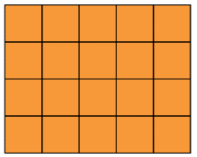
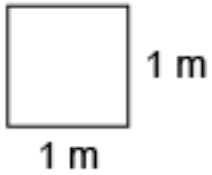
Measurement

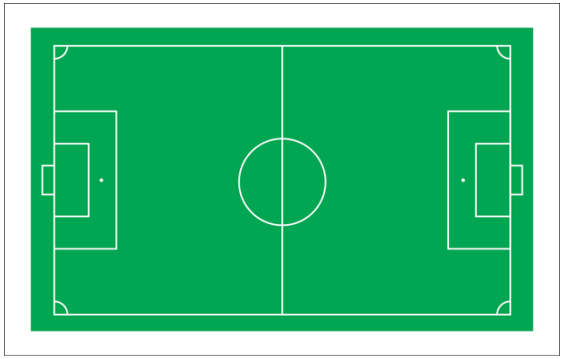
Activity 4 Assessment

Consolidating Area and Perimeter

Relationships Among Standard Units of Area		
Recognizes that area is measured using square units  "I covered the rectangle with square tiles and determined the area to be 20 square units."	Relates a centimetre/metre to a square centimetre/metre  "A square with side length 1 m has an area of 1 m^2."	Expresses the relationship between square centimetres, square metres, and square kilometres "1 m = 100 cm, so 1 m^2 = 100 cm × 100 cm = 10 000 cm^2 1 km = 1000 m, so 1 km^2 = 1000 m × 1000 m = 1 000 000 m^2"
Observations/Documentation		

Measurement

Activity 4 Assessment
Consolidating Area and Perimeter

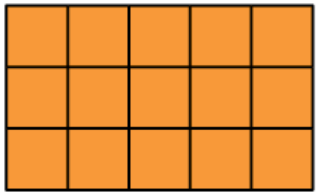
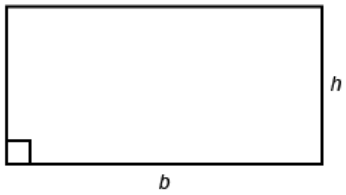
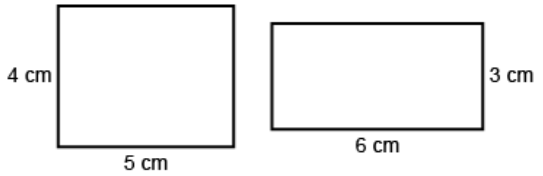
Relationships Among Standard Units of Area (cont'd)		
Identifies which metric unit should be used to measure an area The Classroom Floor "I could use a metre stick to determine the length and width of the classroom. So, I would use a square metre to measure the area of the floor."	Uses benchmarks to estimate area using metric units, then measures to check (square centimetre, square metre) The Classroom Floor "I visualize covering the classroom floor with about 50 tabletops, so I estimate its area to be about 50 m^2. When I measured to check, the classroom was 8 m long and 6 m wide. So, the actual area is 8 m × 6 m = 48 m^2. My estimate was close."	Flexibly chooses an appropriate metric unit to estimate and measure area and explains reasoning  "I'd estimate and measure the area of the soccer field in square metres. I could use square centimetres, but the number would be so large that it would be difficult to relate to."
Observations/Documentation		

Measurement

Activity 4 Assessment

Consolidating Area and Perimeter

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.""
Observations/Documentation		

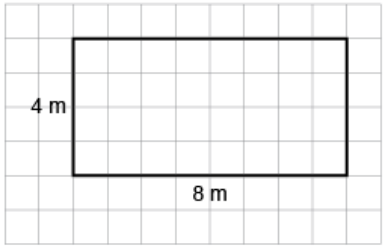
Measurement

Activity 4 Assessment
Consolidating Area and Perimeter

Measuring Area and Perimeter of Rectangles (cont'd)

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

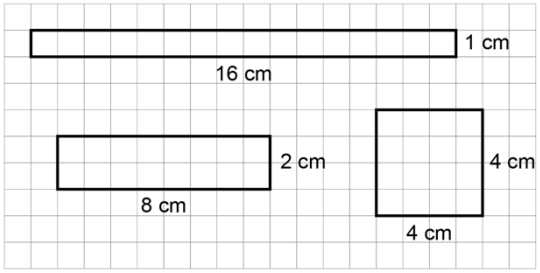
Perimeter = 24 m



"To construct a rectangle with perimeter 24 m, the sum of the base and height needs to be 24 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."

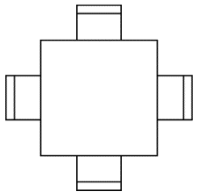
Constructs different rectangles for a given area and describes the rectangle with the least perimeter

Area = 16 cm^2



"The rectangle with the least perimeter is a square."

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