# Math Moments that Matter
THIRD GRADE

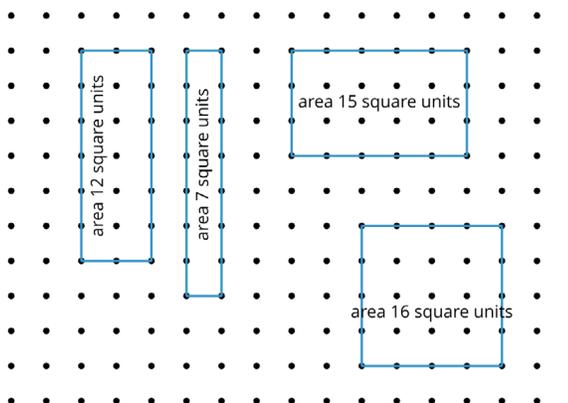## Area and Understanding Multiplication Through Geometry

In 3rd grade, students explore area as a way to describe and measure space. They use tiles, arrays, and drawings to find the area (how much space is inside a shape) of rectangles by counting square units (each small square used for measuring area) or multiplying the side lengths. Through hands-on activities, students connect multiplication to geometry and start to see how area helps describe and compare the size of different shapes.

Students learn about area and perimeter (the distance around the outside) by building shapes they can see and measure. On the geoboard (a pegboard used with rubber bands) in the first image, students use rubber bands to make shapes and count the distance around the outside to explore perimeter. In the second image, students build rectangles with tiles and count how many squares fit inside to find the area, discovering that multiplying the side lengths gives the same result. Seeing both ideas side by side helps students understand how area and perimeter are related but not the same.

EXAMPLE: *Geoboard shape showing perimeter*

perimeter 28 units

perimeter 20 units   perimeter 22 units
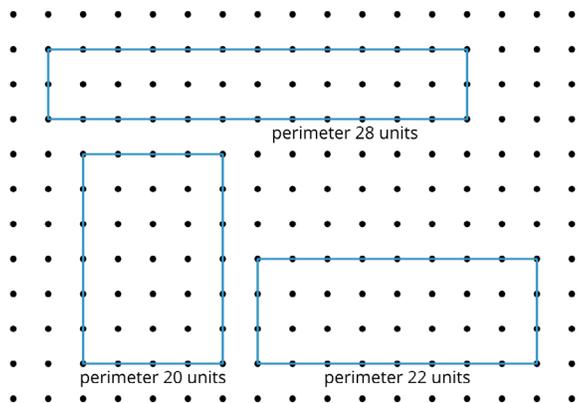
EXAMPLE: *Tiled rectangle showing area*

area 12 square units

area 7 square units

area 15 square units

area 16 square units

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Modeling and Data Analysis in Math

When students explore area, they begin using math to describe and solve real problems. Modeling helps them connect multiplication and geometry to things they can see and measure—like table-tops, notebooks, or floor tiles. They learn to:

- Apply math to real-life situations, such as figuring out how many tiles cover a surface
- Identify important quantities like length, width, and area
- Represent their thinking with drawings, diagrams, arrays, or equations
- Explain what their models show and what the numbers mean
- Compare or refine their models to check whether their answer makes sense

These experiences show students how multiplication and geometry work together to describe the world around them.

What You Might See in the Classroom

Students using tiles, grid paper, and arrays to find the area of rectangles.

Teachers asking:
- "How do you know how many squares cover the shape?"
- "What patterns do you notice?"
- "How is area connected to multiplication?"

Students drawing and labeling arrays to connect area and multiplication.

Students comparing rectangles with the same area but different dimensions.

Students explaining that area measures the space inside a shape using square units.

What You Can Do at Home

Use everyday objects: "Let's cover this book with sticky notes. How many fit across and down?"

Ask: "How can you figure out the area without counting every square?"

Try it: "Draw a rectangle that's 4 units by 6 units. How many squares fit inside?"

Play: "Can you make two rectangles with the same area but different shapes?"

Talk it out: "What does the number of squares tell us about the size of the shape?"

Make it a Math Moment!

We can model the world with math. When students explore area using arrays and rectangles, they're learning how multiplication helps describe the space inside shapes—and how math connects to the world they see every day.

Tap or Scan for Interactive Tools and More Resources!

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