

Design a Reading Nook

3rd Grade Math Project · Design & Building

Grade 3 · Advanced

Name: _____ Date: _____ Class: _____

The Challenge

Our class is building a cozy reading nook! You are the designer, and every rug and mat must fit.

You will make: Reading Nook Floor Plan

I can…

- I can find area by counting unit squares and name it in square units.
- I can find the area of a rectangle by multiplying side lengths.
- I can find the area of a rectilinear figure by splitting it into rectangles.

Materials

- Pencil
- Grid paper
- Colored pencils

Steps

1. Part 1: The Rug
2. Part 2: Break Apart the Mat
3. Part 3: The L-Shaped Corner
4. Part 4: Design Challenge
5. Check your work and share your reading nook floor plan.

Part 1: The Rug

The rug is 8 feet long and 6 feet wide. Each grid square is 1 square foot.

1. Draw the rug on grid paper. How many square feet does it cover?

2. Write a multiplication equation for its area.

Part 2: Break Apart the Mat

A floor mat is 9 feet by 12 feet. Split the long side into 7 and 5.

3. Find the area of each part.

4. Add to find the area of the whole mat.

Part 3: The L-Shaped Corner

The corner is 12 feet across the bottom and 9 feet up the left side. The bottom part is 4 feet tall, and the top part is 5 feet wide.

5. Split the corner into two rectangles. Write the area of each.

6. What is the area of the whole corner?

Part 4: Design Challenge

The nook can use at most 73 square feet. You want one rug plus two pillow mats that are 2 by 3 feet.

7. Give rug side lengths so everything fits in 73 square feet. Show the area total.

8. Jaden says the corner is 12 × 9 = 108 square feet. Explain his mistake.

Extension Challenge

Find two different rugs that each cover 24 square feet.

How your project will be scored

Learning target	4 Exceeds	3 Meets	2 Approaching	1 Beginning
I can find area by counting unit squares and name it in square units.	Correct and complete; explains how	Mostly correct	Partly correct	Not yet
I can find the area of a rectangle by multiplying side lengths.	Correct and complete; explains how	Mostly correct	Partly correct	Not yet
I can find the area of a rectilinear figure by splitting it into rectangles.	Correct and complete; explains how	Mostly correct	Partly correct	Not yet
I can explain my thinking with pictures, numbers and words.	Clear for every part	Clear for most parts	Some explanation	Little explanation
My reading nook floor plan is complete and matches my math.	Complete, neat, accurate	Complete	Partly complete	Not complete