Somerset Bridge Primary School
Aspire - Brave - Care - Collaborate

Maths: Summer Y5 Number: Decimals

Decimal Numbers as Fractions

$$0.71 = \frac{71}{100} = \frac{7}{10} + \frac{1}{100}$$

$$0.37 = \frac{37}{100} = \frac{3}{10} + \frac{7}{100}$$

Order and Compare Numbers with Three Decimal Places

Ones	Tenths	Hundredths	Thousandths
	$\frac{1}{10}$ $\frac{1}{10}$	$\frac{1}{100}$	$\frac{1}{1000}$ $\frac{1}{1000}$ $\frac{1}{1000}$

0 . 2 1 3

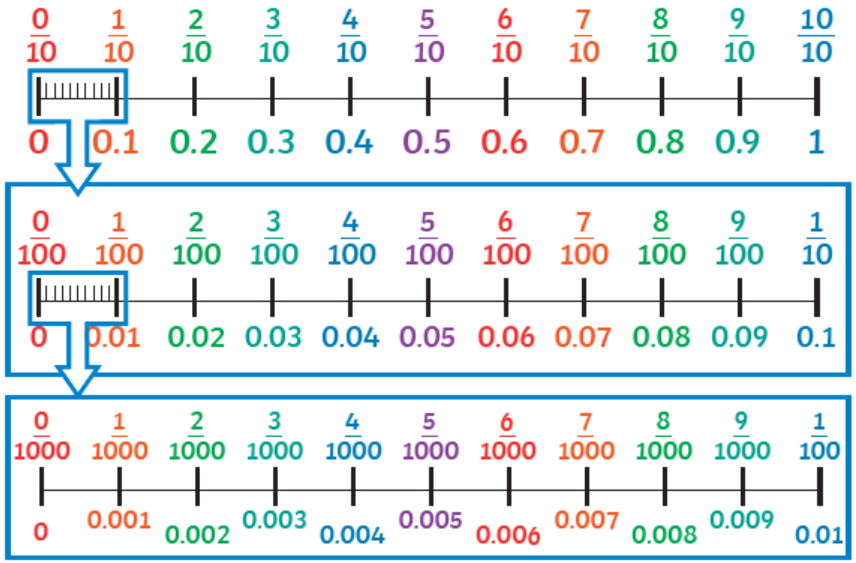
Ones	Tenths	Hundredths	Thousandths
1		$\frac{1}{100}$ $\frac{1}{100}$	$\frac{1}{1000}$ $\frac{1}{1000}$

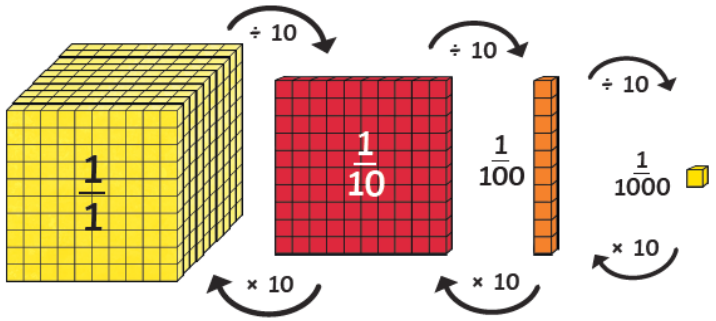
1 . 0 2 2

Ones	Tenths	Hundredths	Thousandths
1 1	$\frac{1}{10}$		$\frac{1}{1000}$ $\frac{1}{1000}$ $\frac{1}{1000}$

2 . 1 0 3

Tenths, Hundredths and Thousands





Key Vocabulary

		✓
Tenths	First digit to the right of the decimal point.	
Decimal Tenths	The first digit to the right of the decimal point. 0.1	
Hundredths	A single part of something that has been divided into a hundred parts.	
Decimal Hundredths	The number that is 2 places to the right of the decimal point. 0.01	
Decimal Equivalents	Equivalent decimals are decimal numbers that have the same value.	
Rounding	Making a number simpler but keeping its value close to what it was.	
Decimal point	A point or dot used to separate the whole part of a number from the fractional part.	
Part-whole model	A pictorial representation of a problem that helps you see the relationships between numbers.	

Decimals on a number line.

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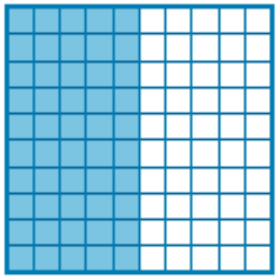
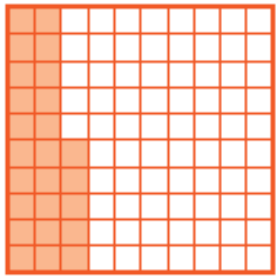
Maths: Summer Y5
Number: Decimals

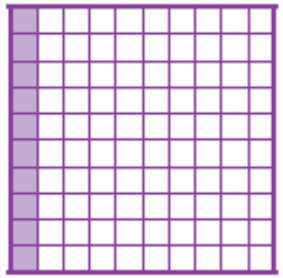
Percentage and Decimal Equivalents



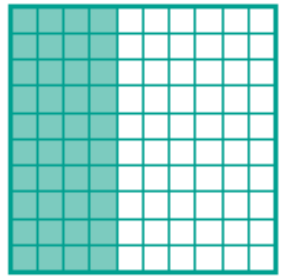
$50\% = \frac{50}{100} = \frac{1}{2} = 0.5$



$25\% = \frac{25}{100} = \frac{1}{4} = 0.25$



$10\% = \frac{10}{100} = \frac{1}{10} = 0.1$

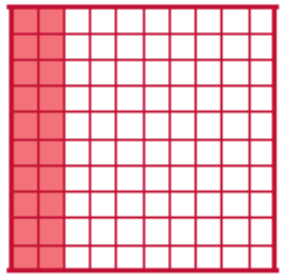


$40\% = \frac{40}{100} = \frac{2}{5} = 0.4$

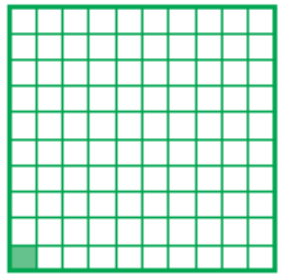
Crossing the Whole

$0.82 + 0.63 = 1.45$

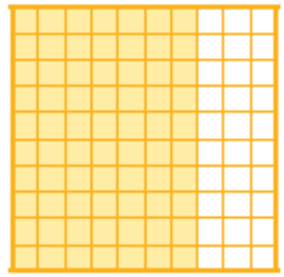
$2.531 - 0.6 = 1.931$



$20\% = \frac{20}{100} = \frac{1}{5} = 0.2$



$1\% = \frac{1}{100} = 0.01$

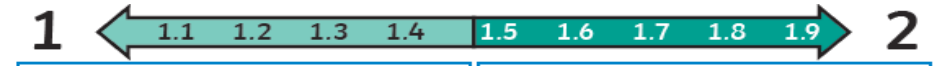


$70\% = \frac{70}{100} = \frac{7}{10} = 0.7$

Comparing Decimals ✓

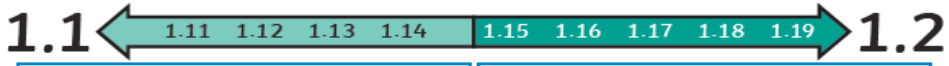
$0.927 > 0.561$

Rounding



If the tenths digit is 1, 2, 3 or 4, we round down to the nearest whole number.

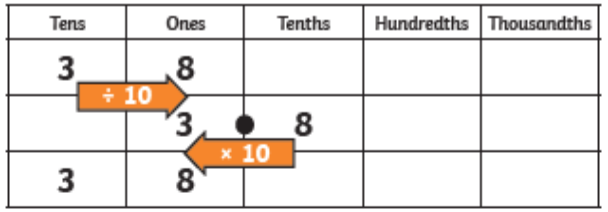
If the tenths digit is 5, 6, 7, 8 or 9, we round up to the nearest whole number.

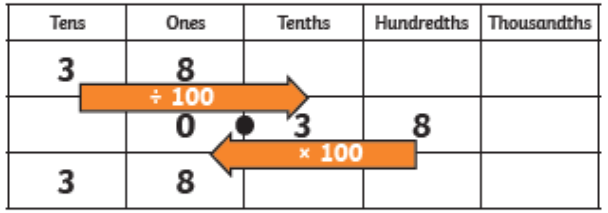


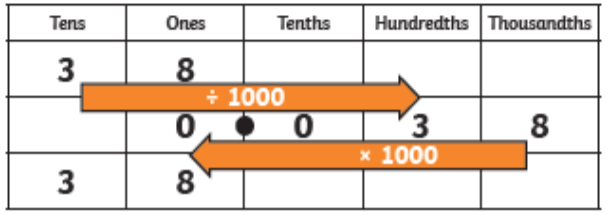
If the hundredths digit is 1, 2, 3 or 4, we round down to the nearest tenth.

If the hundredths digit is 5, 6, 7, 8 or 9, we round up to the nearest tenth.

Multiplying and Dividing by 10, 100 and 1000







Adding and Subtracting Decimals

$0.8 + 0.001 = 0.801$

$1.031 - 0.23 = 0.801$

$0.4005 + 0.4005 = 0.801$

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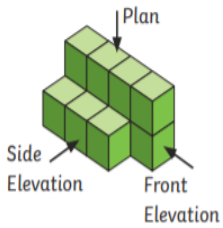
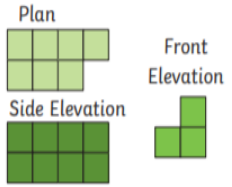
Maths: Summer Y5 Geometry: Properties of Shape

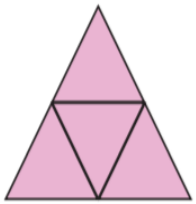
Representations

Cube models can be drawn as 2D representations using different elevations.



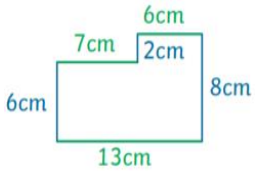


A shape net is a 2D drawing of an unfolded 3D shape. When you are drawing or reasoning about shape nets, think carefully about where the edges of the faces meet.



Shape net of a tetrahedron.

Using Properties of Rectangles



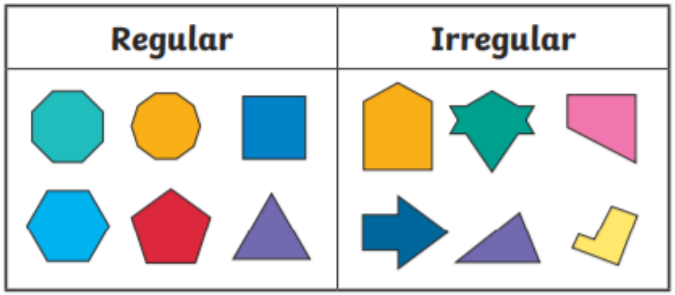
6cm + 2cm = 8cm

7cm + 6cm = 13cm

Properties of Shape

Name	Surfaces		Edges		Vertices	Picture
	Flat	Curved	Flat	Curved		
cube	6	0	12	0	8	
cuboid	6	0	12	0	8	
square-based pyramid	5	0	8	0	5	
tetrahedron	4	0	6	0	4	
triangular prism	5	0	9	0	6	
pentagonal prism	7	0	15	0	10	
hexagonal prism	8	0	18	0	12	
octagonal prism	10	0	24	0	16	
octahedron	8	0	12	0	6	

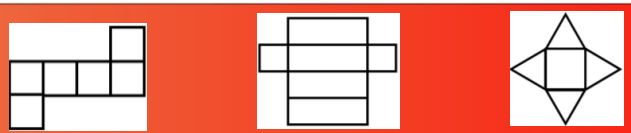
Regular and Irregular Polygons



Key Vocabulary ✓

Right angle	An angle that measures exactly 90°.
Acute	An angle that is smaller than a right angle.
Obtuse	An angle that is greater than a right angle.
Reflex	Angle greater than 180°
Parallel	2 lines, side by side that have the same distance between them.
Perpendicular	When 2 lines are at right angles to each other.
Polygon	A 2D shape with straight sides.
Regular	Regular shapes have sides that are all equal and interior (inside) angles that are all equal.
Irregular	Irregular shapes have sides and angles of any length and size.
2D	2 Dimensions, such as width and height.
3D	3 Dimensions, such as width, height and depth.

3D Nets: The net of a 3D shape is **what it looks like if it is opened out flat**. A net can be folded up to make a 3D shape.



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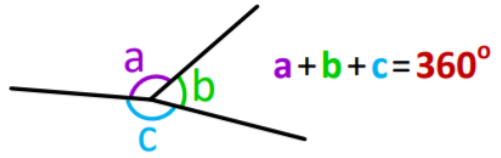
Maths: Summer Y5 Geometry: Properties of Shape

All the angles around a point will add up to 360°



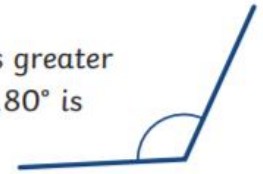
Identifying Angles

Acute Angles

Any angle that measures less than 90° is called an **acute** angle.

Obtuse Angles

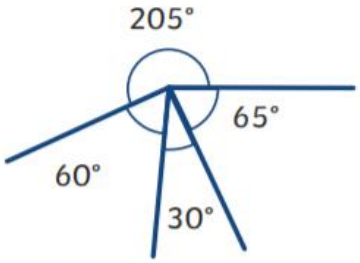
Any angle that measures greater than 90° and less than 180° is called an **obtuse** angle.



Reflex Angles

Any angle that measures greater than 180° is called a **reflex** angle.

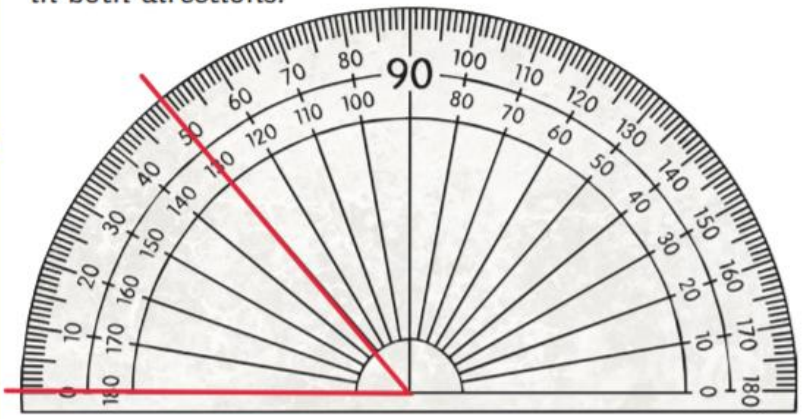
Angles on a straight line always total 180°.



Angles around a point always total 360°.

Measuring and Drawing Angles

To measure angles, we use a protractor. Look carefully at how the numbers on the scale count from 0° to 180° in both directions.



Multiples of 90° can be used as descriptions of a turn.

$\frac{1}{4}$ turn - 90°

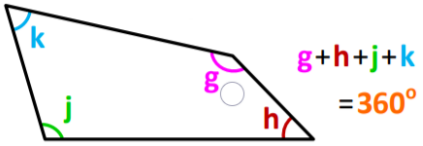
$\frac{1}{2}$ turn - 180°

$\frac{3}{4}$ turn - 270°

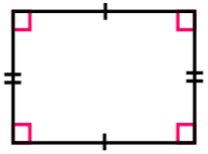
1 turn - 360°

Angles in Quadrilaterals

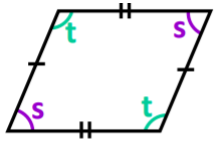
The interior angles in a quadrilateral always add up to 360°.



Rectangles (including squares) have four 90°.



Parallelograms (including rectangles and rhombuses) the opposite angles are equal.



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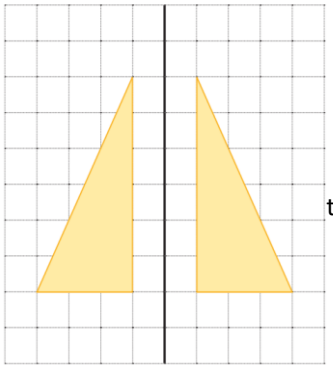
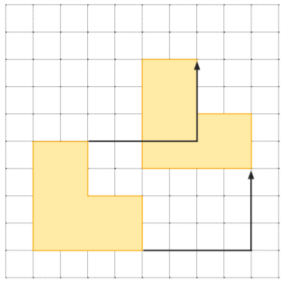
Maths: Summer Y5 Geometry: Position and Direction

Reflection



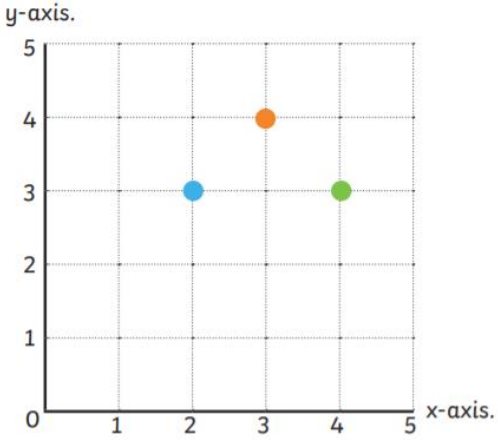
A shape is reflected when flipped over a mirror line. The reflected image is congruent to the original. This means that the measurements of the sides and angles have not changed.

Translation



Translation means moving an object on a grid. The object is moved without changing the size, turning or reflecting it. When translating an object on a grid, it can move up or down, left or right.

Position in the First Quadrant

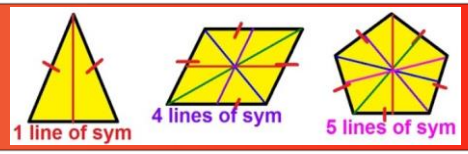


Coordinates are a useful way to locate a position on a map or grid. The numbers across the horizontal line of the grid are on the **x-axis.** The numbers on the vertical line of the grid are on the y-axis. We always read or write the number on the x-axis before the **y-axis**. The x and y position are written in brackets with a comma. The coordinate of the blue spot is **(2,3).**

To help you remember which point to read or write first, simply remember to move 'along the corridor and up the stairs'. In other words, move on the x-axis and then move on the y-axis.

Key Vocabulary		✓
Coordinate	A set of values that show an exact position.	
Quadrant	Any of the 4 areas when we divide up a grid by an x and y axis.	
X-axis	Horizontal line on the grid.	
Y-axis	Vertical line on the grid.	
Translation	Moving a shape without rotating or flipping it.	
Reflection	An image or shape as it would be seen in a mirror.	
Line of symmetry	Also called a mirror line. A line that divides an object into two mirror image halves. The line can be vertical, horizontal or diagonal.	
Horizontal	A straight line that goes across from left to right.	
Vertical	A straight line that goes up and down.	

A line of symmetry is **a line that cuts a shape exactly in half**. This means that if you were to fold the shape along the line, both halves would match exactly.



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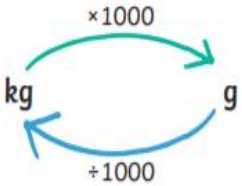
Maths: Summer Y5
Measurement: Converting Units

Converting Mass



1000g = 1kg

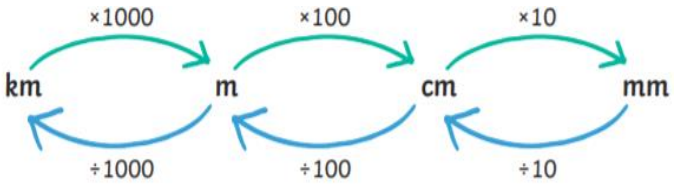
$\frac{1}{10}$kg = 0.1kg = 100g

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

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

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

Converting Lengths



1000 metres = 1 kilometre

100cm = 1m

10mm = 1cm

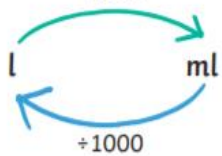
$\frac{1}{10}$km = 0.1km = 100m

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

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

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

Converting Capacity



1000ml = 1 litre

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

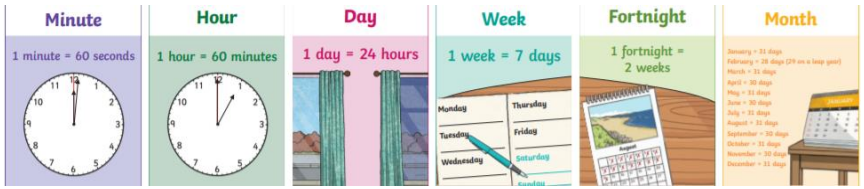
$\frac{1}{4}$l = 0.25l = 250ml

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

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

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

Converting Time



Key Vocabulary		✓
Mass	The weight of an object.	
Gram	A unit of weight. 1000grams = 1 kilogram	
Kilogram	A unit of weight.	
Capacity	When measuring how much fluid fits inside a container.	
Volume	The amount of space within a container.	
Millilitre	A unit to measure fluid. There are 1000ml in a litre.	
Centilitre	A unit to measure fluid. There are 100cl in a litre.	
Litre	A unit to measure fluid. The same as 1000ml.	
Millimetre	One thousandth of a meter.	
Centimetre	One hundredth of a meter.	
Meter	Equal to 100 centimeters.	
Kilometre	1 kilometer is equal to 1000 meters.	

1ml = 0.001 litre. 1cm = 0.01 meter. 1km = 1000km

1 minute = 60 seconds. 1 hour = 60 minutes = 3600 seconds. 1 day = 24 hours. 1 week = 7 days. 1 year = 365 day (for the earth to travel once around the sun.

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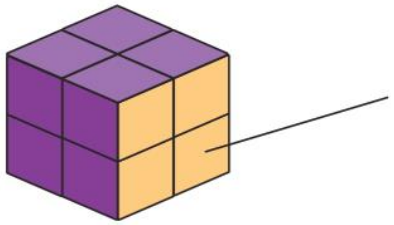
Maths: Summer Y5
Measurement: Volume

Volume of Cubes and Cuboids

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

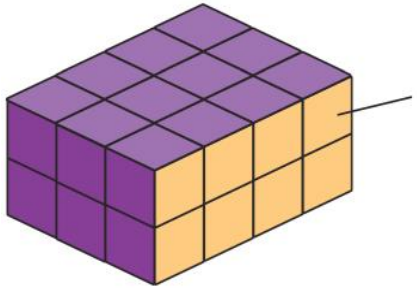
To calculate the volume of cubes and cuboids:

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



Area of cross section (face) = 2cm × 2cm = 4cm²

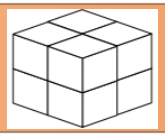
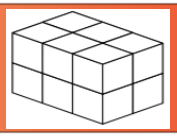
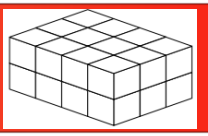
4cm² × 2cm = Volume of 8cm³



Area of cross section (face) = 4cm × 2cm = 8cm²

8cm² × 3cm = Volume of 24cm³

Key Vocabulary		✓
Cubed	3x3x3=27. 27 is a cubed number.	
Area	The amount of space taken up by a 2D shape.	
Cross-section	A view inside something made by cutting through it.	
Prism	3D shape that has two identical shapes facing one another. The shapes that make up the bases can be any polygons. There are lots of types of prisms.	
Cube	A box shaped solid object with 6 identical square faces.	
Cuboid	A cuboid is a solid shape with six rectangular surfaces or four rectangular and two square surfaces.	
Face	Flat surface of a solid object.	
Length	The distance from point to point	
Height	The distance from the top to the base.	
Width	The distance of the side of an object.	
Depth	The distance from the top or surface of something to its bottom.	

Volume  = 8cm³  = 12cm³  = 24cm³

Somerset Bridge Primary School
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Maths: Summer Y5: Statistics

Reading and Understanding Tables

A table to show ticket prices at a local cinema.

Ticket Type	Weekday Price	Weekend Price
Adult	£6	£7.50
Child	£4	£4.50
Student	£5.50	£6

In order to understand the data presented in a table, you must read the **table's title** and the **headings**. Remember to always look at the heading that **each piece of information** falls under.

Table

Here is a table showing the favourite drink flavours of some children.

	Boys	Girls	Total
Orange	8		18
Blackcurrant		6	
Total	15		

To find how many boys voted for blackcurrant, look at the total number of boys who voted and subtract the number of votes for orange.

To find how many girls voted for orange, look at the total number of votes for orange and subtract the number of votes from boys.

To find the total number of votes for blackcurrant, the total number of girls or the total number of voters, simply add up the values from the appropriate row or column.

Timetables

Three different buses

Bus stop locations				
Mill Road	0726		0842
High Street	0729	0803	
Pitsmoor Road	0759	0833	
Fulwood	0845	0919	0946

The bus starts at this time and location.

The bus does not stop here.

The bus terminates at this time and location.

Key Vocabulary ✓

Data	Information gathered.
Continuous data	Continuous data is data that can take any value. Height, weight, temperature and length are all examples of continuous data. Some continuous data will change over time.
Horizontal	A straight line that goes across from left to right.
Vertical	A straight line that goes up and down.
Interpret	Explain the meaning of.
Line graph	A graph that uses line to connect individual data points.
Maximum value	The value that has reached the highest point.
Minimum value	The value that has reached the lowest point.
Scale	The system of marks at fixed intervals.
Survey	A method of collecting data.

Tally = Is a way of keeping count by drawing marks. Every fifth mark is drawn across the previous 4 marks. E.g. 27 = 𝍸 𝍸 𝍸 𝍸 𝍸 ||

Somerset Bridge Primary School

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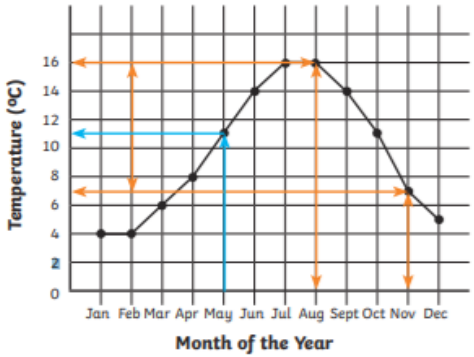
Maths: Summer Y5: Statistics

Read and Interpret Line Graphs

Here is a line graph showing the average temperature for each month.



The x-axis shows the months of the year.

The y-axis shows temperature in intervals of 2°C on a scale of 0°C to 16°C.

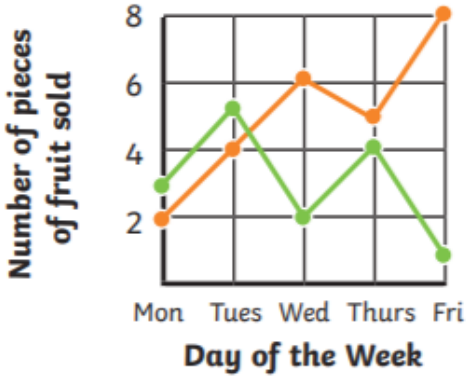
The points show the average temperature for each month.

Draw Line Graphs

Here is a table showing the number of different types of fruit sold each day.

	Bananas	Apples
Mon	2	3
Tues	4	5
Wed	6	2
Thurs	5	4
Fri	8	1

This graph can be used to represent the data from the table.



Mark each point for the number of bananas sold each day and join each point with a line.

Mark each point for the number of apples sold each day and join each point with a line.

Use Line Graphs to Solve Problems

To find the average temperature in May, follow the arrow up from May and across to the temperature. As this is halfway between 10ºC and 12ºC, the average temperature in May is 11ºC.

To find the difference between the average temperatures in August and in November, find the temperature for each month and calculate the difference between the two. The shape of the line graph can show how the temperature changed. The average temperature falls 9ºC from August to November.