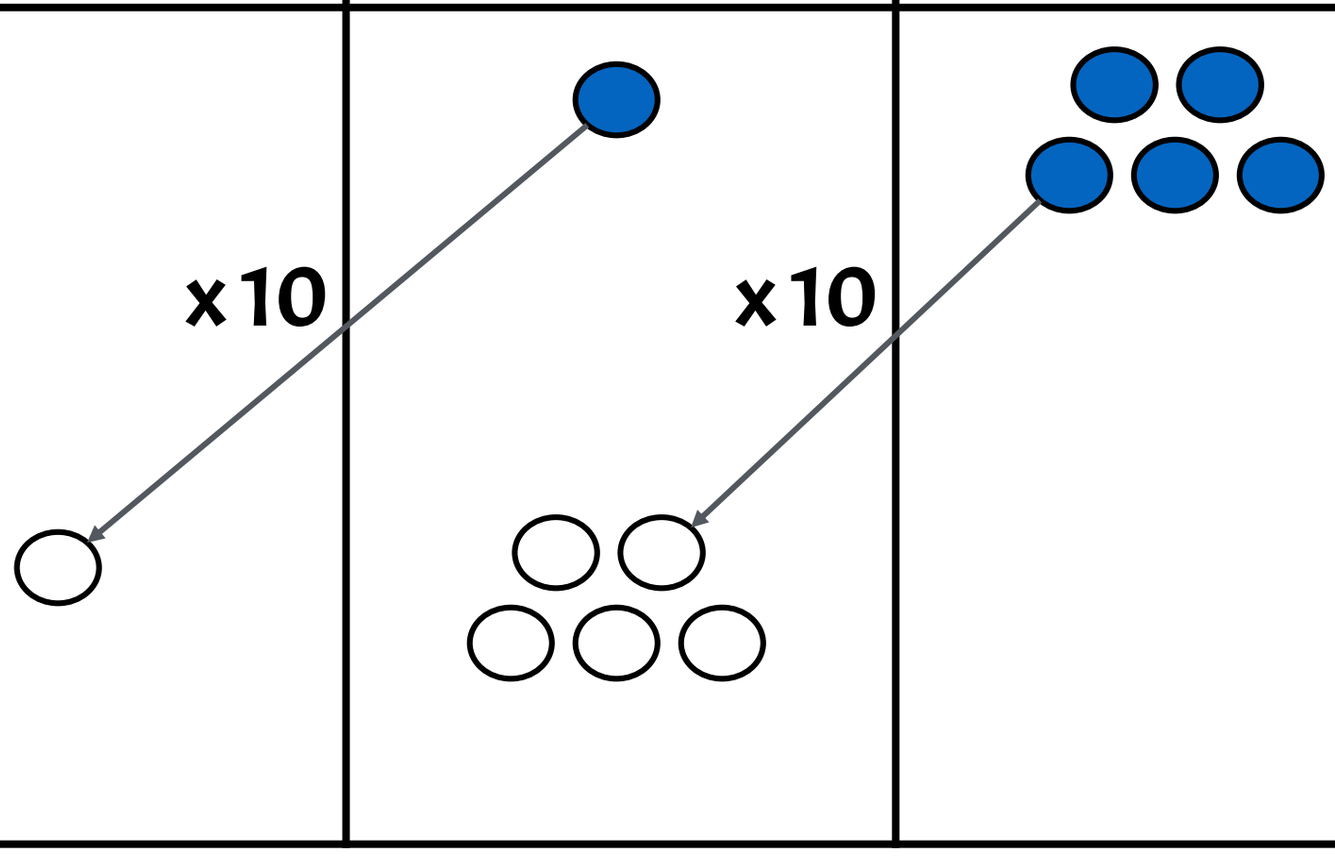
thousands	hundreds	tens	ones



Concept Development

What is 5 ones x 10?

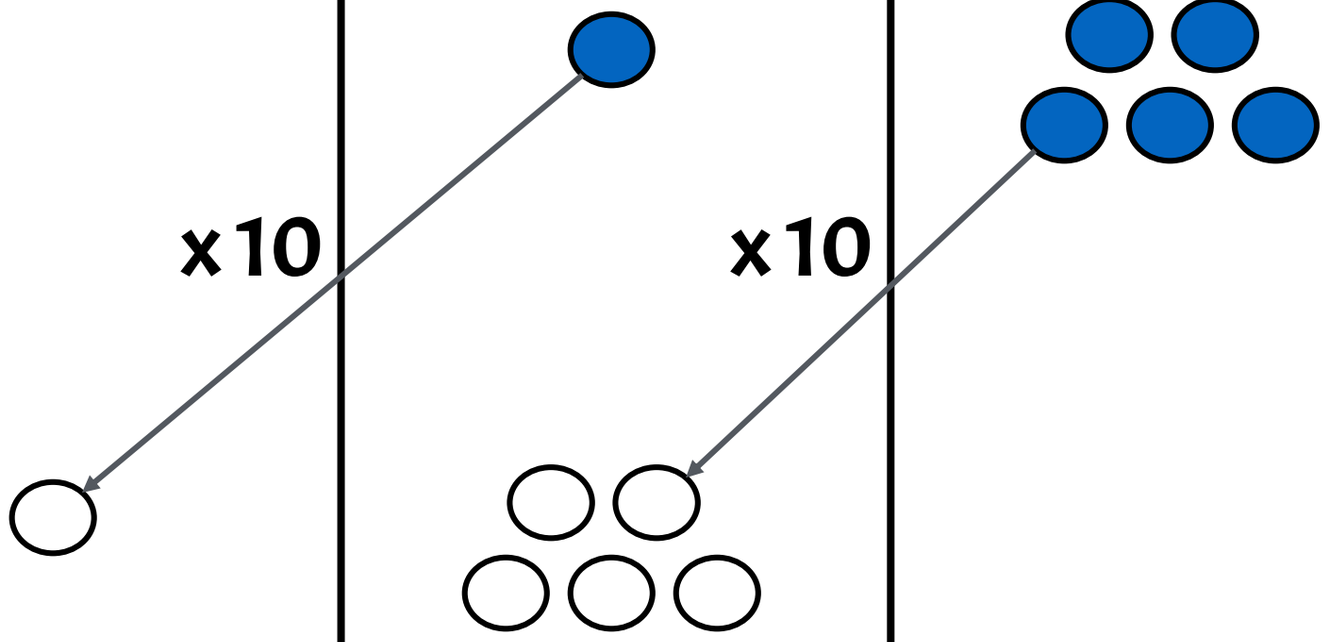
thousands	hundreds	tens	ones



Concept Development

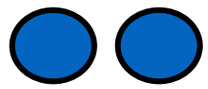
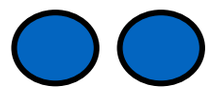
15 x 10 = ?

thousands	hundreds	tens	ones



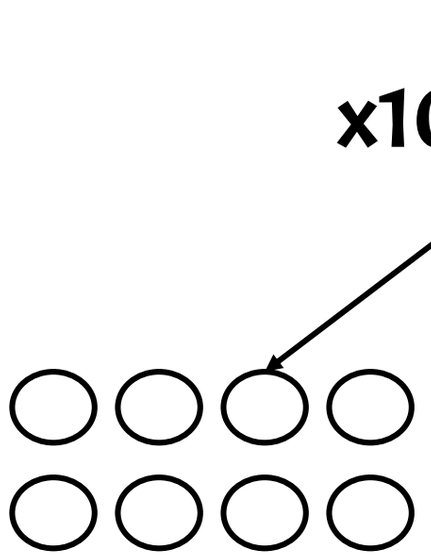
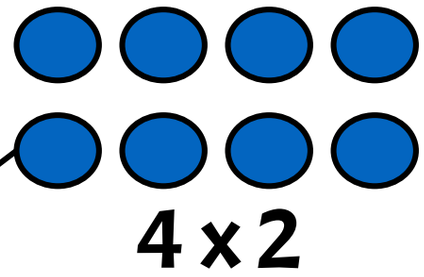
Concept Development

Now repeat that process using 22 x 100

thousands	hundreds	tens	ones
			

Concept Development

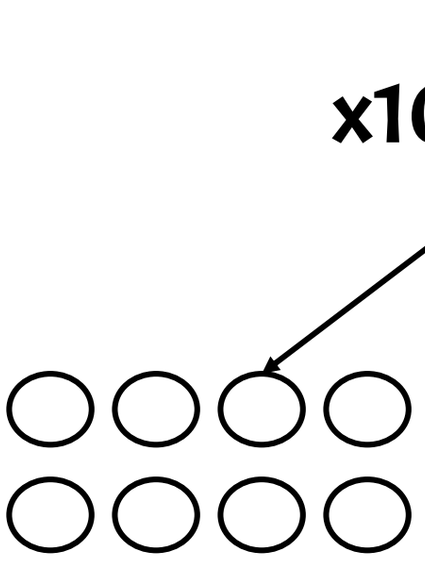
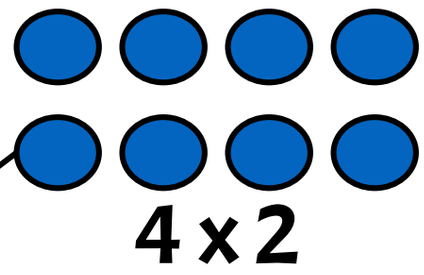
4 x 20

thousands	hundreds	tens	ones
		x10 	 4 x 2

Concept Development

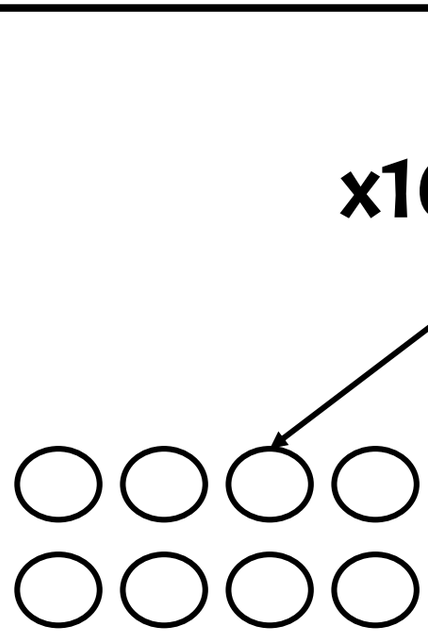
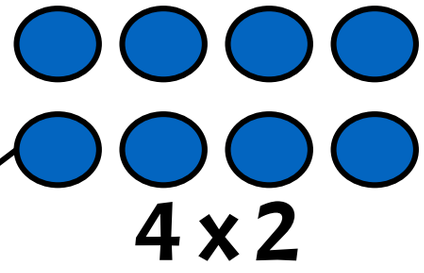
Just like 3 × 100 can be expressed as 3 × 10 × 10, there are different ways to show 4 × 20 to help us multiply.

What is another way that I could express 4 × 20?

thousands	hundreds	tens	ones
		x10 	 4 x 2

Concept Development

When multiplying with multiples of 10,
you can decompose a factor to help you solve.
In this example, we expressed 4 × 20 as (4 × 2) × 10.

thousands	hundreds	tens	ones
			

Concept Development

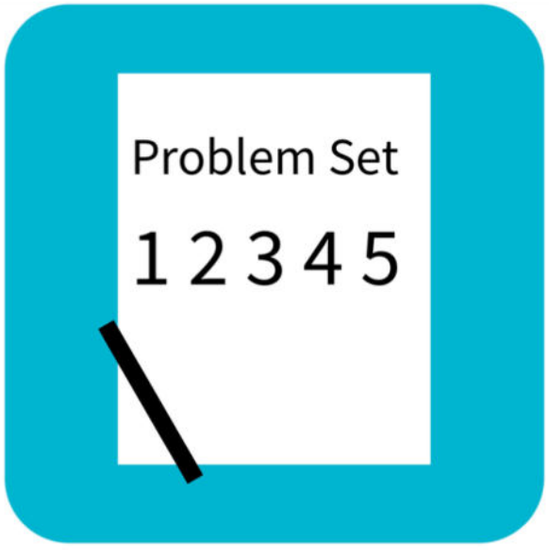
With your partner, solve 6 x 400 using a simplifying strategy.

thousands	hundreds	tens	ones

Concept Development

With your partner, solve 4 x 500 using a simplifying strategy.

thousands	hundreds	tens	ones



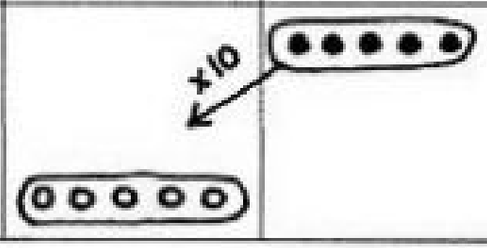
Problem Set

Name _____ Date _____

Example:

5 × 10 = 50

5 ones × 10 = 5 tens

thousands	hundreds	tens	ones
			

Draw place value disks and arrows as shown to represent each product.

1. 5 × 100 = _____

5 × 10 × 10 = _____

5 ones × 100 = ____ _____

thousands	hundreds	tens	ones

Debrief

What is the difference between saying 10 more and 10 times as many?

What is another expression that has the same value as 10 × 800 and 1,000 × 8?

Think about the problems we solved during the lesson and the problems you solved in the Problem Set. When does the number of zeros in the factors not equal the number of zeros in the product?

Debrief

For Problem 4, 12 × 10 = 120, discuss with your partner whether or not this equation is true: 12 × 10 = 3 × 40. (Problem 7 features 3 × 40.)

How did the Application Problem connect to today's lesson?

Exit Ticket

Name _____ Date _____

Fill in the blanks in the following equations.

a. $5 \times 10 =$ _____

b. _____ $\times 5 = 500$

c. $5{,}000 =$ _____ $\times 1000$

d. $10 \times 2 =$ _____

e. _____ $\times 20 = 2{,}000$

f. $2{,}000 = 10 \times$ _____

g. $100 \times 18 =$ _____

h. _____ $= 10 \times 32$

i. $4{,}800 =$ _____ $\times 100$