Eureka Math

4th Grade
Module 3
Lesson 6

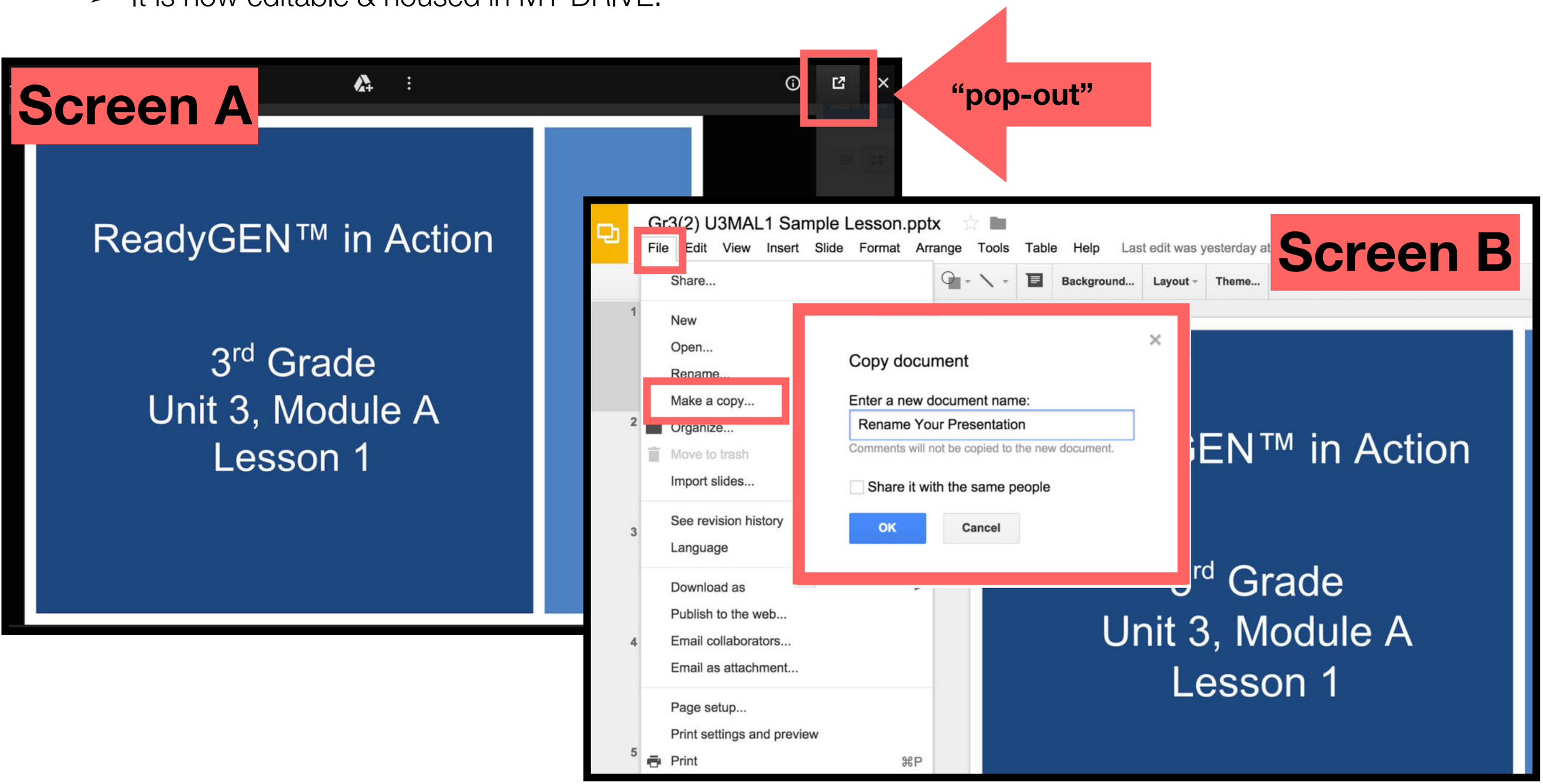
At the request of elementary teachers, a team of Bethel & Sumner educators met as a committee to create Eureka slideshow presentations. These presentations are not meant as a script, nor are they required to be used. Please customize as needed. Thank you to the many educators who contributed to this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

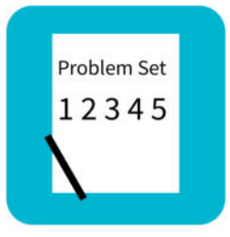


Icons

Read, Draw, Write

Learning Target

Personal White Board

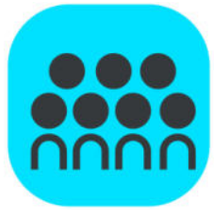


Problem Set

Manipulatives Needed

Fluency

Think Pair Share



Whole Class

Individual

Partner

Small Group

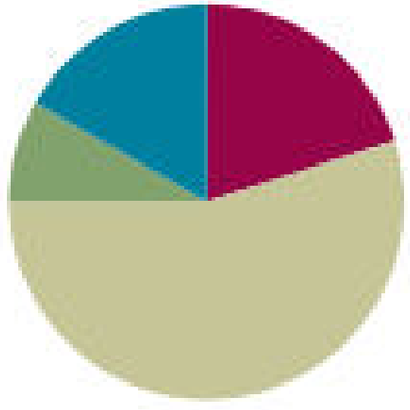
Small Group Time

Lesson 6

Objective: Multiply two-digit multiples of 10 by two-digit multiples of 10 with the area model.

Suggested Lesson Structure

Fluency Practice	(12 minutes)
Application Problem	(5 minutes)
Concept Development	(33 minutes)
Student Debrief	(10 minutes)
Total Time	**(60 minutes)**



I can multiply two-digit multiples of 10 by two-digit multiples of 10 with the area model.

Fluency Practice

Multiply Units

3 x 2 = _____

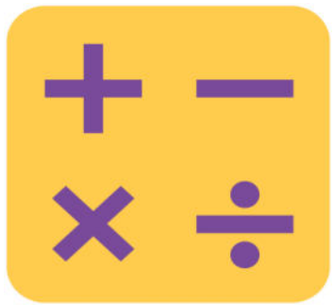
Say the multiplication sentence in unit form.

Fluency Practice

Multiply Units

30 x 2 = ____

Say the multiplication sentence in unit form.

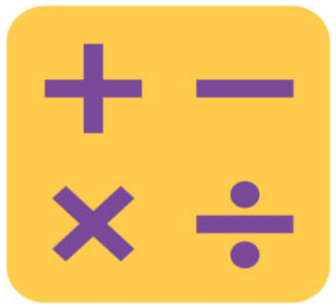


Fluency Practice

Multiply Units

300 x 2 = ____

Say the multiplication sentence in unit form.

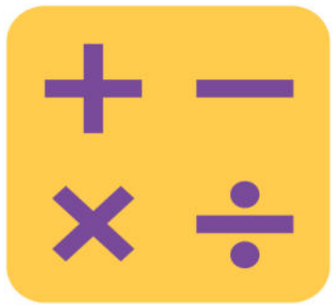


Fluency Practice

Multiply Units

3,000 x 2 = ____

Say the multiplication sentence in unit form.

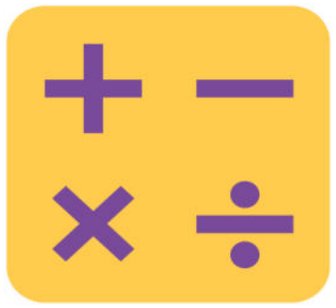


Fluency Practice

Multiply Units

3,000 x 3 = ____

Say the multiplication sentence in unit form.

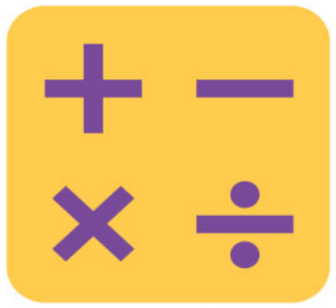


Fluency Practice

Multiply Units

30 x 3 = ____

Say the multiplication sentence in unit form.

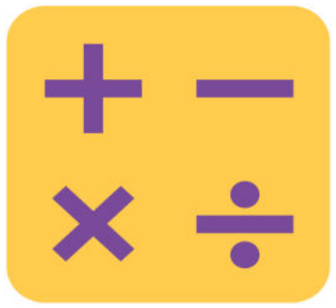


Fluency Practice

Multiply Units

300 x 5 = ____

Say the multiplication sentence in unit form.

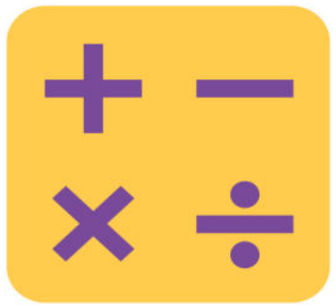


Fluency Practice

Multiply Units

70 x 5 = _____

Say the multiplication sentence in unit form.



Fluency Practice

Multiply Units

400 x 8 = ____

Say the multiplication sentence in unit form.

Fluency Practice

Multiply Units

40 x 5 = ____

Say the multiplication sentence in unit form.

Fluency Practice

Multiply Units

800 x 5 = ____

Say the multiplication sentence in unit form.

Fluency Practice

Take Out the 10, 100, or 1,000

I'll say a number.
I want you to restate the number
as a multiplication sentence,
taking out the
10, 100, or 1,000.

Fluency Practice

Take Out the 10, 100, or 1,000

20

(say 2 x 10)

Fluency Practice

Take Out the 10, 100, or 1,000

200

Fluency Practice

Take Out the 10, 100, or 1,000

2,000

Fluency Practice

Take Out the 10, 100, or 1,000

5,000

Fluency Practice

Take Out the 10, 100, or 1,000

30

Fluency Practice

Take Out the 10, 100, or 1,000

700

Fluency Practice

Take Out the 10, 100, or 1,000

8,000

Fluency Practice

Take Out the 10, 100, or 1,000

90

Fluency Practice

Multiply by Multiples of 10, 100, and 1,000

5 x 300

Say the multiplication expression.

Rewrite the multiplication sentence, taking out the 100, and solve.

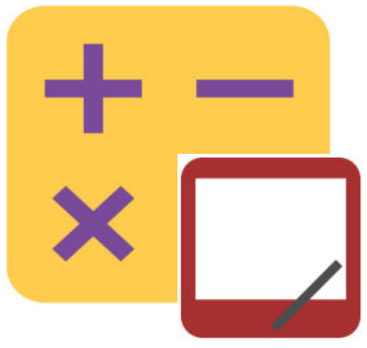
Fluency Practice

Multiply by Multiples of 10, 100, and 1,000

70 x 3

Say the multiplication expression.

Rewrite the multiplication sentence, taking out the 10, and solve.



Fluency Practice

Multiply by Multiples of 10, 100, and 1,000

8 x 4,000

Say the multiplication expression.

Rewrite the multiplication sentence, taking out the 1,000, and solve.

Fluency Practice

Multiply by Multiples of 10, 100, and 1,000

6 x 200

Say the multiplication expression.

Rewrite the multiplication sentence, taking out the 100, and solve.

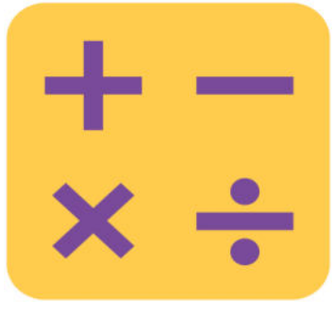
Fluency Practice

Multiply by Multiples of 10, 100, and 1,000

50 x 8

Say the multiplication expression.

Rewrite the multiplication sentence, taking out the 10, and solve.



Application Problem

**There are 400 children at Park Elementary School.
Park High School has 4 times as many students.
How many students in all attend both schools?**

**Lane High School has 5 times as many students
as Park Elementary.
How many more students attend
Lane High School than Park High School?**

Concept Development

Materials

(T) Thousands place value chart

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

Concept Development

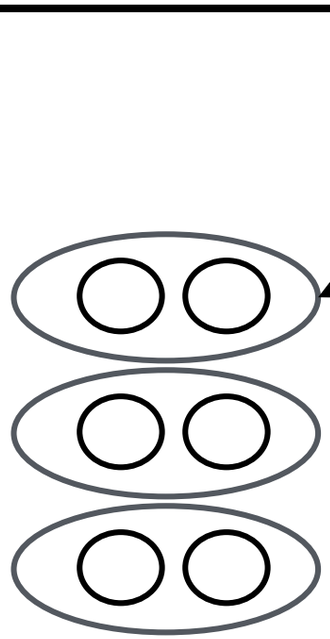
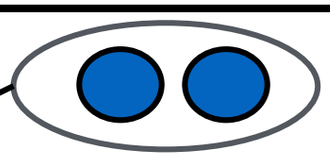
30 x 20

Here we are multiplying a two-digit number by another two-digit number.

What are some other ways we could express 30 x 20?

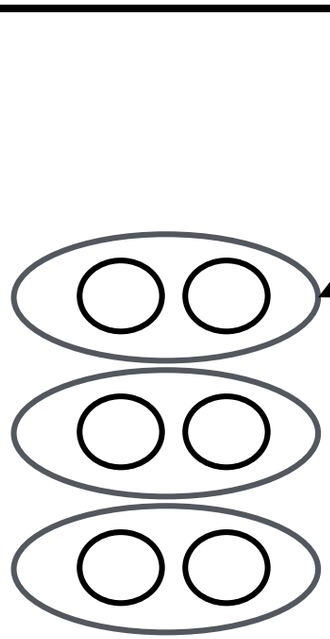
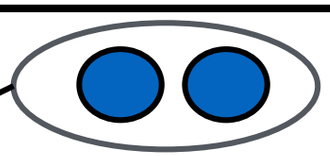
Concept Development

Let's use 10 x 20 x 3 in a place value chart to help us solve 30 x 20

hundreds	tens	ones
		

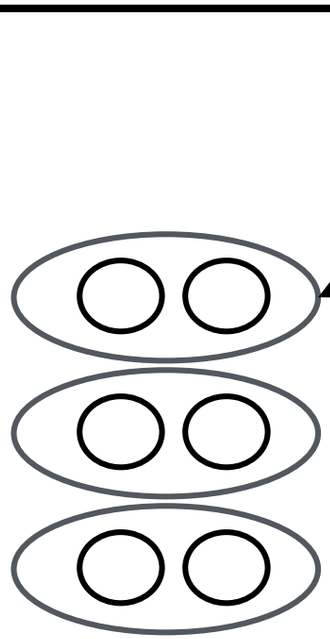
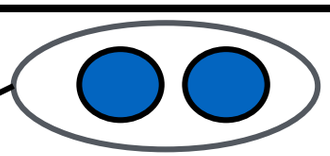
Concept Development

What is 2 tens times 10?

hundreds	tens	ones
		

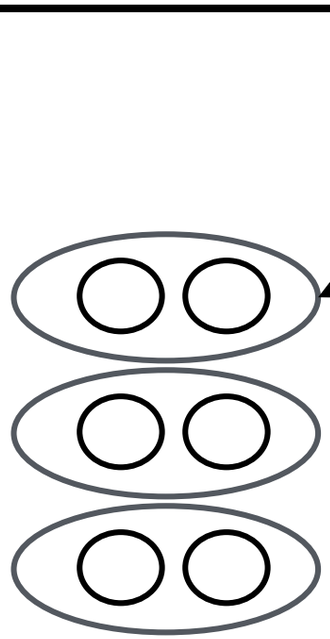
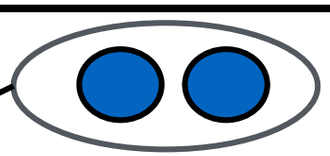
Concept Development

So, the value of 10 x 20 is…?

hundreds	tens	ones
		

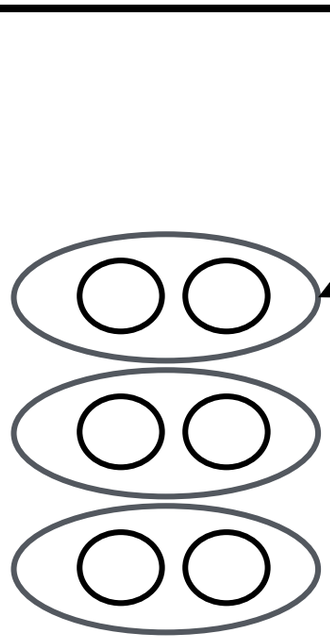
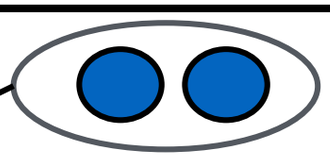
Concept Development

And, then 200 x 3?

hundreds	tens	ones
		

Concept Development

10 x 20 x 3 is…?

hundreds	tens	ones
		

Concept Development

With your partner,
represent one of the following
on your place value chart:

10 × 30 × 2 as 10 groups of 30 times 2.

2 × 30 × 10 as 2 groups of 30 times 10.

3 × 20 × 10 as 3 groups of 20 times 10.

Concept Development

When we multiply a two-digit number by another two-digit number, there are many equivalent ways to express it as a product.

Decomposing our multiplication problem into more units can help us solve.

Concept Development

Let's model 40 x 20 as an area.

Tell your partner what 40 x 20 is.

Concept Development

What is 20 in unit form?

Concept Development

What is 4 tens times 2 tens?

Concept Development

Let's prove how we can multiply the units.

Draw a 40 by 20 rectangle on your personal white board.

Partition the horizontal side into 2 tens and the vertical side into 4 tens. Label each side.

What is the area of one square?

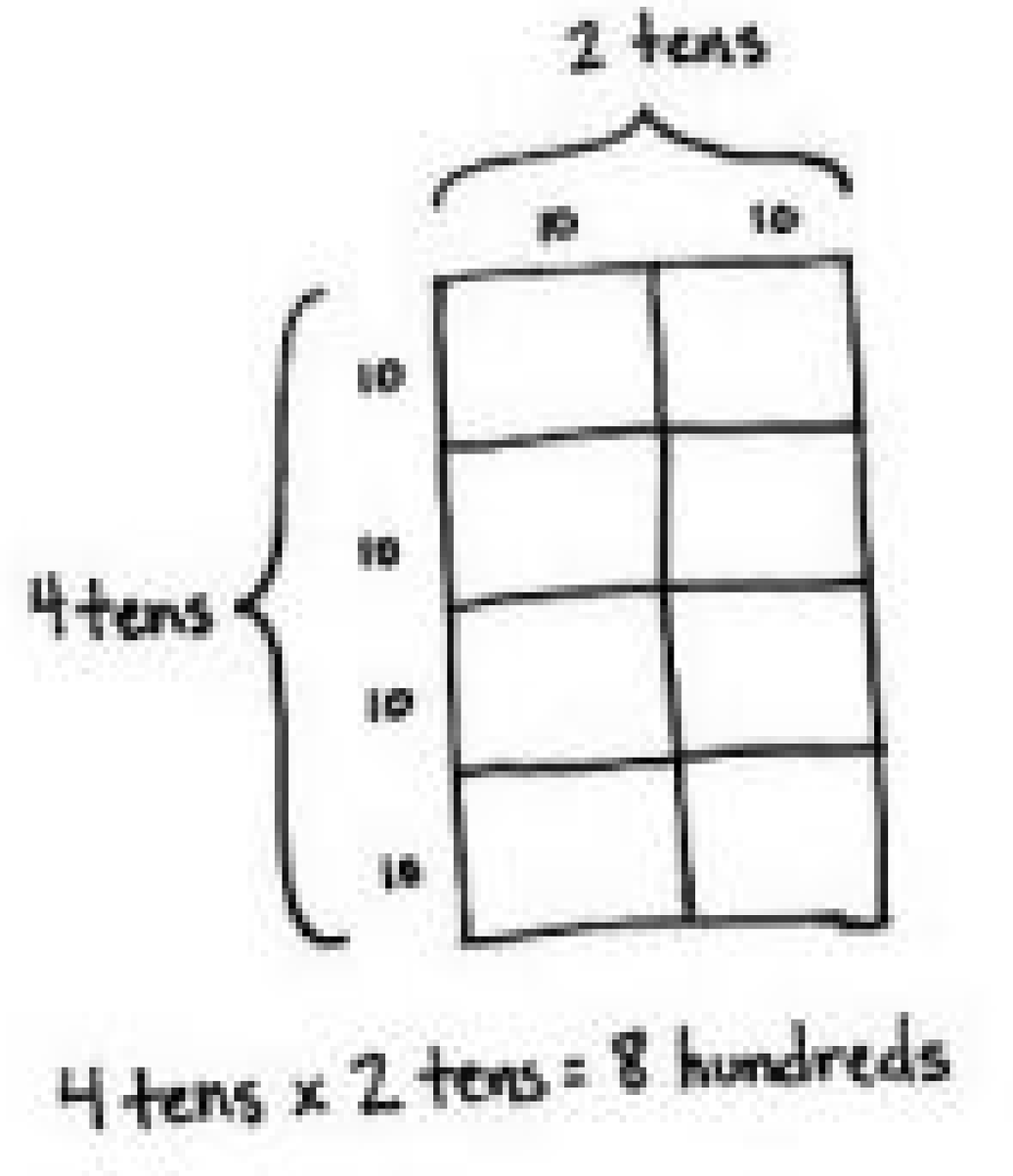
Concept Development

Let's prove how we can multiply the units.

Draw a 40 by 20 rectangle on your personal white board. Partition the horizontal side into 2 tens and the vertical side into 4 tens.

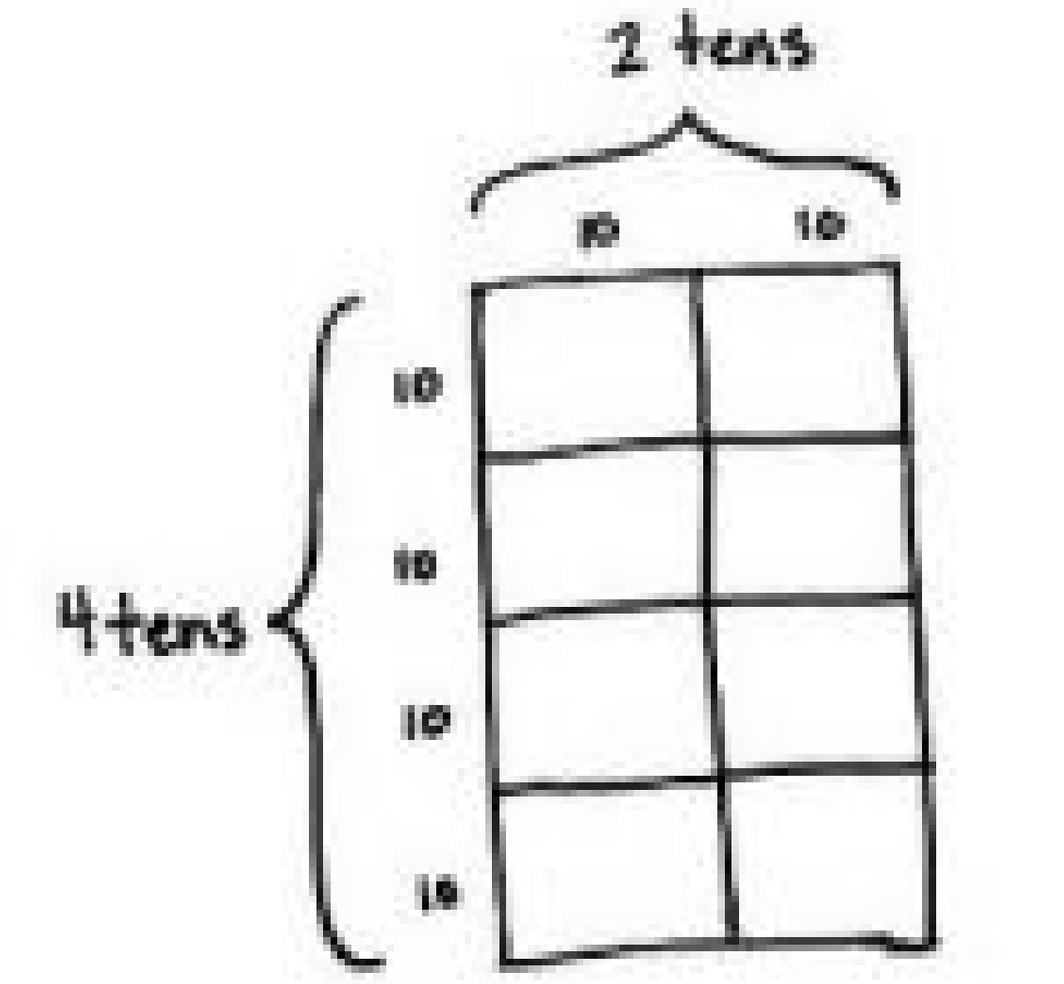
Label each side.

What is the area of one square?



Concept Development

Say a multiplication sentence for how many of the squares there are.



Concept Development

Tell your partner how this rectangle shows

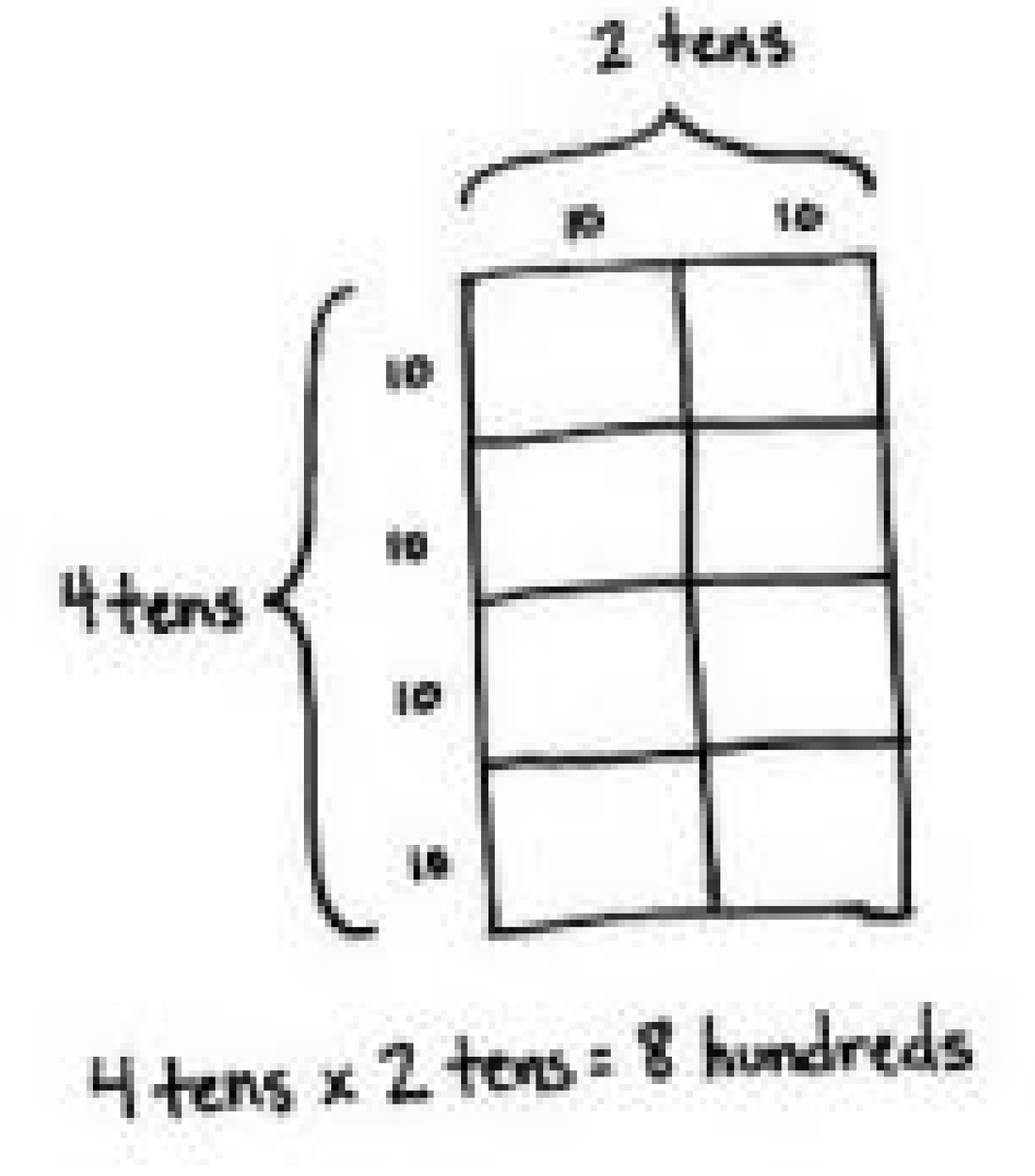
4 tens

times

2 tens

equals

8 hundreds.



Concept Development

50 x 40

Name 50 x 40 in unit form.

Concept Development

50 x 40

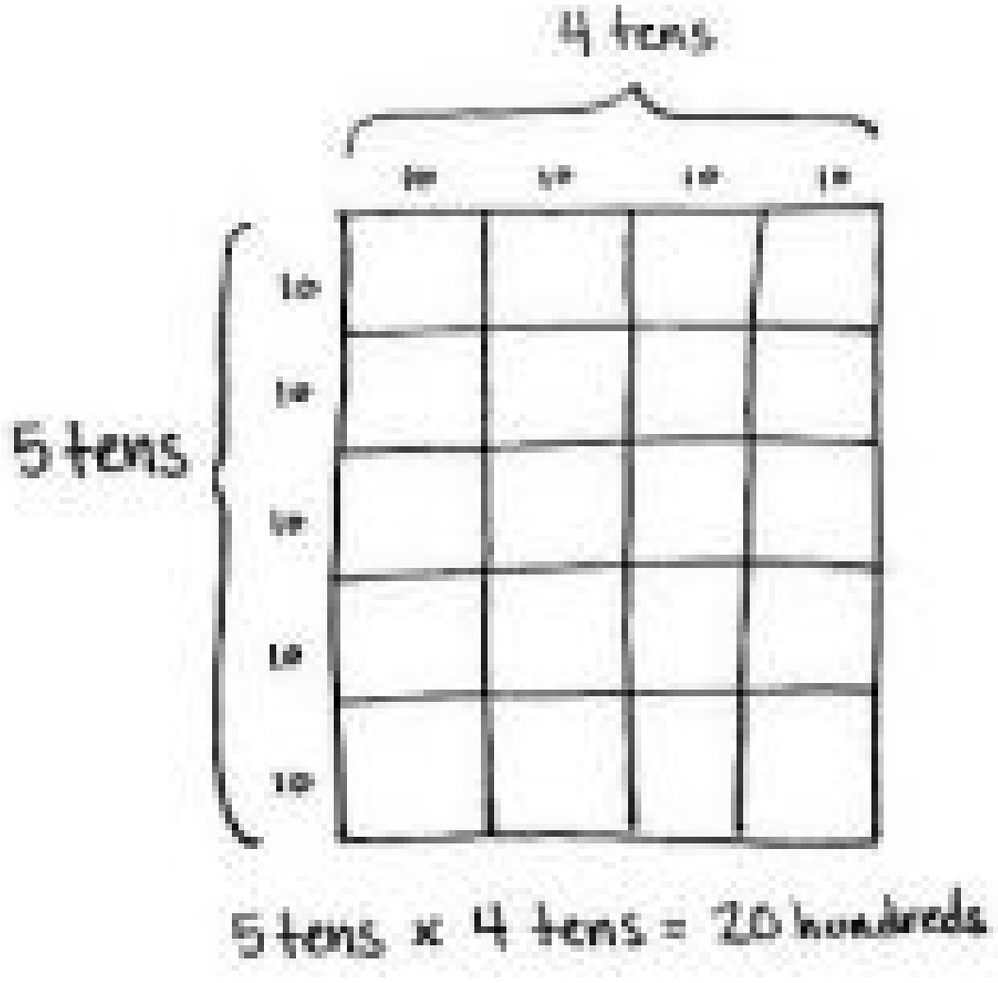
With your partner,
draw a rectangle to represent
5 tens times 4 tens.

Concept Development

50 x 40

With your partner, draw a rectangle to represent

5 tens times 4 tens.



Concept Development

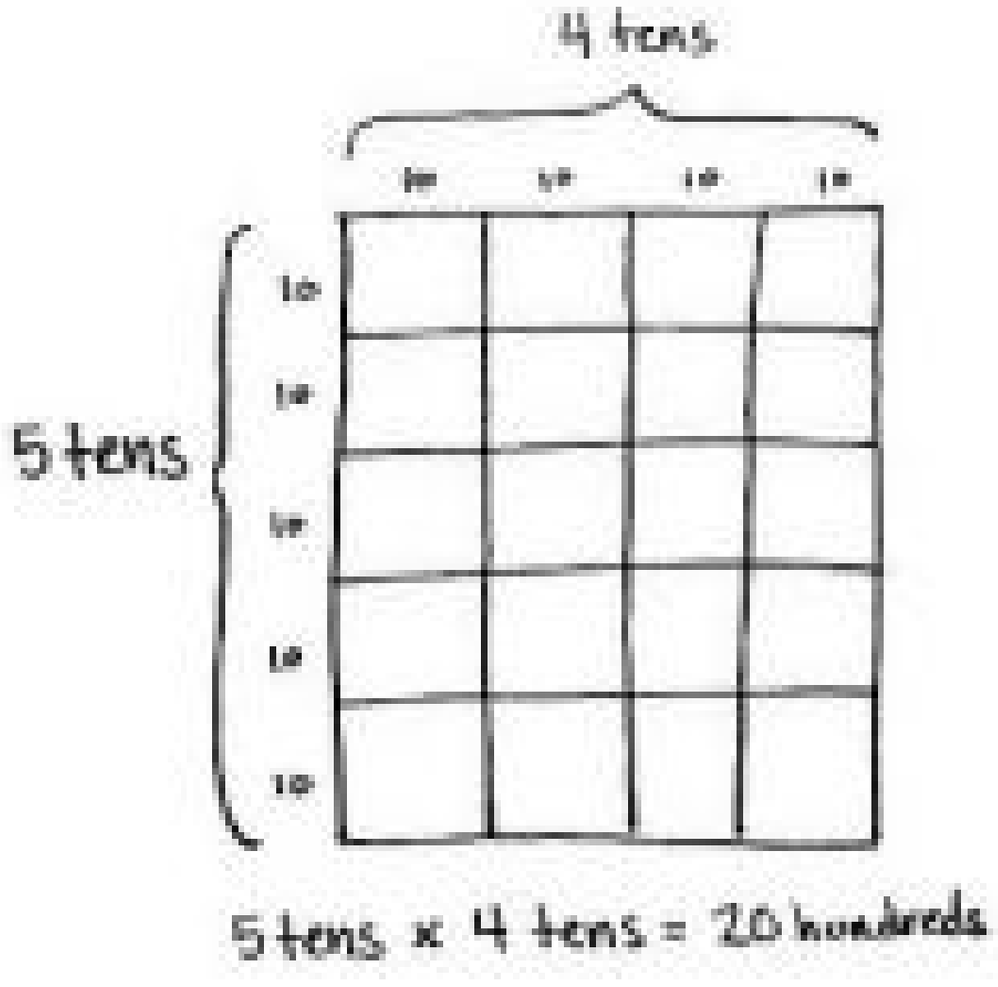
50 x 40

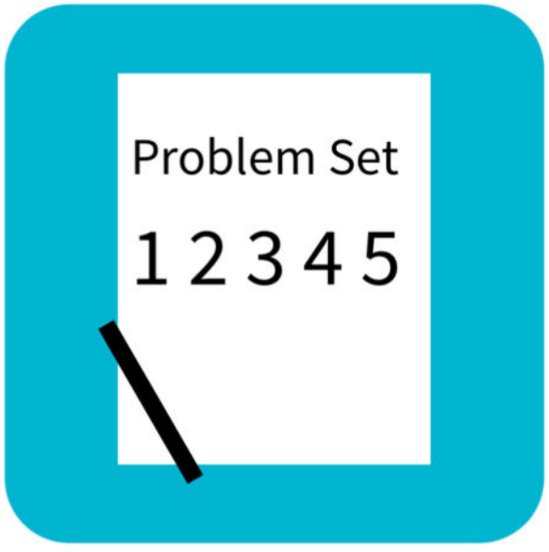
5 x 4 = 20 (or 2 tens)

10 x 10 = 100

20 x 100 = 2000

(or 2 tens)





Problem Set

Name _____ Date _____

Represent the following problem by drawing disks in the place value chart.

1. To solve 20 × 40, think

   (2 tens × 4) × 10 = _____

   20 × (4 × 10) = _____

   20 × 40 = _____

hundreds	tens	ones

2. Draw an area model to represent 20 × 40.

Debrief

What patterns did you notice while solving Problem 1?

Explain to your partner how to solve the problem 80 × 50 from Problem 10. What does the answer have to do with thousands when the units in 80 and 50 are 8 tens and 5 tens?

To solve 4 × 10 × 2 × 10, you can multiply 4 × 2 to get 8, then multiply 10 × 10 to get 100, then multiply the 8 times 100. Is it always possible to rearrange numbers like this when multiplying?

Talk to your partner about how you solved Problem 2. Can you come up with a different way to solve this problem?

Exit Ticket

Name _____ Date _____

Represent the following problem by drawing disks in the place value chart.

1. To solve 20 × 30, think

   (2 tens × 3) × 10 = _____

   20 × (3 × 10) = _____

   20 × 30 = _____

hundreds	tens	ones

2. Draw an area model to represent 20 × 30.