# Cover It Right

Look for full rectangle coverage with equal units.

**3.GSR.7.1** "Investigate area by covering the space of rectangles presented in realistic situations using multiple copies of the same unit, with no gaps or overlaps, and determine the total area (total number of units that covered the space)."

NAME _____ DATE _____

### COMPLETE COVER

Same-size square units cover every part of the rectangle. There are no gaps and no overlaps.

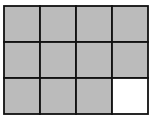
A 2-by-5 rectangle has all 10 square units covering its space.



### NEEDS FIXING

The square units do not cover every part of the rectangle, or units overlap. The cover needs to be fixed.

A 3-by-4 rectangle has one square space left uncovered.



## 1 SORT

8 items

Circle COMPLETE or GAPS for each figure, then choose two figures and tell how you knew.

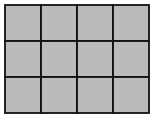
**1.** 

Figure 1

COMPLETE GAPS

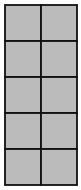
**2.** 

Figure 2

COMPLETE GAPS

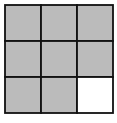
**3.** 

Figure 3

COMPLETE GAPS

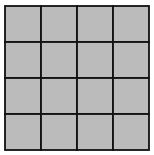
**4.** 

Figure 4

COMPLETE GAPS

**5.**



Figure 5

**COMPLETE** **GAPS**

**6.**

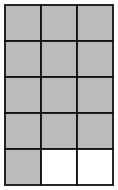


Figure 6

**COMPLETE** **GAPS**

**7.**

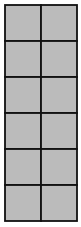


Figure 7

**COMPLETE** **GAPS**

**8.**

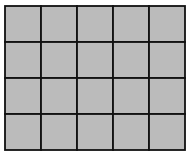


Figure 8

**COMPLETE** **GAPS**

## 2 PROVE IT

Explain your thinking

Pick two items from Part 1. For each one, tell how you knew where it belonged.

**ITEM #** _____ **HOW I KNEW** _____

**ITEM #** _____ **HOW I KNEW** _____

## 3 MAKE YOUR OWN

One of each

Write one new COMPLETE example and one new GAPS example. Then use separate paper to design a rectangular poster mat: draw a rectangle and cover it completely by placing or drawing copies of one same-size square unit, with no gaps or overlaps. Count your actual units and label the area in square units. Make a second version with one uncovered unit space and explain why it needs fixing. Submit both covers; your teacher provides paper, same-size square tiles or a square template and checks the actual coverage.

**COMPLETE**

**GAPS**

**CHALLENGE**

A rectangle is 4 units long and 3 units wide. It is fully covered with same-size square units, with no gaps or overlaps. What is its total area? Explain.

**ANSWER KEY** # Cover It Right

**GRADE 3 · 3.GSR.7.1**

## PART 1 · SORT

| # | ITEM | CATEGORY | WHY |
|---|---|---|---|
| 1 | Figure 1 (array) | **COMPLETE** | All 12 spaces in the 3-by-4 rectangle are covered. |
| 2 | Figure 2 (array) | **COMPLETE** | All 10 spaces in the 5-by-2 rectangle are covered. |
| 3 | Figure 3 (array) | **GAPS** | One of the 9 spaces is not covered. |
| 4 | Figure 4 (array) | **COMPLETE** | All 16 spaces in the 4-by-4 rectangle are covered. |
| 5 | Figure 5 (array) | **GAPS** | Two of the 12 spaces are not covered. |
| 6 | Figure 6 (array) | **GAPS** | Two of the 15 spaces are not covered. |
| 7 | Figure 7 (array) | **COMPLETE** | All 12 spaces in the 6-by-2 rectangle are covered. |
| 8 | Figure 8 (array) | **COMPLETE** | All 20 spaces in the 4-by-5 rectangle are covered. |

## PART 2 · PROVE IT

Accept any explanation that names the deciding feature from the rule box for the chosen item.

## PART 3 · MAKE YOUR OWN (SAMPLE ANSWERS)

- **COMPLETE**: A 3-by-6 rectangle has 18 same-size square units covering all its space.
- **GAPS**: A 4-by-4 rectangle has 15 square units, so one square space is uncovered.

**Challenge:** The rectangle has 12 square units of area. Four rows of 3 unit squares cover all the space.

For Part 2, accept explanations that name covered spaces or uncovered spaces. A complete cover has every square space covered exactly once. For the poster-mat investigation, provide paper and congruent square units/template. Inspect the actual placed or drawn units for equal size and no gaps or overlaps; compare the counted total with the learner's area label. A 3-by-6 complete cover uses 18 units; its one-gap version uses 17 units and needs one more. Verbal examples alone do not complete this added investigation.