Year 6 Knowledge Organiser

Interpreting Data

Information can be show in tables, charts or graphs.

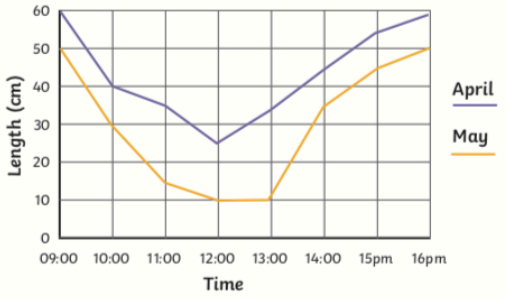
Interpreting data simply means understanding or working out what is being shown by a table, graph or chart and being able to answer questions about that information.

Line Graph

Line graphs are used to show changes to a measurement over time.

Data shown in a line graph is continuous.
Sets of points are joined together to make the line.

A line graph to show the length of shadows over time

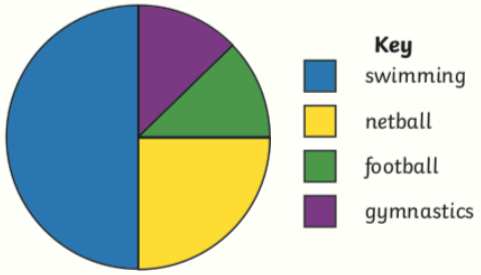


Pie Charts

Pie charts represent discrete data.

A circle is divided into segments, where each segment represents a data category. The size of each segment matches its proportion of the total amount.

A pie chart to show children's favourite sports



24 children were asked in total.

Swimming = $\frac{1}{2}$ so $\frac{1}{2}$ of 24 = 12 children

Netball = $\frac{1}{4}$ so $\frac{1}{4}$ of 24 = 6 children

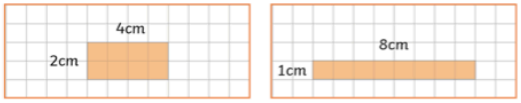
Football = $\frac{1}{8}$ so $\frac{1}{8}$ of 24 = 3 children

Gymnastics = $\frac{1}{8}$ so $\frac{1}{8}$ of 24 = 3 children

Perimeter, Area and Volume — Knowledge Organiser

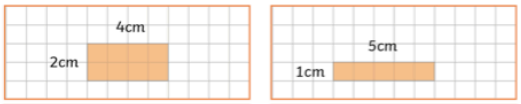
Perimeter and Area

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.

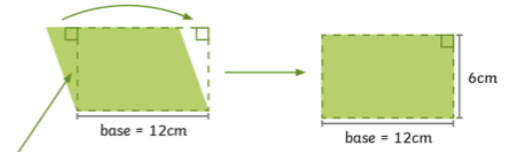


area = 8cm² perimeter = 12cm | area = 5cm² perimeter = 12cm

Area of a Parallelogram

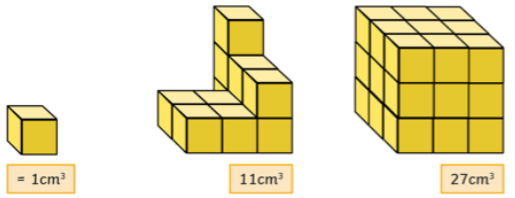
base × perpendicular height = area of a parallelogram

A parallelogram can be transformed into a rectangle.



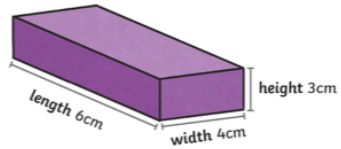
perpendicular height = 6cm | 12cm × 6cm = 72cm²

Volume - Counting Cubes



Volume of Cuboids

length × width × height = volume of a cuboid



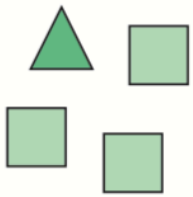
Multiply dimensions in **any** order:
3cm × 6cm × 4cm
volume = 72cm³

Ratio and Fractions

For every 1 rugby ball, there are 2 footballs.

Ratio of rugby balls to footballs: 1:2

$\frac{1}{3}$ of the balls are rugby balls.



For every 1 triangle, there are 3 squares.

Ratio of triangles to squares: 1:3

$\frac{1}{4}$ of the shapes are triangles.

Dividing Fractions by Whole Numbers

$$\frac{2}{5} \div 2 = \frac{1}{5}$$

Multiplication and division are the inverse of one another so:

÷ 2 is the same as × $\frac{1}{2}$

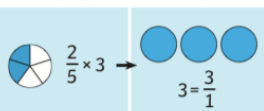
$$\frac{2}{5} \times \frac{1}{2} = \frac{2}{10}$$

Multiplying Proper Fractions

Multiplying Fractions by Fractions

$$\frac{1}{2} \times \frac{1}{3} = \frac{1}{2} \times \frac{1}{3} = \frac{1}{6}$$

Multiplying Fractions by Whole Numbers



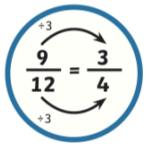
$$\frac{2}{5} \times \frac{3}{1} = \frac{6}{5} = 1\frac{1}{5}$$

Simplify Fractions

$\frac{9}{12}$

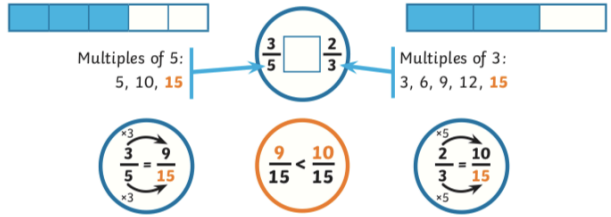
Factors of 9: 1, 3, 9

Factors of 12: 1, 2, 3, 4, 6, 12



Compare and Order Fractions

Use the Common Denominator



Use the Common Numerator