Material List

(S) Array 1 (Template 1) and Array 2 (Template 2)

(S) 15 square-inch tiles per student, straight edge

(S) Personal white board

Eureka Math

3rd Grade
Module 4
Lesson 6

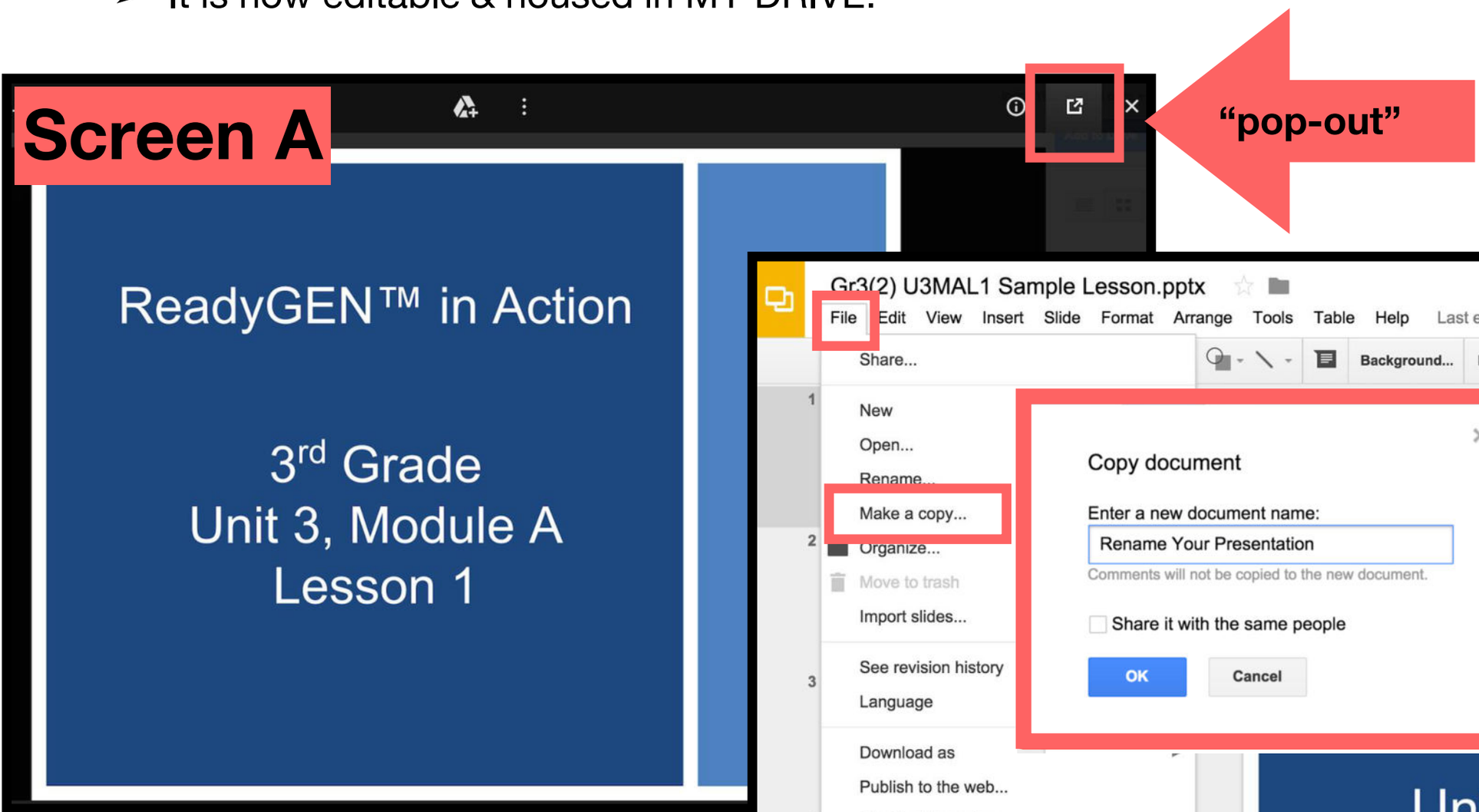
At the request of elementary teachers, a team of Bethel & Sumner educators met as a committee to create Eureka slideshow presentations. These presentations are not meant as a script, nor are they required to be used. Please customize as needed. Thank you to the many educators who contributed to this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

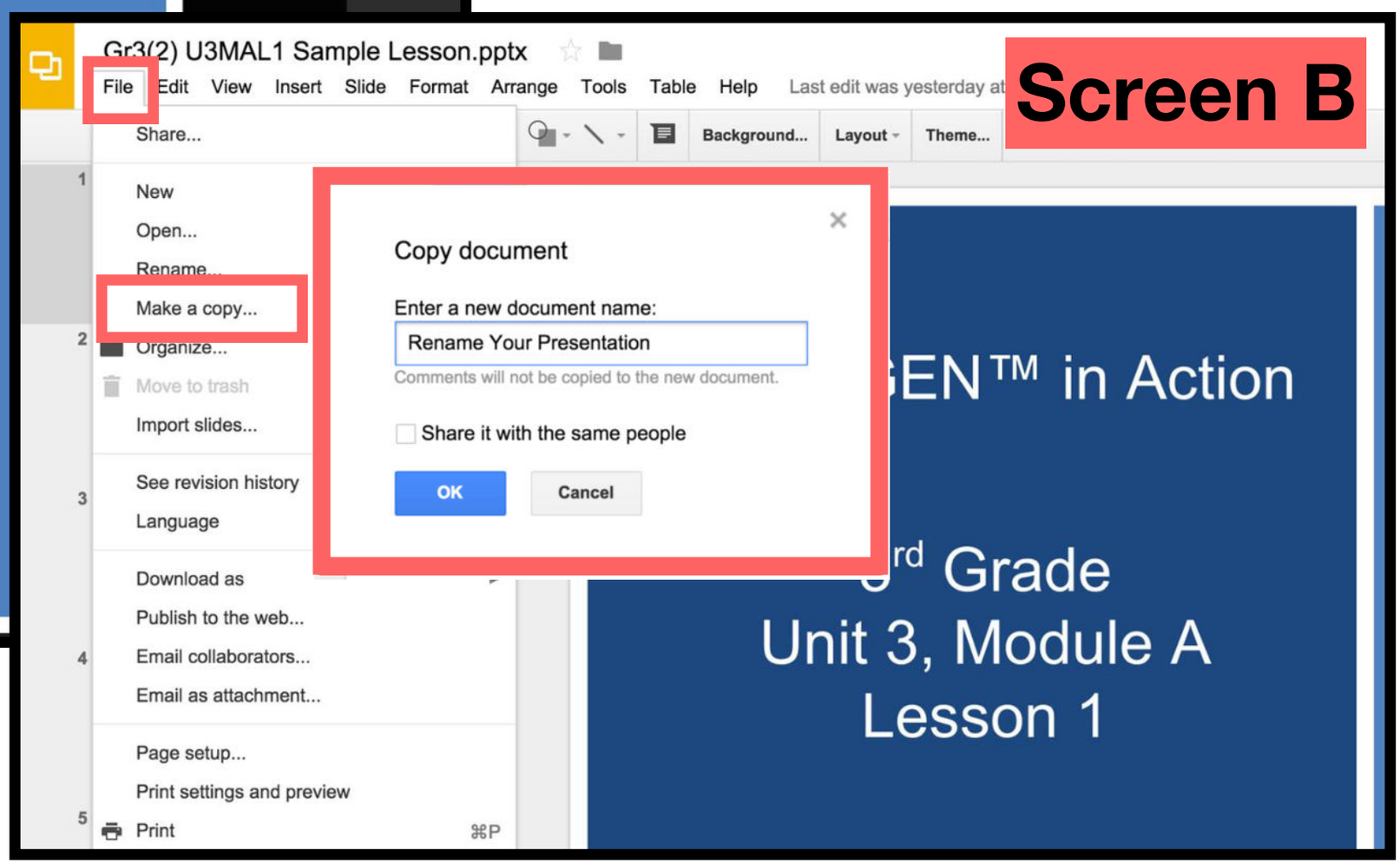
Directions for customizing presentations are available on the next slide.

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.



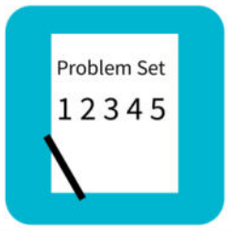


Icons

Read, Draw, Write

Learning Target

Personal White Board

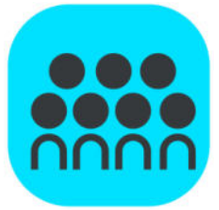


Problem Set

Manipulatives Needed

Fluency

Think Pair Share



Whole Class

Individual

Partner

Small Group

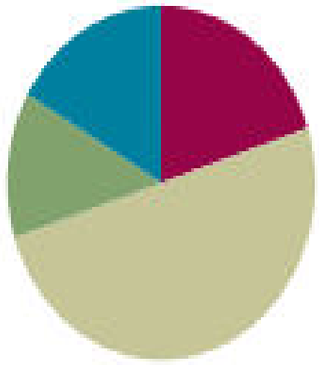
Small Group Time

Lesson 6

Objective: Draw rows and columns to determine the area of a rectangle given an incomplete array.

Suggested Lesson Structure

Fluency Practice	(12 minutes)
Application Problem	(8 minutes)
Concept Development	(30 minutes)
Student Debrief	(10 minutes)
Total Time	**(60 minutes)**



I can draw rows and columns to find the area of a rectangle, given an incomplete array.

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

Group Counting

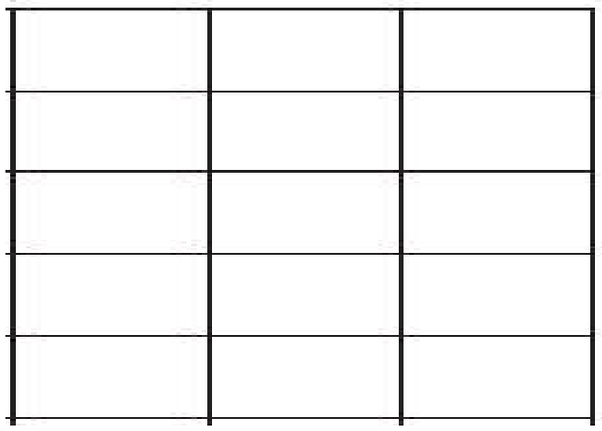
Count forward and backward as I indicate with pointing my finger, by…

Nines to 90

Fluency Practice

Write the Multiplication Fact

There are 15 tiles altogether.
How many rows are there?



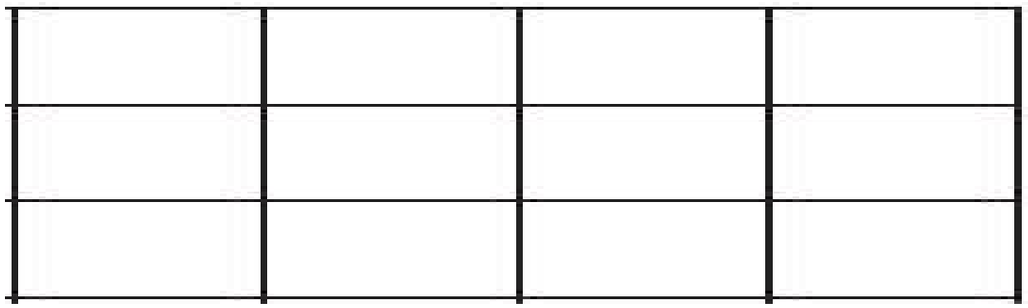
On your personal white board, fill in the blank to make the equation true.

5 X ___ = 15

Fluency Practice

Write the Multiplication Fact

There are 12 tiles altogether.
How many columns are there ?



On your personal white board, fill in the blank to make the equation true.

____ X 4 = 12

Fluency Practice

Products in an Array

How many rows of stars do you see?

2 stars

Fluency Practice

Products in an Array

How many stars are in each row ?

6 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.

2 X 6= 12 and 6 X 2= 12

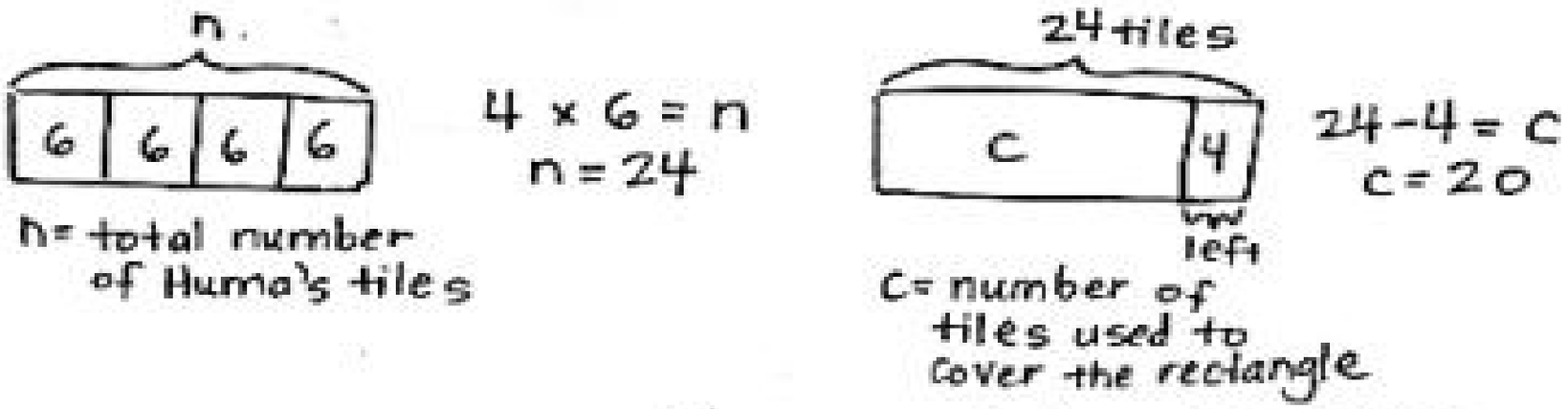
Application Problem

Huma has 4 bags of square inch tiles with 6 tiles in each bag. She uses them to measure the area of a rectangle on her homework. After covering the rectangle, Huma has 4 tiles left. What is the area of the rectangle?

Use the RDW (Read, Draw, Write) process to show your solution.

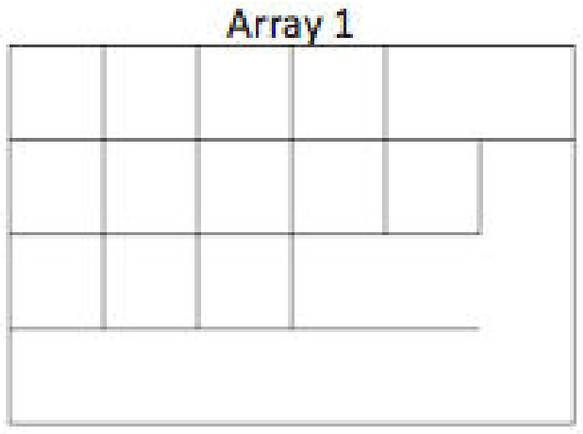
Application Problem

Huma has 4 bags of square inch tiles with 6 tiles in each bag. She uses them to measure the area of a rectangle on her homework. After covering the rectangle, Huma has 4 tiles left. What is the area of the rectangle?



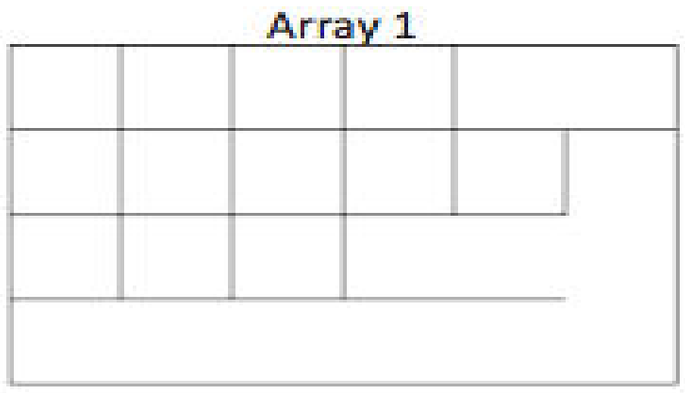
Concept Development

Part 1: Estimate to draw the missing square units inside an array.



What do you notice about the array inside of this rectangle?

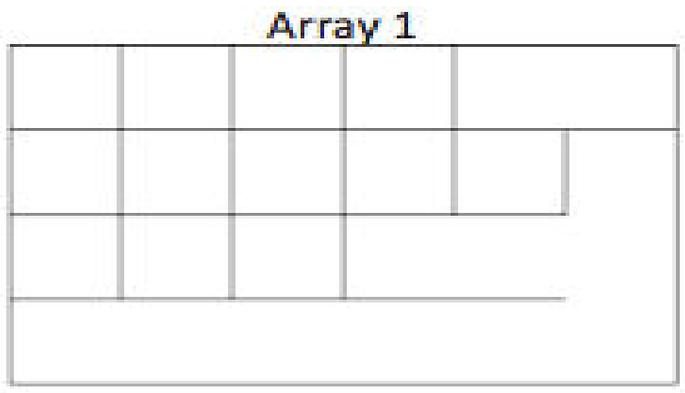
Concept Development



What do you noticed about the top row ?

Look at the second row. Can you use those squares units to help you know how many square units make the top row.

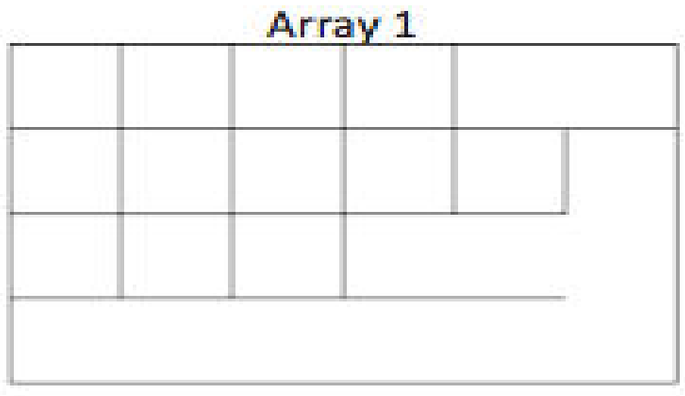
Concept Development



Use your straightedge to draw that line now.

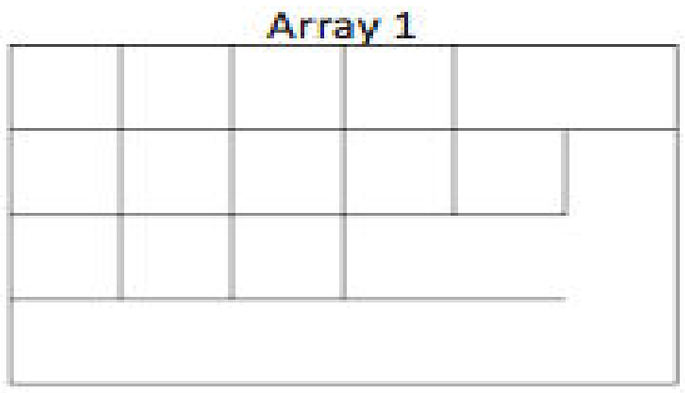
Talk to your partner. Use the top row to figure out how many square units will fit in each of the rows below. How do you know?

Concept Development



Use the lines that are already there as guides, and with your straight edge, draw lines to complete the array.

Concept Development



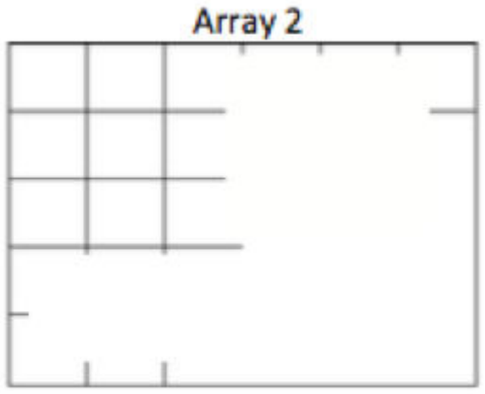
How many rows of 6 are in this array?

4 rows of 6.

What equation can be used to find the area of the rectangle?

4 X 6 = 24.

Concept Development

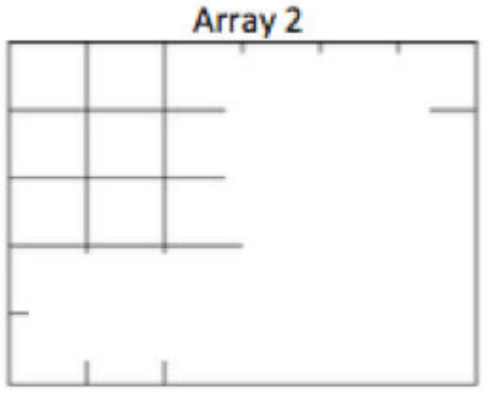


Look at array 2. Can we estimate to draw unit squares inside the rectangle?

A quick way to find the area is to figure out the number of rows and the number of columns.

How can we find the number of rows?

Concept Development

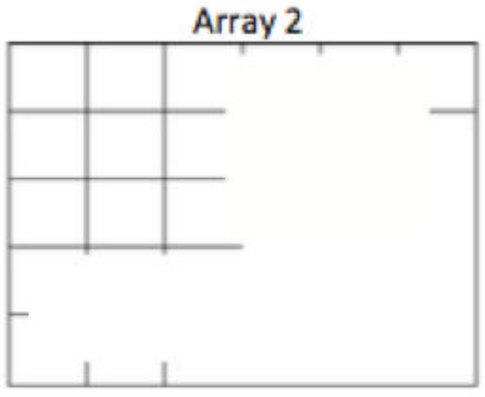


With your finger, show your partner what you will draw to find the number of rows. Then, draw.

How can we find the number of columns?

Use your straight edge to complete the first row. Label the side lengths of the rectangle, including units.

Concept Development



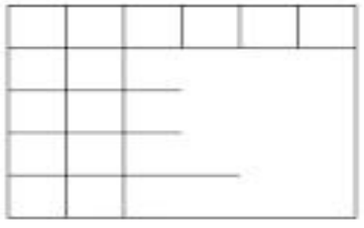
What number sentence can be used to find the area?

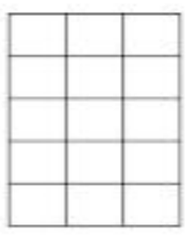
5 × 6=30

Problem Set

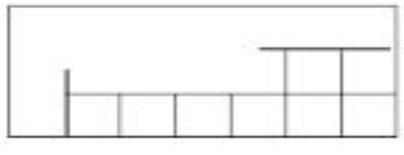
Name _____ Date _____

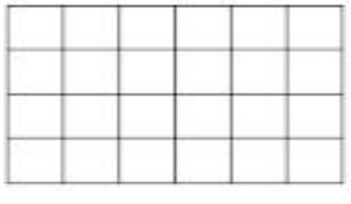
1. Each ☐ represents 1 square centimeter. Draw to find the number of rows and columns in each array. Match it to its completed array. Then, fill in the blanks to make a true equation to find each array's area.

a. 

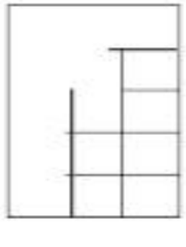


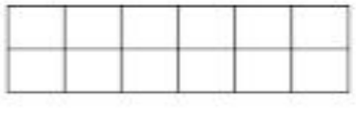
_____ cm × _____ cm = _____ sq cm

b. 



_____ cm × _____ cm = _____ sq cm

c. 



_____ cm × _____ cm = _____ sq cm

Debrief

<u>Any combination of the questions below may be used to lead the discussion.</u>

How did you know where to draw the columns and rows in Problem 1?

To find area, why is it not necessary to draw all of the unit squares in an incomplete array?

What mistake did Sheena make in Problem 2?

Is it necessary to have the rug to solve Problem 3? Why or why not?

In Problem 3, how many tiles does the rug touch?

There are multiple ways to find a solution to Problem 4. Invite students to share how they found the answer.

Exit Ticket

Name _____ Date _____

The tiled floor in Cayden's dining room has a rug on it as shown below. How many square tiles are on the floor, including the tiles under the rug?