LESSON MAKER PRO

Tile It, Multiply It

Use rows of square tiles to find rectangle area.

GRADE 3 · NY-3.MD.7.a

NY-3.MD.7.a "Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths."

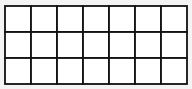
NAME _____ DATE _____

TILES MAKE AREA

Area tells how many equal square tiles cover a rectangle. Count the rows and the tiles in each row, then multiply to find the total number of tiles. The total number of tiles is the area in square units.

WORKED EXAMPLE

Look at the tiled rectangle. Find its area.

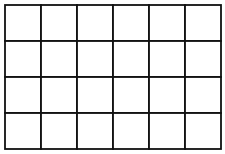


1. There are 3 rows.
2. There are 7 tiles in each row.
3. 3 x 7 = 21 tiles.
4. The area is 21 square units.

Answer: 21 square units

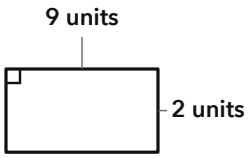
PRACTICE 6 problems

1 Look at the tiled rectangle. Write a multiplication sentence and the area.



ANSWER _____

2 Look at the rectangle. Imagine covering it with unit square tiles. Write a multiplication sentence and the area.



ANSWER _____

3 A game board has 8 rows of square spaces. Each row has 2 spaces. Write a multiplication sentence and find the area.

ANSWER _____

_____

4 A rectangle is 6 units long and 5 units wide. It is covered exactly by unit square tiles. How many tiles cover it? Write a multiplication sentence.

ANSWER _____

_____

5 Mia says an 8 by 4 rectangle has an area of 12 square units because 8 + 4 = 12. Find the correct area. Write a multiplication sentence.

ANSWER _____

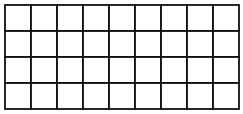
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6 A rectangle has 10 rows of tiles with 9 tiles in each row. Find the area.

ANSWER _____

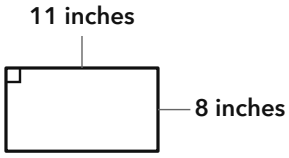
APPLY IT Show your work

1 A reading nook has square floor tiles. The array shows the tiles, and each tile covers 1 square foot. What is the area of the reading nook?



ANSWER _____

2 Look at the rectangular sticker banner. Ava covers the whole banner with 1-square-inch stickers. How many stickers does she need?



ANSWER _____

3 Your teacher gives you six identical square paper tiles. Place them edge to edge, with no gaps or overlaps, to cover a rectangle in 2 rows of 3 tiles. Show your teacher. Trace the outside and draw each tile boundary on paper. Count the unit squares, then write 2 × 3 and its product. Explain why the tile count and multiplication give the same area.

WORK SPACE

ANSWER _____

CHALLENGE One step up

Rectangle A has 4 rows of 10 unit tiles. Rectangle B has 5 rows of 8 unit tiles. Do the rectangles have the same area? Explain with multiplication.

WORK SPACE AND ANSWER

ANSWER KEY

Tile It, Multiply It

GRADE 3 · NY-3.MD.7.a

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Look at the tiled rectangle. Write a multiplication sentence and the area.	**4 x 6 = 24; 24 square units**
2	Look at the rectangle. Imagine covering it with unit square tiles. Write a multiplication sentence and the area.	**9 x 2 = 18; 18 square units**
3	A game board has 8 rows of square spaces. Each row has 2 spaces. Write a multiplication sentence and find the area.	**8 x 2 = 16; 16 square units**
4	A rectangle is 6 units long and 5 units wide. It is covered exactly by unit square tiles. How many tiles cover it? Write a multiplication sentence.	**6 x 5 = 30; 30 tiles**
5	Mia says an 8 by 4 rectangle has an area of 12 square units because 8 + 4 = 12. Find the correct area. Write a multiplication sentence.	**8 x 4 = 32; 32 square units**
6	A rectangle has 10 rows of tiles with 9 tiles in each row. Find the area.	**90 square units**

PART 2 · APPLY IT

1. **36 square feet** There are 4 rows with 9 tiles in each row. Multiply 4 x 9 to get 36 square feet.
2. **88 stickers** The banner is 11 inches by 8 inches. Multiply 11 x 8 to get 88 square inches, so Ava needs 88 stickers.
3. **6 square units; 2 × 3 = 6.** Supply six identical square paper tiles and blank paper. Check actual complete 2-by-3 tiling without gaps/overlaps and the traced rectangular grid. Each tile is one square unit. Both counting six unit squares and multiplying two rows by three squares per row give 6 square units; accept reversed factors with corresponding reasoning.

CHALLENGE

Yes. 4 x 10 = 40 and 5 x 8 = 40, so both rectangles have an area of 40 square units.

Accept multiplication factors in either order. Accept correct area units when students include them. Apply 3 requires actual tile placement and a recorded tiled rectangle, not only imagining tiles or stating a product.

Tile It, Multiply It

Apply 3: completed tiling, 2 rows of 3 unit squares; area 6 square units.

