

Maths - Year 5

Measurement 3: Calculating area and perimeter

Key Vocabulary

Area	An amount of surface.
Perimeter	The distance around the edge of a shape.
Rectilinear shape	A polygon where all the sides meet at right angles.
Square number	When a number is multiplied by itself, the product is called a square number, e.g. $3 \times 3 = 3^2 = 9$, so 9 is a square number.
Prime number	A whole number with exactly two different factors, which are 1 and itself

Mathematical Skills

- Understand that area is an amount of surface within a shape and perimeter is the distance around the edge of a shape.
- Calculate and compare the area of rectangles based on their dimensions.
- Use factors to discover possible dimensions of a shape with a specified area.
- Use knowledge of prime numbers to determine when only one set of dimensions are possible in a specified area.
- Calculate perimeter in centimetres based on the properties of a shape, e.g. working out and adding side lengths of rectilinear shapes.
- Understand units of area e.g. square centimetres, as squares of a given side length e.g. 10cm.
- Calculate the area of composite shapes, either by dividing into component rectangles and adding areas, or by subtracting a missing area from an imagined larger shape.

Mathematical Methods

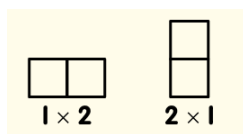
- Exploring area and perimeter of rectangles.

4×6

Perimeter:
 $6 + 4 + 6 + 4 = 20$
 $2 \times (6 + 4) = 20$
 $(2 \times 6) + (2 \times 4) = 20$

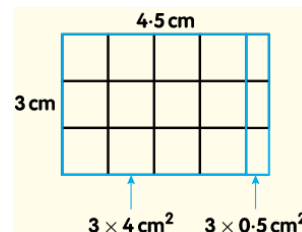
Array	Area	Perimeter
1×24	24	50
2×12	24	28
3×8	24	22
4×6	24	20

- Using the areas of rectangles to explore factors and square and prime numbers.

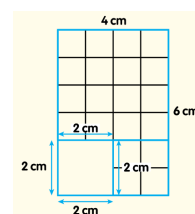
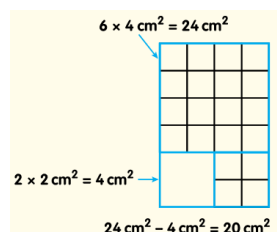
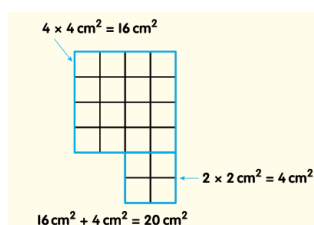


Number of chocolates	Array	Diagram	
		Area	Perimeter
1	1×1	1 cm^2	4 cm
2	1×2	2 cm^2	6 cm
3	1×3	3 cm^2	8 cm
4	1×4	4 cm^2	10 cm
	2×2	4 cm^2	8 cm
5	1×5	5 cm^2	12 cm

- Understanding the area and perimeter of a rectangle.



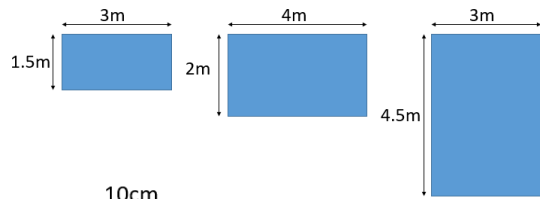
- Finding the area and perimeter of composite shapes.



Can you..?

- If a rectangle is made with 60 centimetre squares. What perimeter could it have?

- How much glass would a builder need for these 3 windows in total?



- Calculate the perimeter and area of the shape.

