## Material List

(T) 12 square tiles

(S) 15 square-inch and square centimeter tiles

(S) Personal white board

# 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.
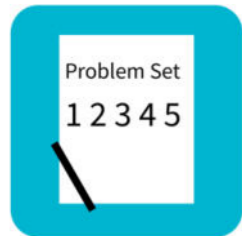
# Icons

RDW — Read, Draw, Write
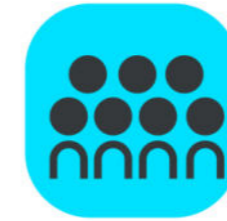
Learning Target

Personal White Board

Problem Set

Manipulatives Needed

Fluency

Think Pair Share
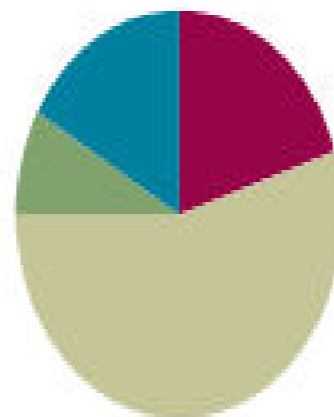
Whole Class

Individual

Partner

Small Group

Small Group Time

# Lesson 4

Objective:  Relate side lengths with the number of tiles on a side.

## Suggested Lesson Structure
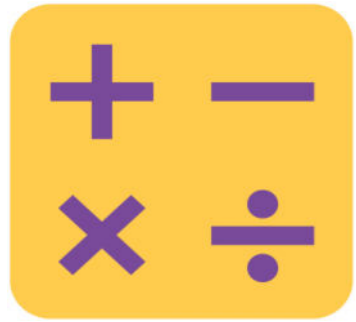
- **█** Fluency Practice          (12 minutes)
- **█** Application Problem        (5 minutes)
- **█** Concept Development        (33 minutes)
- **█** Student Debrief           (10 minutes)
- **Total Time**                 **(60 minutes)**

# I can relate side lengths to the number of tiles on each side.

# Fluency Practice

## Group Counting

**Count forward and backward as I indicate with pointing my finger, by…**

**Sixes to 60**

# Fluency Practice

## Group Counting

**Count forward and backward as I indicate with pointing my finger, by…**
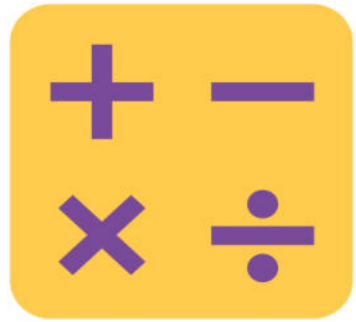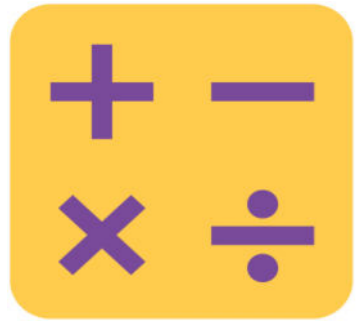
**Sevens to 70**
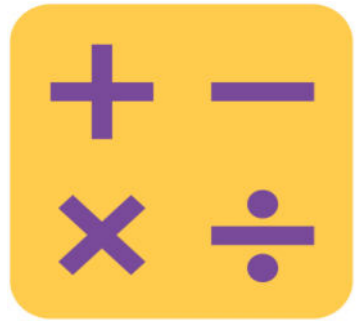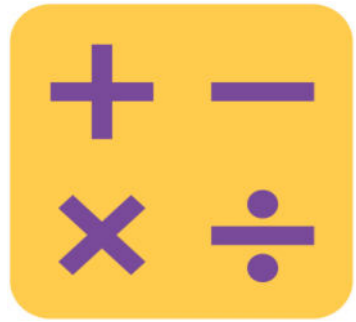
# Fluency Practice

## Group Counting

**Count forward and backward as I indicate with pointing my finger, by…**

**Eights to 80**

# Fluency Practice

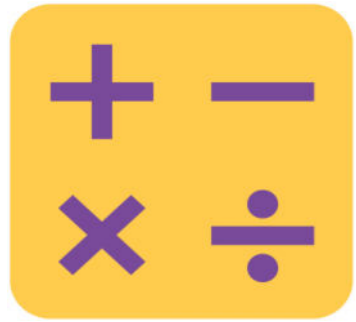**Count forward and backward as I indicate with pointing my finger, by…**

**Nine to 90**

# Fluency Practice

How many rows of stars do you see?
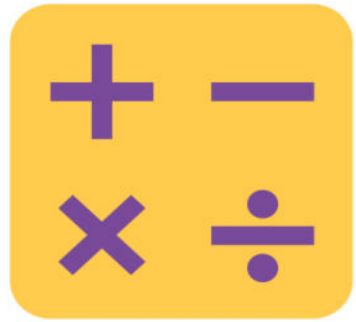
5 rows

# Fluency Practice

## Products in an Array



How many stars are in each row?

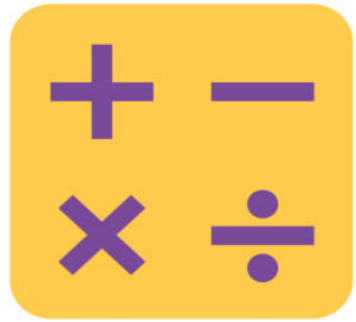3 stars

# Fluency Practice

## Products in an Array



On your personal white board, write two different multiplication sentences that can be used to find the total number of stars.

5 X 3 = 15 and 3 X 5 = 15

# Fluency Practice
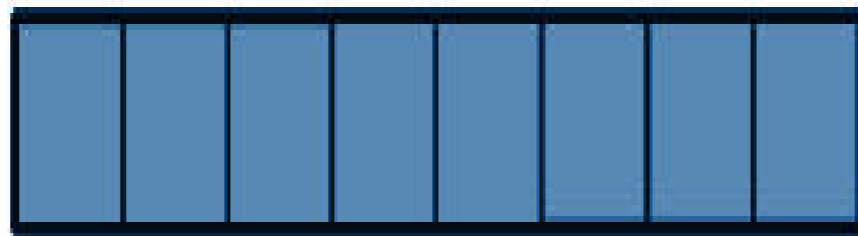
How many square units are in the rectangle?



8 square units

# Fluency Practice

Count the Square Units

How many square units are in the rectangle?



8 square units

# Fluency Practice

## Count the Square Units

How many square units are in the rectangle?
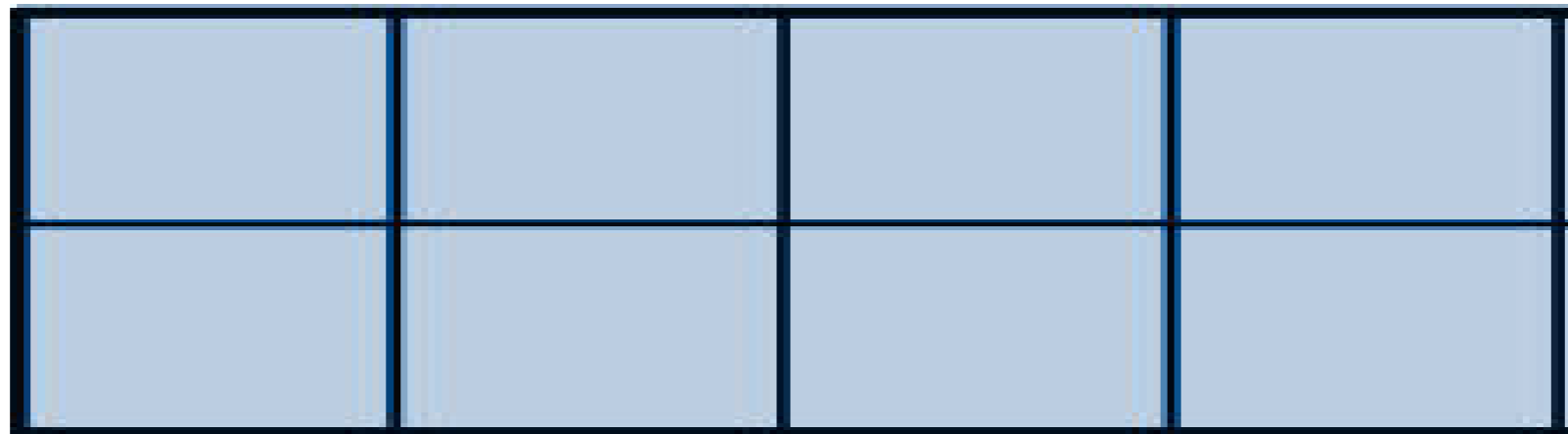
8 square units
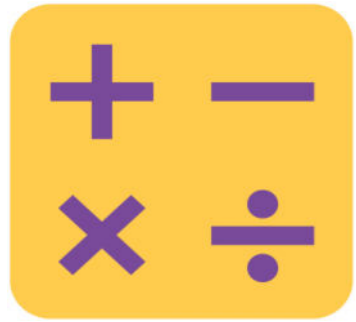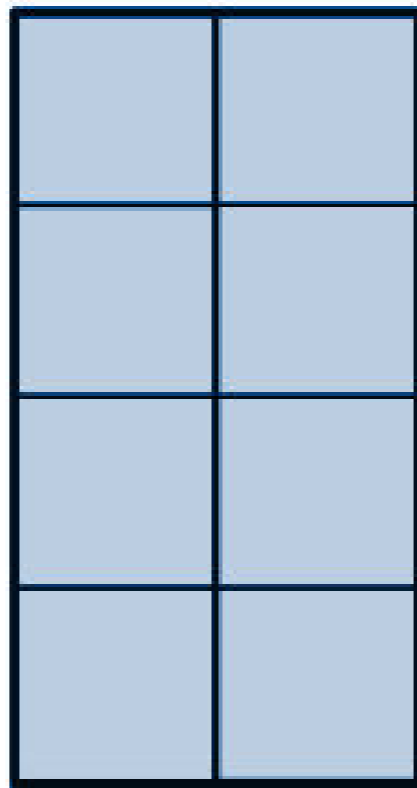
# Fluency Practice

## Count the Square Units

How many square units are in the rectangle?
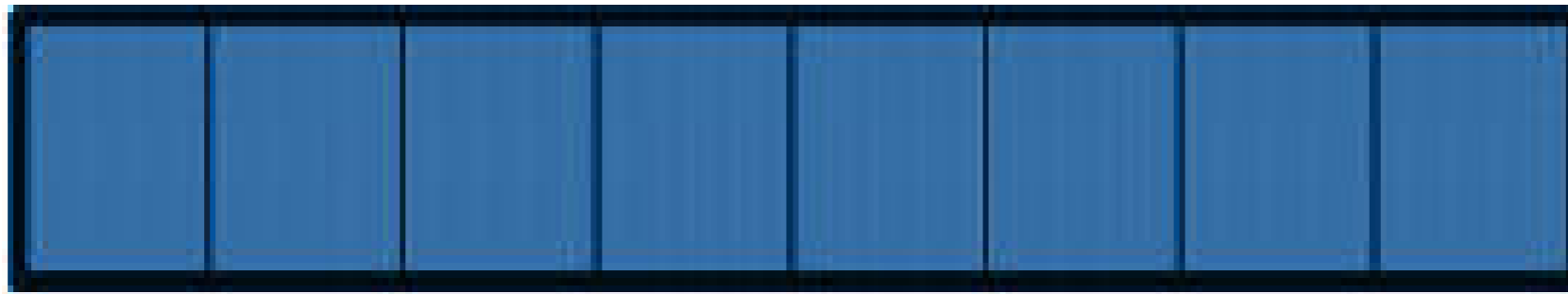
8 square units

# Fluency Practice

## Count the Square Units

Do the four rectangles look the same?
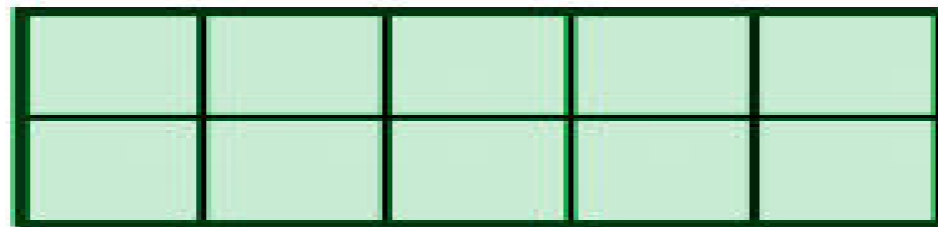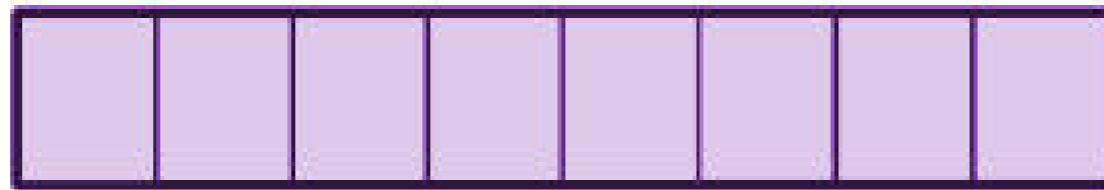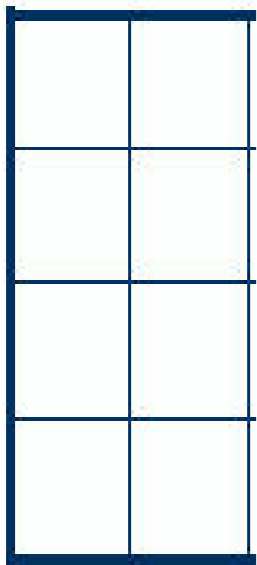
What do the rectangles have in common ?

Mara uses 15 square-centimeter tiles to make a rectangle.  Ashton uses 9 square-centimeter tiles to make a rectangle.

a. Draw what Mara and Ashton's rectangle might look like.

b. Whose rectangle has a bigger area? How do you know?

![RDW] # Application Problem

Mara uses 15 square-centimeter tiles to make a rectangle.
Ashton uses 9 square-centimeter tiles to make a rectangle.
a. Draw what Mara and Ashton's rectangle might look like.
b. Whose rectangle has a bigger area?
How do you know?

a)
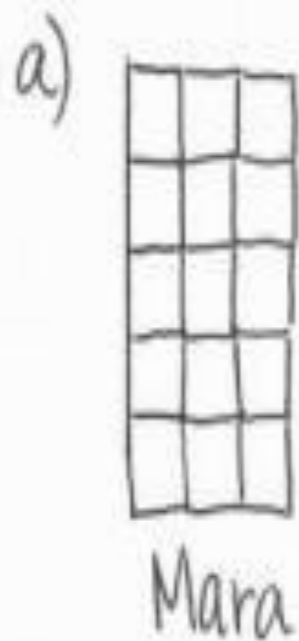
Mara

Ashton

b) Mara's rectangle has a bigger area because they both used sq. cm tiles, but Mara used more tiles than Ashton.

# Concept Development

I used 15 square inch tiles to make both rectangles. Is the area of both rectangles 15 square inches?

Rectangle A
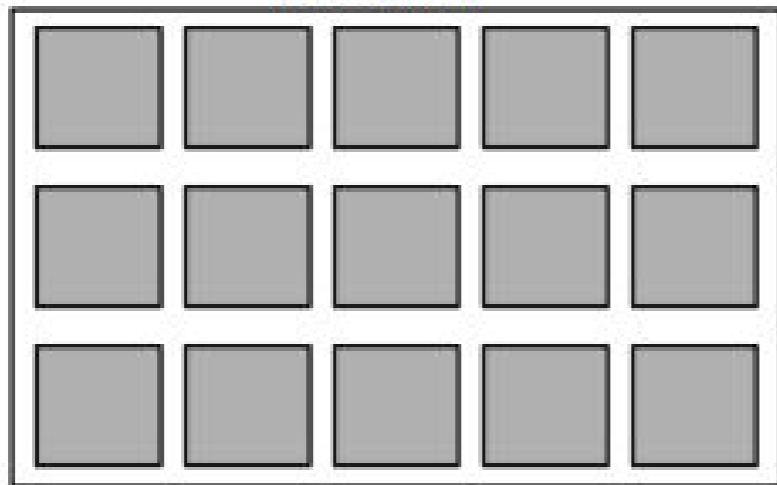
Rectangle B
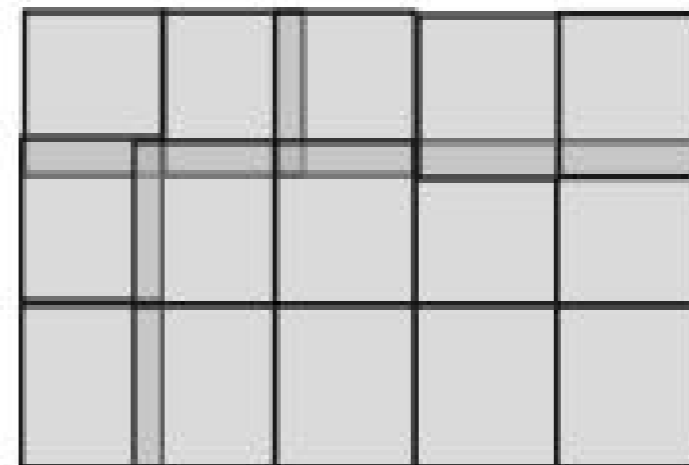
Why is it important to avoid gaps or overlaps when we measure area?

# ✏️ Concept Development

Use your ruler to measure across the top of your rectangle in inches.

What is the length of this side?

5 inches

How many tiles are on this side?

5 tiles

# Concept Development

Use your ruler to measure shorter side of the rectangle in inches.

What is the length of the side?

3 inches

How many tiles are on this side?

3 tiles

# Concept Development

What is the relationship between the number of tiles on a side and the side length of the rectangle?

They are the same.

What do you notice about the length of the opposite sides of the rectangles?

They are equal.

# ✎ Concept Development

Trace the rectangle on your personal white board. Then, remove the tiles and label the side lengths.

Now, write the area inside the rectangle.

What are the units for the side lengths?

Inches.

# Concept Development

What are the units for the area?

Square inches.

Talk to a partner.

Why are the units different for side lengths and area?

Inches are used to measure lengths, such as the side lengths, and square inches are used to measure the amount of flat space a figure takes up, which is the area.

# Concept Development

Direct students to exchange square inches for square centimeter tiles.

Repeat the process with centimeter tiles.

Alternatively, build the rectangle in 4 rows of 5-centimeter tiles.  As students place each row, encourage careful and meaningful counting.  Students may benefit from counting each tile in the row so as not to add extra tiles.  Then recapature by counting by fives, "5, 10, 15, 20."

# Problem Set

Name _____  Date _____

1. Use a ruler to measure the side lengths of the rectangle in centimeters. Mark each centimeter with a point and connect the points to show the square units. Then, count the squares you drew to find the total area.

Total area: _____

2. Use a ruler to measure the side lengths of the rectangle in inches. Mark each inch with a point and connect the points to show the square units. Then, count the squares you drew to find the total area.

Total area: _____

# Debrief

## Any combination of the questions below may be used to lead the discussion.

Tell a partner how you could use square centimeter tiles to check your work in Problem 1.

Compare the areas of the rectangles in Problems 1 and 2. Which rectangle has a larger area? How do you know?

What are the side lengths of the shape in Problem 3? Are all of the sides the same? How do you know? What shape is this?

What is the area of the rectangle in Problem 4? Explain how you found the area to a partner.

How many centimeter tiles fit in the rectangle in Problem 5? Is that the area of the rectangle in square centimeters? Why or why not?

In Problem 6, if the side length of A is 4 units, would 3 units make sense for the side length of B? Why or why not? What would make sense?
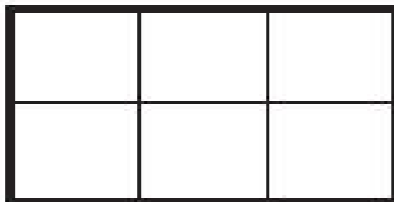
# Exit Ticket

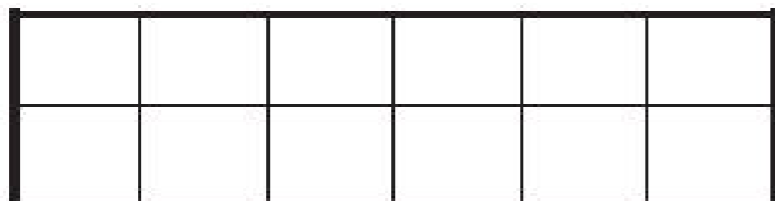Name _____    Date _____

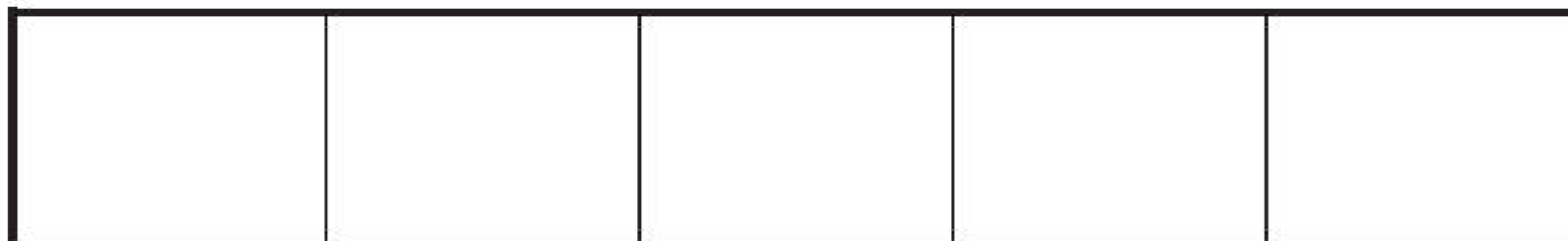Label the side lengths of each rectangle.  Then, match the rectangle to its total area.

a.

12 square centimeters

b.

5 square inches

c.

6 square centimeters