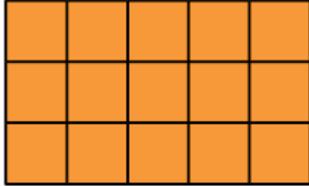# Activity 3 Assessment
Relating Perimeter and Area of Rectangles
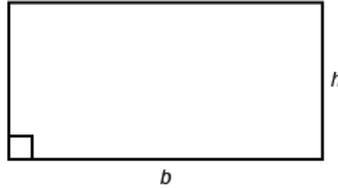
Measuring Area and Perimeter of Rectangles

Recognizes that the perimeter of a rectangle is the distance around and area is the number of tiles that cover it

"Perimeter of rectangle: 3 + 5 + 3 + 5 = 16, 16 units; Area: 3 × 5 = 15, 15 square units."

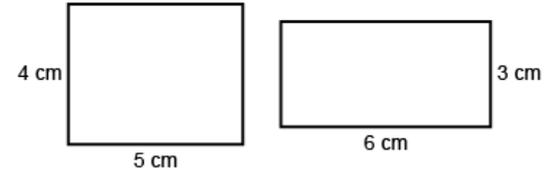Uses algebraic formulas to determine the perimeter and area of a rectangle

"To determine the perimeter of a rectangle, I use the formula $P = 2b + 2h$ and to determine the area, I use the formula $A = b \times h$.
For a rectangle with $b = 6$ m and $h = 3$ m:
Perimeter: 2 × 6 m + 2 × 3 m = 18 m
Area: 6 m × 3 m = 18 m^2."

Compares the perimeters and areas of rectangles

"Both rectangles have a perimeter of 18 cm:
2 × 4 + 2 × 5 = 18; 2 × 6 + 2 × 3 = 18.
The rectangles have different areas:
4 cm × 5 cm = 20 cm^2 and 6 cm × 3 cm = 18 cm^2."

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Measuring Area and Perimeter of Rectangles (cont'd)

|		
Constructs a rectangle with given perimeter/area and explains strategy used	Constructs different rectangles for a given area and describes the rectangle with the least perimeter	Flexibly solves problems involving a given area and/or perimeter in a variety of contexts.

Perimeter = 24 m

4 m

8 m
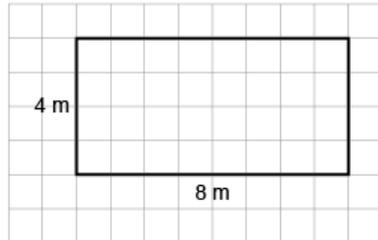
"To construct a rectangle with perimeter 24 m, the sum of the base and height needs to be 24 m ÷ 2 = 12 m. I chose 8 m and 4 m. To determine the area, I multiplied the base by the height: 8 m × 4 m = 32 m^2."

Area = 16 cm^2

1 cm

16 cm

2 cm

8 cm

4 cm

4 cm
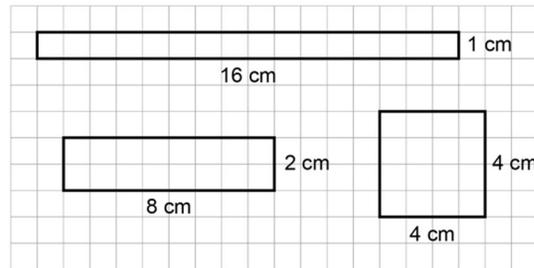
"The rectangle with the least perimeter is a square."
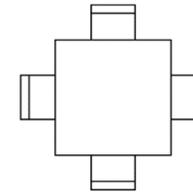
A square table can seat 1 student on each side. 24 tables are pushed together to make 1 large rectangular table. What is the greatest number of students who could be seated?

"For an area of 24 square units, the length and width can be: 1 and 24; 2 and 12; 3 and 8; 4 and 6. For the greatest number of students, the perimeter has to be the greatest, which means its width is the least, 1 unit, and the length is 24 units. The perimeter is 50 units, so 50 students can be seated."

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