# Year 6 Area, Perimeter and Volume

| Key Vocabulary |
|---|
| perimeter |
| area |
| volume |
| length |
| width |
| height |
| cubed |
| cubic centimetre |
| cube |
| cuboid |
| faces |
| parallelogram |
| perpendicular |

## Perimeter of Rectangles


Measure the length (L) and width (W)

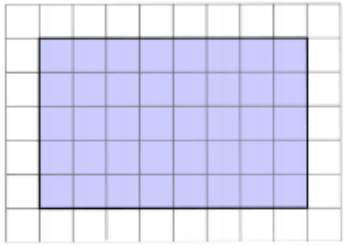
Perimeter = L + W + L + W

Or

Perimeter = (L + W) x 2

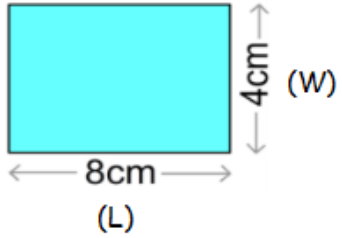
## Area of Rectangles

To work out the area of rectangles on a grid, multiply the length x width.



5 x 8 = 40 squares

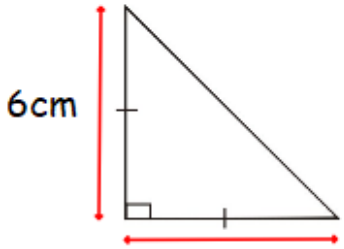
Area of a rectangle = length (L) x width (W)




8cm x 4cm = 32 $cm^2$

## Area of Triangles

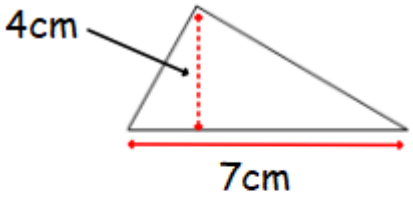
Area of a rectangle = length (L) x width (W)




6cm x 5cm = 30$cm^2$

30cm ÷ 2 = 15$cm^2$

Area = 15$cm^2$



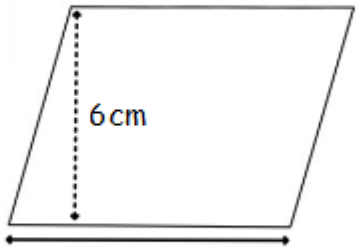

4cm x 7cm = 28$cm^2$

28cm ÷ 2 = 14$cm^2$

Area = 28$cm^2$

## Area of Parallelograms

Area of a parallelogram = base x perpendicular height ÷ 2




8cm x 6cm = 48$cm^2$

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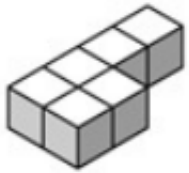
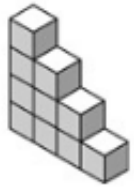
## Volume - Counting Cubes



6 cm $^3$

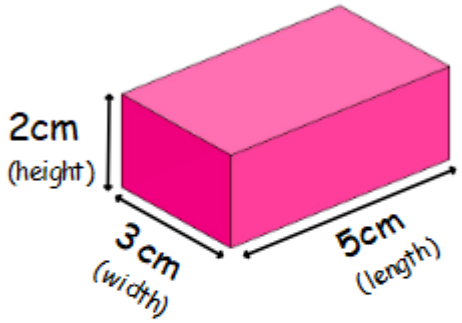


10 cm $^3$

8 cm $^3$

Difference between Volume and Capacity:
**Capacity** is the amount of liquid a container can hold.
**Volume** is how much space an object takes up.

## Volume of Cuboids




To find the volume of cuboids multiply the dimensions in **any** order:

2cm x 3cm x 5cm = 30 cm$^3$

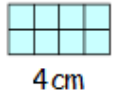
Volume = 30cm$^3$

## Area and Perimeter

You can have shapes with the same perimeter but different areas.

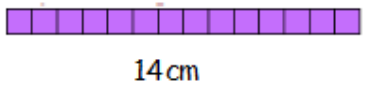
3cm

Perimeter = 12cm  Area = 9cm



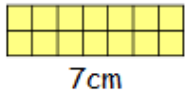

Perimeter = 12cm  Area = 8cm

You can also have shapes with the same area but different perimeters.



14cm

Perimeter = 30cm  Area = 14cm




Perimeter = 18cm  Area = 14cm