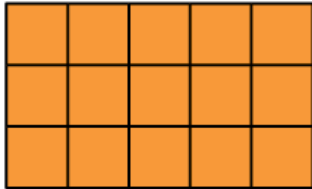


# Activity 4 Assessment

## Relating the Perimeter and Area of Rectangles

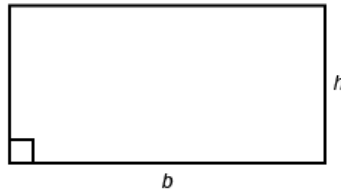
### Measuring Area and Perimeter of Rectangles

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



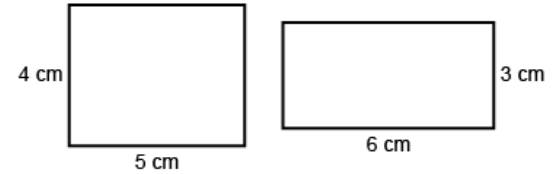
“Perimeter of rectangle:  $3 + 5 + 3 + 5 = 16$ , 16 units; Area:  $3 \times 5 = 15$ , 15 square units.”

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:  $2 \times 6$  m +  $2 \times 3$  m = 18 m  
Area:  $6$  m  $\times$   $3$  m =  $18$  m<sup>2</sup>.”

Compares the perimeters and areas of rectangles.



“Both rectangles have a perimeter of 18 cm:  
 $2 \times 4 + 2 \times 5 = 18$ ;  $2 \times 6 + 2 \times 3 = 18$ .  
The rectangles have different areas:  
 $4$  cm  $\times$   $5$  cm =  $20$  cm<sup>2</sup> and  $6$  cm  $\times$   $3$  cm =  $18$  cm<sup>2</sup>.”

### Observations/Documentation

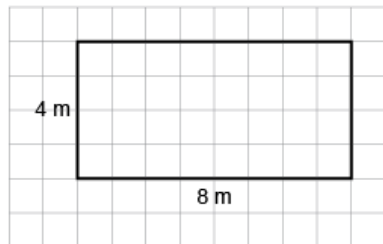
# Activity 4 Assessment

## Relating the Perimeter and Area of Rectangles

### Measuring Area and Perimeter of Rectangles (cont'd)

Constructs a rectangle with given perimeter/area and explains strategy used.

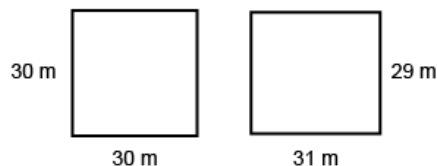
Perimeter = 24 m



“To construct a rectangle with perimeter 24 m, the sum of the base and height needs to be  $24 \text{ m} \div 2 = 12 \text{ m}$ . I chose 8 m and 4 m. To determine the area, I multiplied the base by the height:  $8 \text{ m} \times 4 \text{ m} = 32 \text{ m}^2$ .”

Constructs different rectangles for a given perimeter/area and describes strategies used.

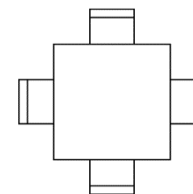
You have 120 m of fencing for a new school playground. Sketch 2 possible rectangles that would be a suitable shape



“I divided 120 m by 2 to get 60 m, the sum of the base and height. A square would have the greatest possible area, so I chose 2 dimensions close in value with a sum of 60 m: 30 m and 30 m; and 29 m and 31 m.

The first playground has area  $30 \text{ m} \times 30 \text{ m} = 900 \text{ m}^2$  and the second playground has area  $31 \text{ m} \times 29 \text{ m} = 899 \text{ m}^2$ .”

Flexibly solves problems involving a given area and/or perimeter in a variety of contexts.



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.”

### Observations/Documentation