

Year 5 Area and Perimeter

National Curriculum Aims

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Key Vocabulary

Perimeter	The distance around a two-dimensional shape.
Area	The amount of space inside the boundary of a flat (2-dimensional) object
Square centimetre	The amount of space inside the boundary of a flat (2-dimensional) object cm^2
Square Metre	The area equal to a square that is 1 metre on each side. m^2
Rectilinear Shape	A shape all of whose sides meet at right angles. (see diagram)
Irregular shape	A shape does not have all sides equal and all angles equal.
Regular shape	regular when all angles are equal and all sides are equal eg. Square, Pentagon etc
Dimension	A measurement of length in one direction



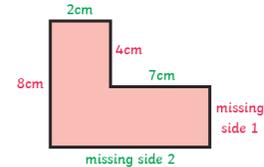
Home Learning

Estimate the perimeter of a room in your house. How can you check your estimate?
Can you calculate the area of a book using a ruler? At home, What could you measure in m^2

Core Knowledge and Representations

Calculate Perimeter

Calculate the missing sides of this rectilinear shape to find the perimeter:



* This shape is not drawn to the dimensions specified.

$$\text{Missing side 1} + 4\text{cm} = 8\text{cm},$$

$$\text{so missing side 1} = 4\text{cm}.$$

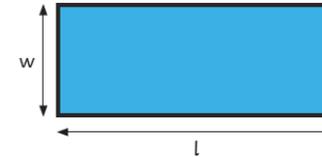
$$\text{Missing side 2} = 2\text{cm} + 7\text{cm} = 9\text{cm}$$

$$\text{Perimeter} = \text{sum of all sides} =$$

$$2\text{cm} + 4\text{cm} + 7\text{cm} + 4\text{cm} + 9\text{cm} + 8\text{cm} = 34\text{cm}$$

Measure Perimeter

Measure the perimeter of a rectangle:



Measure the length (l) and width (w).

$$\text{Perimeter} = l + w + l + w \text{ or } (l + w) \times 2$$

Measure the perimeter of regular shapes:

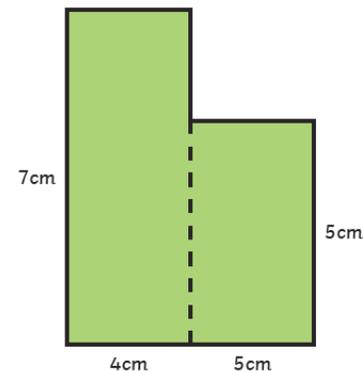


Measure the length (l) and count the number of sides (s) on the shape.

$$\text{Perimeter} = l \times s$$

Area of Compound Shapes

To find the area of a compound shape, divide the shape into rectangles with known dimensions:



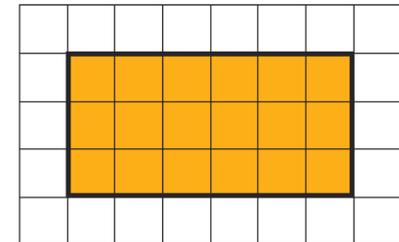
$$\text{Area} = 7\text{cm} \times 4\text{cm} + 5\text{cm} \times 5\text{cm}$$

$$= 28\text{cm}^2 + 25\text{cm}^2$$

$$= 53\text{cm}^2$$

Area of Rectangles

The area of a rectangle on a grid:



$$\text{Multiply the length} \times \text{width}$$

$$= 6 \times 3 = 18 \text{ squares.}$$

The area of a rectangle = length (l) \times width (w).

