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Summer Edition

Third Grade Math

Activity 4

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This packet includes four sections that cover the major content for 3rd grade math. Each section includes pages of notes and practice for each topic. For additional support, visit KCS TV on YouTube for instructional videos that accompany each section.

The following content is included in this packet:

	Topic			
	I. Geometry	**II. Understanding the Relationship Between Multiplication and Division**	**III. Understanding Fractions**	**IV. Understanding Area**
Activity 1	Identify Shapes	Connecting Multiplication and Division	Describing Parts of a Whole with Fractions	Finding the Area of Rectangles
Activity 2	Describe Shapes Based on Their Attributes	Using a Multiplication Table	Understand Factions on a Number Line	Solving Problems Involving Area
Activity 3	Classifying Shapes Based on Their Attributes	Solving Word Problems Using Multiplication or Division	Understanding and Finding Equivalent Fractions	Solving Word Problems About Area

Objective: Apply concepts of area to multiplication/addition. Ex., area of rectangle measuring 4 x 2 could be found by multiplying 4 x 2 or adding 4 + 4 or 2 + 2 + 2 + 2

Example

What is the area of this rectangle?

There are 4 rows with 5 squares in each row.

You can skip count the rows by 5 to find how many squares there are: 5, 10, 15, 20. Or you can count each square.

Since there are 20 squares, the area is 20 square units.

1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20

Example

Ana's garden is 7 feet long and 7 feet wide. Noah's garden is 8 feet long and 6 feet wide. Which garden has a smaller area?

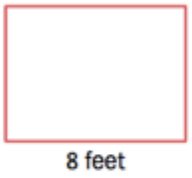
You can draw a model. Then multiply length by width to find the area of each garden.

Ana: $7 \times 7 = 49$ square feet
Noah: $8 \times 6 = 48$ square feet

Noah's garden has a smaller area.

Ana's Garden

Noah's Garden



Vocabulary

area the amount of space a shape covers.

square unit a square with side lengths of 1 unit that is used to measure the area of a figure.

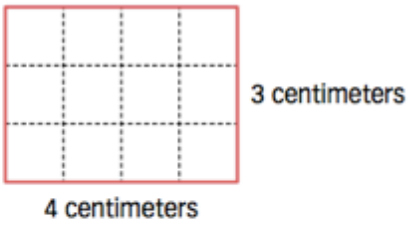
Example

A rectangle has a length of 4 centimeters and a width of 3 centimeters. What is the area?

Fill the rectangle with 1-centimeter squares. There are 4 squares in a row and 3 rows.

You can multiply to find the total number of squares: $4 \times 3 = 12$.

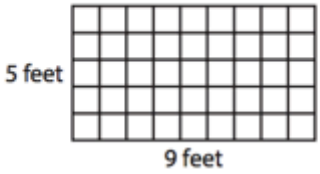
The area is 12 square centimeters.



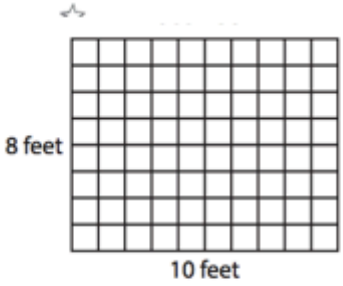
Activity 1

Area Problems

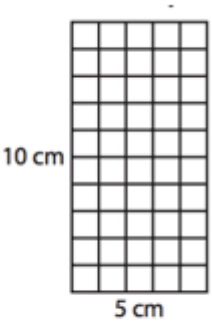
To find the area of a rectangle, I multiply the length times the width.



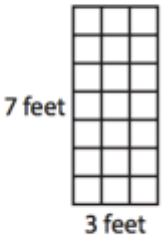
____ ft × ____ ft = ____ square ft



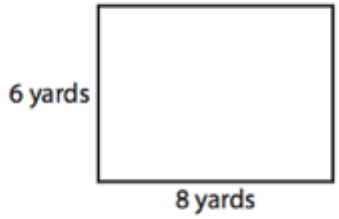
____ ft × ____ ft = ____ square ft



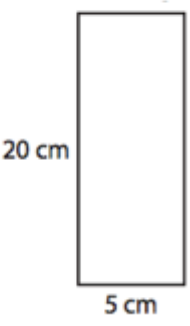
____ cm × ____ cm = ____ square cm



____ ft × ____ ft = ____ square ft



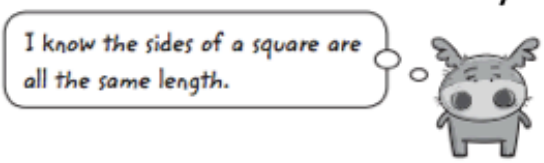
____ yd × ____ yd = ____ square yd



____ cm × ____ cm = ____ square cm

Activity 2

Area Problems



5 inches

____ in. × ____ in. = ____ square in.

10 feet

12 feet

____ ft × ____ ft = ____ square ft

Fina needs 80 square feet of carpet for her room. What is the length of her room?

Fina's Room

8 feet

? feet

Al's pencil box top has an area of 100 square centimeters. What is the length of his box?

Box Top

5 cm

? cm

Draw 2 different rectangles that have an area of 18 square yards. Label the sides.

Draw 2 different rugs that have an area of 12 square feet. Label the sides.

Solving Problems About Area

Activity 3

Read and solve each problem. Show your work.

Nya covers a rectangular tray with 1-square-inch tiles. She uses 42 tiles, arranged in 7 rows. How many tiles are in each row?

There are _____ tiles in each row.

Sara covers the top of a box with squares of paper that are 1 square centimeter. She uses 48 squares, with 6 squares in each row. How many rows did she make?

Sara made _____ rows.

Mr. Reilly uses square pieces of fabric that are each 1 square inch for a rectangular wall hanging. He uses 81 squares. If he makes 9 rows of squares, how many squares will be in each row?

There will be _____ squares in each row.

Jacob uses tiles to cover a rectangular hallway. Each tile has an area of 1 square foot. He uses 3 rows of tiles, with 8 tiles in each row. What is the area of the hallway?

The area of the hallway is _____ square feet.

There are 64 squares on Rasha's chessboard. Each square is 1 square inch. There are 8 rows of squares on her chessboard. How many squares are in each row?

There are _____ squares in each row.

A rectangular patio at an outdoor restaurant is made of 35 tiles. Each tile is 1 square yard. If there are 5 tiles in each row, how many rows are there?

There are _____ rows of tiles.

Choose one problem. Describe the strategy you used to solve it.

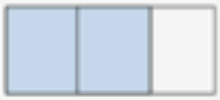
Explain why you chose that strategy to solve the problem.

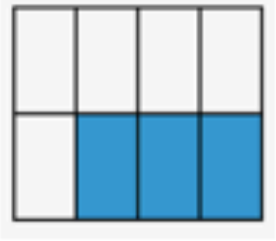
Answer Key for Topic 4- Understanding Area

Activity 1

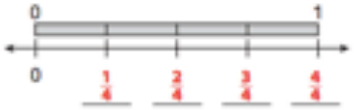
1. $\frac{3}{4}$ 2. $\frac{5}{8}$ 3. $\frac{1}{3}$ 4. $\frac{4}{6}$

5. 

6. 

7. 

Activity 2

1. 

How many equal parts are there in this whole? 4

What fraction does each part show? $\frac{1}{4}$

Label the marks on the number line.

What is another name for 1? $\frac{4}{4}$

D. $\frac{1}{8}$ E. $\frac{4}{8}$ F. $\frac{7}{8}$

Activity 3

1. $\frac{4}{6} = \frac{2}{3}$

2. $\frac{2}{6} = \frac{1}{3}$

   $\frac{2}{3} = \frac{4}{6}$

3. C

4. D

5. What is a fraction equivalent to $\frac{4}{4}$? Explain how you know.

   Answers will vary. Possible answer: $\frac{2}{2}$; If I shaded $\frac{4}{4}$ of a shape, I would shade the whole shape. If I shaded $\frac{2}{2}$ of the same shape, I would also shade the whole shape. $\frac{4}{4}$ and $\frac{2}{2}$ are both equal to 1 whole, so $\frac{4}{4} = \frac{2}{2}$.