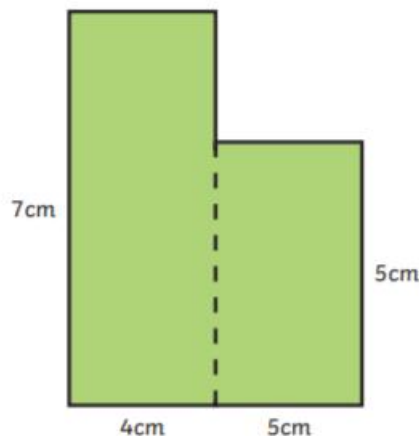


Learning Objectives

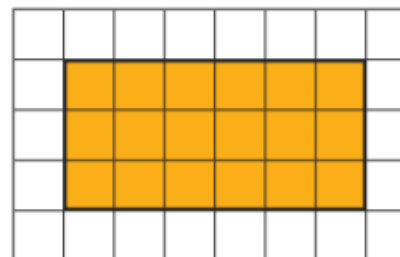
- ❖ To convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre)
- ❖ To understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints
- ❖ To measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres
- ❖ To calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm²) and square metres (m²) and estimate the area of irregular shapes
- ❖ To estimate volume and capacity
- ❖ To solve problems involving converting between units of time
- ❖ To use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.
- ❖ To solve comparison, sum and difference problems using information presented in a line graph
- ❖ To complete, read and interpret information in tables, including timetables.

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



$$\begin{aligned}\text{Area} &= 7\text{cm} \times 4\text{cm} + 5\text{cm} \times 5\text{cm} \\ &= 28\text{cm}^2 + 25\text{cm}^2 \\ &= 53\text{cm}^2\end{aligned}$$

The area of a rectangle on a grid:

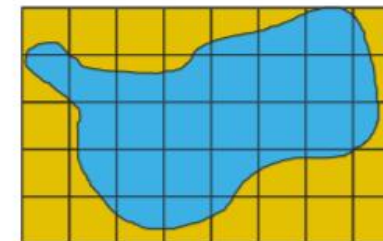


$$\begin{aligned}\text{Multiply the length} \times \text{width} \\ &= 6 \times 3 = 18 \text{ squares.}\end{aligned}$$

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



To find the area of an irregular shape, find the number of whole squares and part squares.



Whole squares = 10
Part squares = 22

$$\begin{aligned}\text{Estimate of area} &= \text{whole squares} + \\ &\quad \text{half part squares} \\ &= 10\text{cm}^2 + 11\text{cm}^2 = 21\text{cm}^2\end{aligned}$$

*There are other ways to estimate the area of irregular shapes.

Volume is measured in cubed units. For example, **cm³**, **m³** and **km³**.

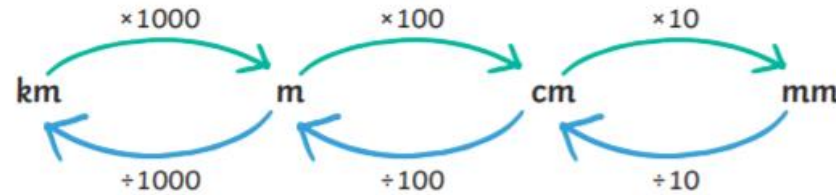
To calculate the volume of cubes and cuboids:

1. Calculate the area of the cross-section (one face).
2. Multiply the area of the cross-section (one face) by its depth.

Key Vocabulary

12-hour time
24-hour time
Roman numerals
Analogue
Digital
Hours
Minutes
Seconds
O'clock
Half past
Quarter past
Quarter to
Midday
Midnight
Noon

Mass
Gram (g)
Kilogram (kg)
Capacity
Volume
Millilitre (ml)
Centilitre (cl)
Litre (l)
Millimetre (mm)
Centimetre (cm)
Metre (m)
Kilometre (km)



1000 metres = 1 kilometre

100cm = 1m

10mm = 1cm

$\frac{1}{10}$ km = 0.1km = 100m

$\frac{1}{4}$ km = 0.25km = 250m

$\frac{1}{2}$ km = 0.5km = 500m

$\frac{3}{4}$ km = 0.75km = 750m

4 p.m.

10 p.m.

16:00

22:00



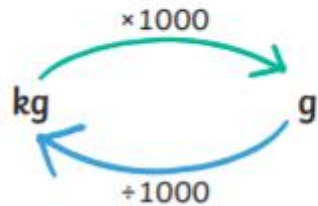
1000g = 1kg

$\frac{1}{10}$ kg = 0.1kg = 100g

$\frac{1}{4}$ kg = 0.25kg = 250g

$\frac{1}{2}$ kg = 0.5kg = 500g

$\frac{3}{4}$ kg = 0.75kg = 750g



1000ml = 1 litre

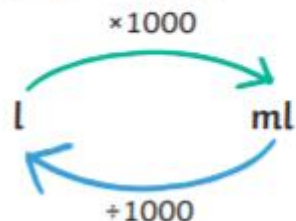
$\frac{1}{10}$ l = 0.1l = 100ml

$\frac{1}{4}$ l = 0.25l = 250ml

$\frac{1}{2}$ l = 0.5l = 500ml

$\frac{3}{4}$ l = 0.75l = 750ml

$\frac{1}{100}$ l = 0.01l = 10ml

**What I Should Already Know:**

- How to convert between different units of measure [for example, kilometre to metre; hour to minute]
- How to measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres
- How to find the area of rectilinear shapes by counting squares
- How to estimate, compare and calculate different measures, including money in pounds and pence
- How to read, write and convert time between analogue and digital 12- and 24-hour clocks
- How to solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.
- How to interpret and present data using bar charts, pictograms and tables
- How to solve one-step and two-step questions [for example, 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables