



Somerset Bridge Primary School  
Aspire - Brave - Care - Collaborate

# Maths: Summer Y6: Statistics

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.

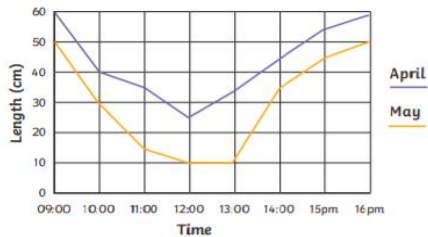
## Frequency Table

Eye Colour	Tally	Frequency
brown		6
blue		8
green		3
grey		4
hazel		5

Tally marks are used to help count things. Each vertical line represents one unit. The fifth tally mark goes down across the first four to make it easier to count.

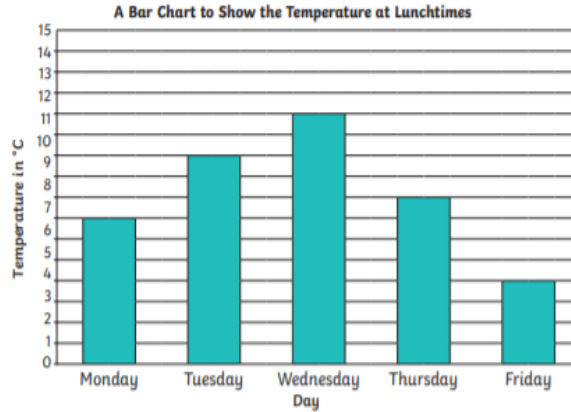
## Line Graph

A line graph to show the length of shadows over time



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.

## Bar Chart

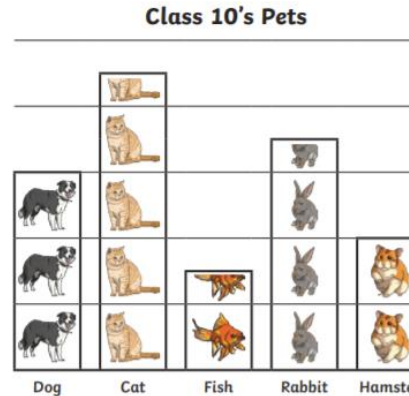


A bar chart has a horizontal axis and a vertical axis. Bars show the data value of each category. There must be a gap between each bar. The scale of the bar chart is chosen based on the data range.

## Pictograms

This graph uses pictures or symbols to represent the data. The pictogram uses one picture of symbol to represent a value.

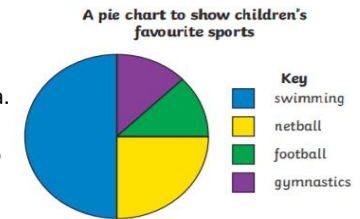
□ = 4 Children



## Key Vocabulary

Pie chart	A chart that uses 'pie slices' to show data.
Discrete data	Information that we collect that can be counted and that only has a certain number of values.
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
Interpret	Explain the meaning of.
Mean average	To find the mean add up all the numbers, then divide by how many numbers there are.

Pie charts represent discrete data. A circle is divided into segments, where each segment represent a data category.



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

## The mean average:

The mean is the average of a set of data. Add all the values to find the total. Divide the total by the number of values added together.

12	15	10	8	15
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$$12 + 15 + 10 + 8 + 15 = 60$$

$$60 \div 5 = 12$$

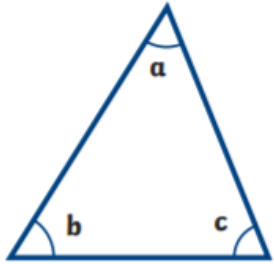
The mean of this data is 12.



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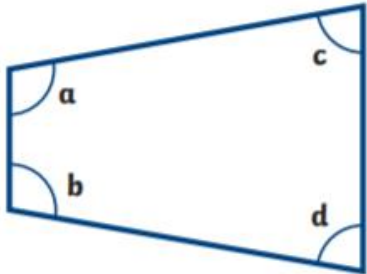
# Maths: Summer Y6 Geometry: Properties of Shape

## Angles in a Triangle



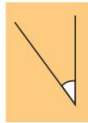
$$a + b + c = 180^\circ$$

## Angles in a Quadrilateral



$$a + b + c + d = 360^\circ$$

## Angle Types



### Acute Angles

Any angle that measures less than  $90^\circ$  is called an **acute** angle.



### Obtuse Angles

Any angle that measures greater than  $90^\circ$  and less than  $180^\circ$  is called an **obtuse** angle.



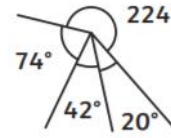
### Reflex Angles

Any angle that measures greater than  $180^\circ$  is called a **reflex** angle.

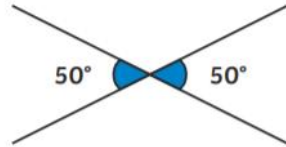
## Calculating Angles



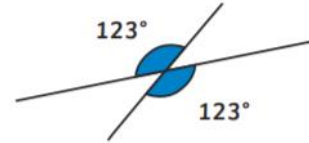
Angles on a straight line always total  $180^\circ$ .



Angles around a point always total  $360^\circ$ .



Opposite angles that share a vertex are equal.



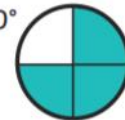
$\frac{1}{4}$  turn  
 $90^\circ$



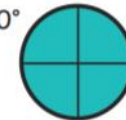
$\frac{1}{2}$  turn  
 $180^\circ$



$\frac{3}{4}$  turn  
 $270^\circ$



1 turn  
 $360^\circ$



Multiples of  $90^\circ$  can be used as descriptions of a turn.

Angle A =  $35^\circ$

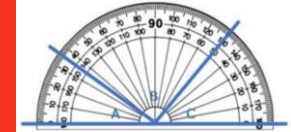
Angle A =  $35^\circ$



Angle B =  $95^\circ$



Angle C =  $50^\circ$



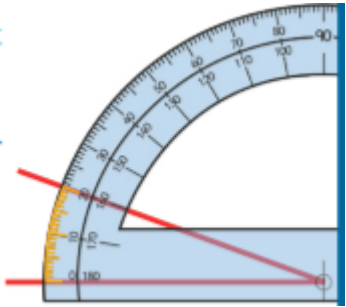
## Key Vocabulary

Acute	An angle that is smaller than a right angle.	✓
Obtuse	An angle that is greater than a right angle.	
Reflex	Angle greater than $180^\circ$	
Protractor	Used for measuring angles.	
Horizontal	A straight line that goes across from left to right.	
Vertical	A straight line that goes up and down.	
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.	



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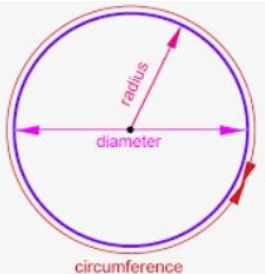
## Using a Protractor



Place the cross or circle at the point of the angle you are measuring. Read from the zero on the outer scale of your protractor.

Count the degree lines carefully.

## Parts of Circles



$$r \times 2 = d$$

$$\frac{d}{2} = r$$

A circle is a 2D shape. The perimeter of a circle is called the **circumference** (c). The distance across the circle, passing through the centre, is called the **diameter** (d). The distance from the centre of the circle to the circumference is called the **radius** (r).

# Maths: Summer Y6 Geometry: Properties of Shape

## Angles in a Regular Polygon

As the number of sides of a polygon increases by one, the total of the interior angles increases by  $180^\circ$ . When  $n$  = number of sides, this formula can be used to find the size of each angle in a **regular polygon**.  
Sum of Interior Angles =  $(n-2) \times 180^\circ$       Each Angle =  $\frac{(n-2) \times 180^\circ}{n}$



**Pentagon**

$$n = 5$$

$$(5 - 2) \times 180^\circ = 540^\circ$$

$$540^\circ \div 5 = 108^\circ$$



**Hexagon**










$$n = 6$$

$$(6 - 2) \times 180^\circ = 720^\circ$$

$$720^\circ \div 6 = 120^\circ$$

## Properties of 3D Shapes

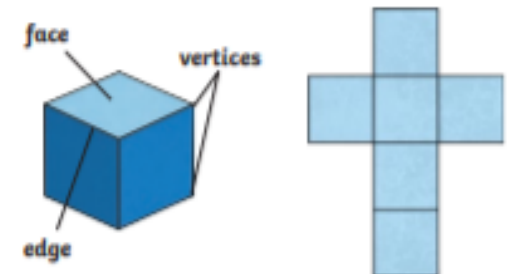
3D shapes have three dimensions – length, width and depth. A polyhedron is a 3D shape with flat faces. Spheres, cylinders and cones are not polyhedrons as they have curved surfaces.

<b>Cube</b>  6 square faces 12 edges 8 vertices	<b>Tetrahedron</b>  4 triangular faces 6 edges 4 vertices	<b>Sphere</b>  1 curved surface 0 edges 0 vertices
<b>Cuboid</b>  6 faces 12 edges 8 vertices	<b>Octahedron</b>  8 faces 12 edges 6 vertices	<b>Triangular prism</b>  5 faces 9 edges 6 vertices
<b>Square-based pyramid</b>  5 faces 8 edges 5 vertices	<b>Cone</b>  1 circular face 1 curved surface 1 curved edge 1 apex	<b>Cylinder</b>  2 circular faces 1 curved surface 2 curved edges 0 vertices

## Key Vocabulary

Curved surface	A rounded surface which is not flat.	✓
Edge	Where two faces on a shape come together.	
Curved Edge	Where two faces meet and the edge is not straight.	
Vertex	Corner point.	
Vertices	More than one vertex. Plural for vertex.	
Apex	The highest vertex.	
2D	2 Dimensions, such as width and height.	
3D	3 Dimensions, such as width, height and depth	

## Nets of 3D Shapes



A shape net shows which 2D shapes can be folded and joined to make a 3D shape. When you are drawing a net, or solving a problem involving a shape net, think carefully about where the edges of the faces meet.