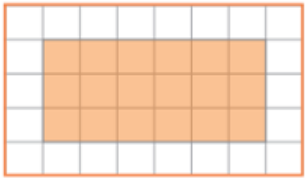
# Year 6 Perimeter, Area and Volume

| Key Vocabulary |
| --- |
| perimeter |
| area |
| volume |
| cubic units (e.g. $cm^3$) |
| cuboid |
| width |
| length |
| rectangle |
| rectilinear |
| parallelogram |
| perpendicular height |

## Area of Rectangles

**length × width = area of a rectangle**



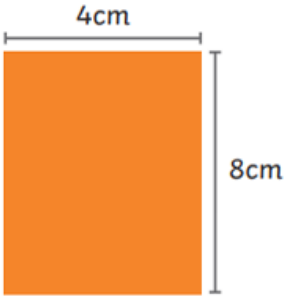
**Counting squares:**

area = 18cm²

**Use formula:**

6cm × 3cm

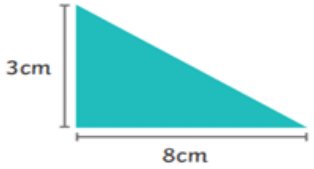
area = 18cm²




8cm × 4cm area = 32cm²

## Area of Triangles

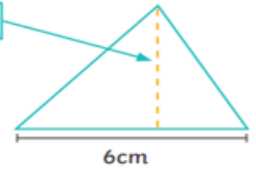
**base × perpendicular height ÷ 2 = area of a triangle**




8cm × 3cm ÷ 2

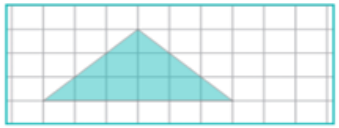
area = 12cm²

**perpendicular height** = 5cm




6cm × 5cm ÷ 2

area = 15cm²



**Counting squares:**

6 whole squares = 6cm²

6 half squares = 3cm²

6cm² + 3cm² = 9cm²

area = 9cm²

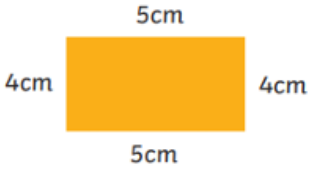
**Using formula:**

6cm × 3cm

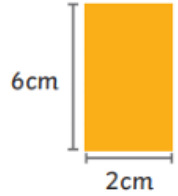
÷ 2 = 9cm²

## Perimeter of Rectangles

perimeter = length + width + length + width or (length + width) × 2



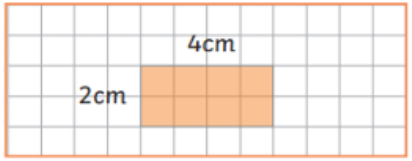

5cm + 4cm + 5cm + 4cm
area = 18cm²



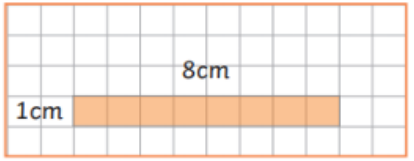

(6 + 2) × 2
area = 16cm²

## Perimeter and Area

Shapes with the same area can have different perimeters.

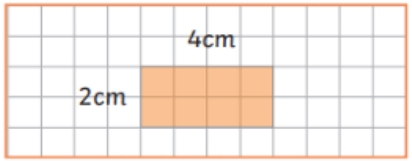



area = 8cm² perimeter = 12cm

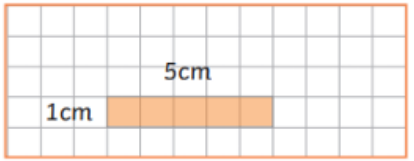



area = 8cm² perimeter = 18cm

Shapes with the same perimeter can have different areas.




area = 8cm² perimeter = 12cm

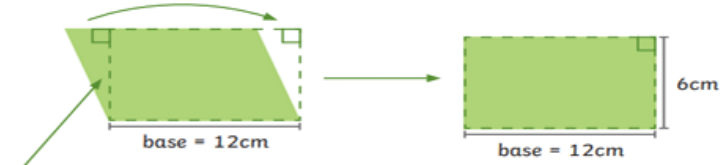



area = 5cm² perimeter = 12cm

## Area of Parallelograms

base × perpendicular height = area of a parallelogram

A parallelogram can be transformed into a rectangle.

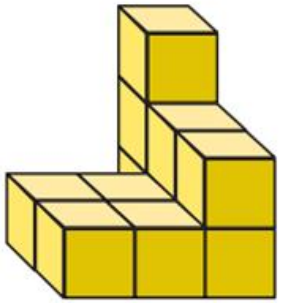



perpendicular height = 6cm

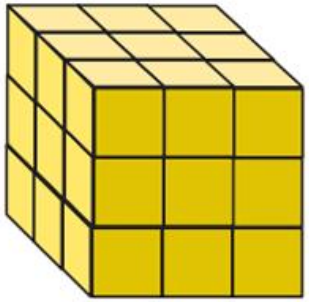
12cm × 6cm = 72cm²

## Volume – Counting Cubes

= $1cm^3$



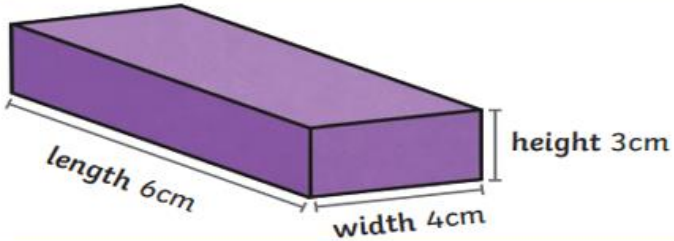
$11cm^3$



$27cm^3$

## Volume of Cuboids

**length × width × height = volume of a cuboid**




Multiply dimensions in **any** order:
3cm × 6cm × 4cm
volume = $72cm^3$