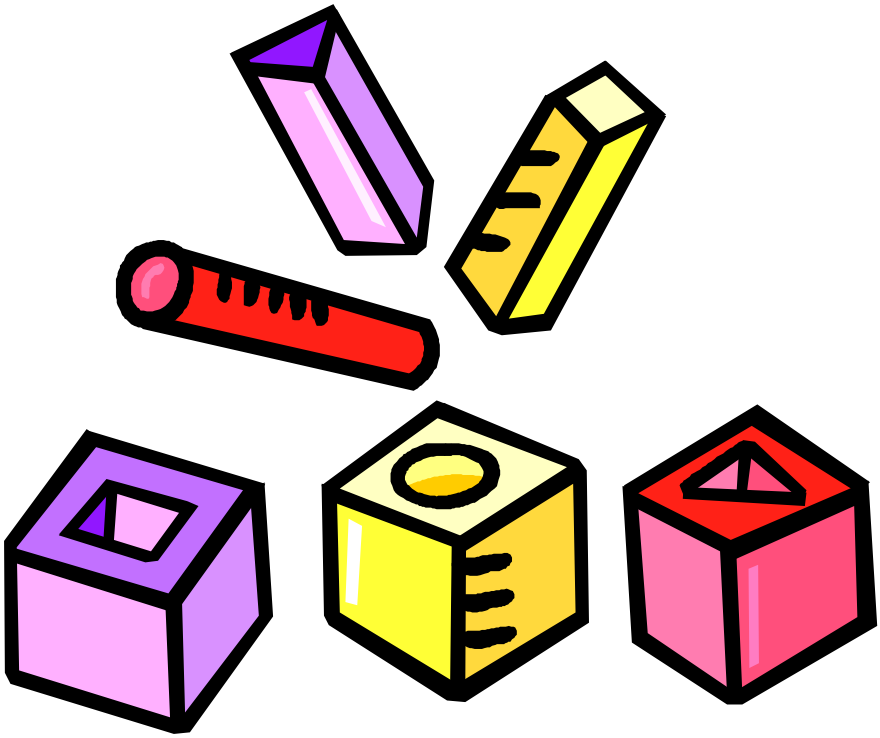
Shape Dictionary
YR to Y6



Lancashire Mathematics Team

Guidance Notes

The terms in this dictionary are taken from the booklet 'Mathematical Vocabulary' produced by the National Numeracy Strategy.

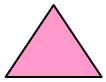
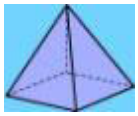
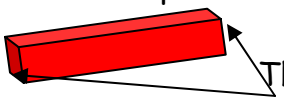
Children need to understand and use these words if they are to make good progress in understanding shape and space.

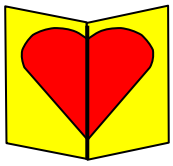
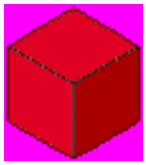
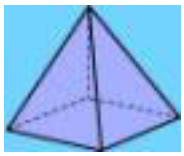
The vocabulary for shape and space has been separated into three sections:

- 2D shape
- 3D shape
- properties of shape

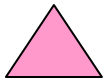
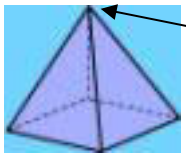
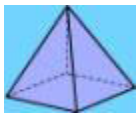
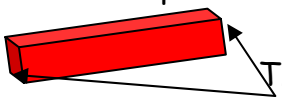
The properties of shape section also draws on vocabulary from the sections on patterns and symmetry and position, direction and movement, where these will further support children's understanding.

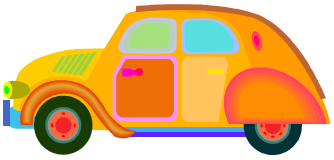
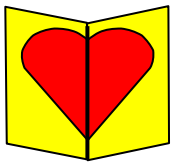
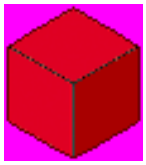
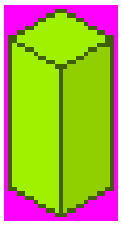
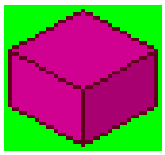
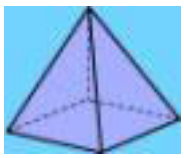
The words listed for each year include vocabulary from the previous year, with new words for the year printed in red from Year 1 onwards.

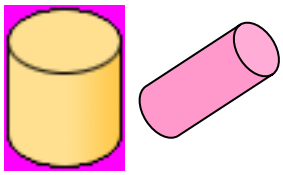
Year	Vocabulary	Definition
Reception		**Properties of Shape**
	shape	The shape of an object is its outline.
	flat	A flat object has a level surface with no ups or downs.
	curved	A line that is not straight or an object that is not flat.
	straight	A line or edge which has no curves is straight.
	round	A round object is shaped like a circle or a ball.
	hollow	A hollow shape has a space inside it.
	solid	A solid shape has no space inside it.
	corner	Two or more edges or sides meet at a corner.  This triangle has 3 corners. This box has 8 corners.
	face	A face is one of the surfaces of a 3D shape.  This pyramid has 5 faces.
	side	A line in a 2D shape is called a side.
	edge	An edge is where 2 faces meet in a 3D shape.
	end	The outer parts of a 3D shape are called the ends.  This rod has 2 ends.
	bigger	Comparing the size of two objects. The dog is bigger than the cat.
	larger	Comparing the size of two objects. The butterfly is larger than the ant.
	smaller	Comparing the size of two objects. The bike is smaller than the car.

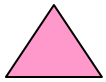
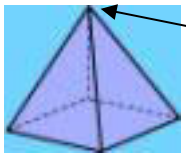
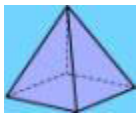
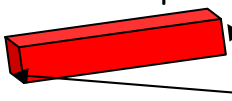
Reception	**symmetrical**	A shape is symmetrical if we can fold it so that one half covers the other half exactly.
	match	When you fold a shape and one half covers the other exactly, the two halves match.  The two halves of this shape match.
	3D shapes	
	cube	 A cube has 6 square faces all the same size. It also has 8 corners and 12 edges.
	pyramid	There are two types of pyramids:  square based pyramid (1 square face and 4 triangular faces) triangular based pyramid (4 triangular faces) also called a tetrahedron
	sphere	A sphere has only one curved face.
	cone	A cone has a circle as its base, a curved face and a point.
	2D shapes	
	circle	A circle is a shape where it is always the same distance from the edge to the centre.
	triangle	A triangle has 3 straight sides and 3 corners. Ensure that children see triangles in a variety of forms.

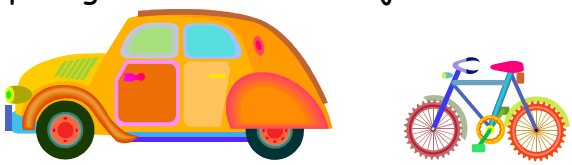
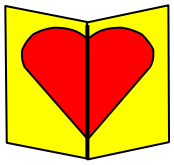
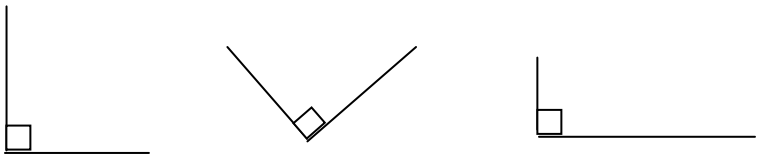
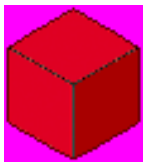
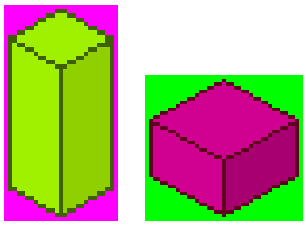
Reception	**square**	A square is a special type of rectangle. It has 4 straight sides of the same lengths and 4 right angles. Ensure that children see squares in various rotations.
	rectangle	A rectangle has 4 straight sides. Pairs of opposite sides are the same length.
	star	A star has points coming out of the centre.

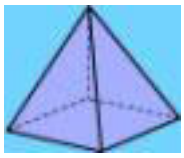
Year	Vocabulary	Definition
Year 1		**Properties of Shape**
	shape	The shape of an object is its outline.
	flat	A flat object has a level surface with no ups or downs.
	curved	A line that is not straight or an object that is not flat.
	straight	A line or edge which has no curves is straight.
	round	A round object is shaped like a circle or a ball.
	hollow	A hollow shape has a space inside it.
	solid	A solid shape has no space inside it.
	corner	Two or more edges or sides meet at a corner.  This triangle has 3 corners. This box has 8 corners.
	point, pointed	A sharp part of a shape is a point.  point The pyramid is pointed.
	face	A face is one of the surfaces of a 3D shape.  This pyramid has 5 faces.
	side	A line in a 2D shape is called a side.
	edge	An edge is where 2 faces meet in a 3D shape.
	end	The outer parts of a 3D shape are called the ends.  This rod has 2 ends.
	bigger	Comparing the size of two objects. The dog is bigger than the cat.
	larger	Comparing the size of two objects. The butterfly is larger than the ant.

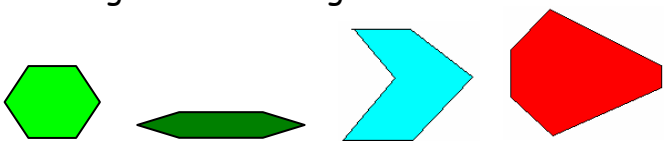
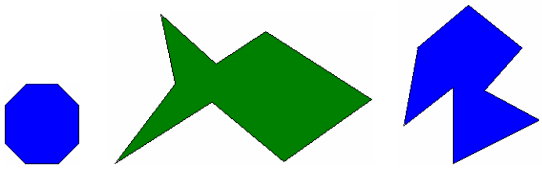
Year 1	**smaller**	Comparing the size of two objects.  The bike is smaller than the car.
	symmetrical	A shape is symmetrical if we can fold it so that one half covers the other half exactly.
	match	When you fold a shape and one half covers the other exactly, the two halves match.  The two halves of this shape match.
	3D shapes	
	cube	 A cube has 6 square faces all the same size. It also has 8 corners and 12 edges.
	cuboid	  A cuboid has 6 rectangular faces.
	pyramid	There are two types of pyramids:  square based pyramid (1 square face and 4 triangular faces) triangular based pyramid (4 triangular faces) also called a tetrahedron
	sphere	A sphere has only one curved face.
	cone	A cone has a circle as its base, a curved face and a point.

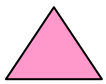
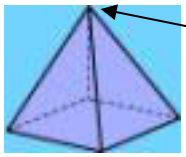
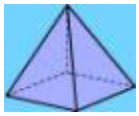
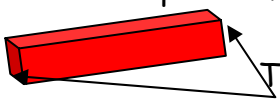
Year 1	cylinder	 A cylinder has circular faces at each end and a curved face.
	2D shapes	
	circle	A circle is a shape where it is always the same distance from the edge to the centre.
	triangle	A triangle has 3 straight sides and 3 corners. Ensure that children see triangles in a variety of forms.
	square	A square is a special type of rectangle. It has 4 straight sides of the same lengths and 4 right angles. Ensure that children see squares in various rotations.
	rectangle	A rectangle has 4 straight sides. Pairs of opposite sides are the same length.
	star	A star has points coming out of the centre.

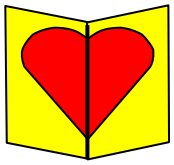
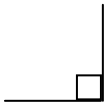
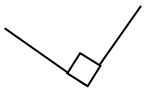
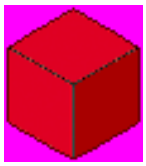
Year	Vocabulary	Definition
Year 2		**Properties of Shape**
	shape	The shape of an object is its outline.
	flat	A flat object has a level surface with no ups or downs.
	curved	A line that is not straight or an object that is not flat.
	straight	A line or edge which has no curves is straight.
	round	A round object is shaped like a circle or a ball.
	hollow	A hollow shape has a space inside it.
	solid	A solid shape has no space inside it.
	corner	Two or more edges or sides meet at a corner.  This triangle has 3 corners. This cube has 8 corners.
	point, pointed	A sharp part of a shape is a point.  point The pyramid is pointed.
	face	A face is one of the surfaces of a 3D shape.  This pyramid has 5 faces.
	side	A line in a 2D shape is called a side.
	edge	An edge is where 2 faces meet in a 3D shape.
	end	The outer parts of a 3D shape are called the ends.  This rod has 2 ends.
	surface	A surface is the 2D boundary of a 3D object. Face can be used instead.
	bigger	Comparing the size of two objects. The dog is bigger than the cat.
	larger	Comparing the size of two objects. The butterfly is larger than the ant.

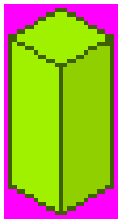
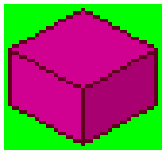
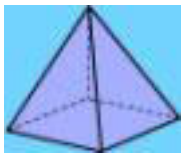
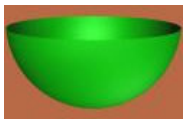
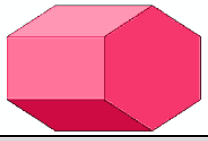
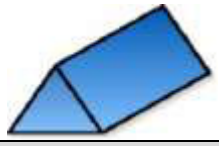
Year 2	**smaller**	Comparing the size of two objects.  The bike is smaller than the car.
	symmetrical	A shape is symmetrical if we can fold it so that one half covers the other half exactly.
	line of symmetry	The line of symmetry divides a shape into symmetrical parts. The blue line is the line of symmetry.
	fold	Bend so that one part covers another.
	match	When you fold a shape and one half covers the other exactly, the two halves match.  The two halves of this shape match.
	mirror line	The mirror line is another way of saying line of symmetry.
	reflection	A mirror view.
	right-angled	A right angle is $\frac{1}{4}$ of a full turn or 90°. 
	3D shapes	
	cube	 A cube has 6 square faces all the same size. It also has 8 corners and 12 edges.
	cuboid	 A cuboid has 6 rectangular faces.

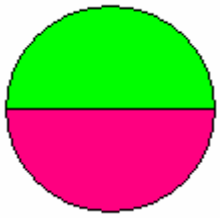
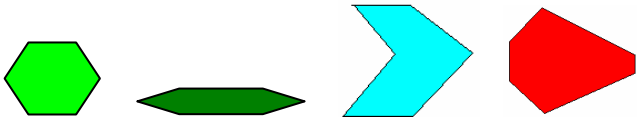
Year 2	**pyramid**	There are two types of pyramids:  square based pyramid (1 square face and 4 triangular faces) triangular based pyramid (4 triangular faces) also called a tetrahedron
	sphere	 A sphere has only one curved face.
	cone	 A cone has a circle as its base, a curved face and a point.
	cylinder	 A cylinder has circular faces at each end and a curved face.
	2D shapes	
	circle	 A circle is a shape where it is always the same distance from the edge to the centre.
	circular	Something is circular if it has the same shape as a circle.
	triangle	A triangle has 3 straight sides and 3 corners. Ensure that children see triangles in a variety of forms.
	triangular	Something is triangular if it has the same shape as a triangle.
	square	A square is a special type of rectangle. It has 4 straight sides of the same lengths and 4 right angles. Ensure that children see squares in various rotations.
	rectangle	A rectangle has 4 straight sides. Pairs of opposite sides are the same length.
	rectangular	Something is rectangular if it has the same shape as a rectangle.

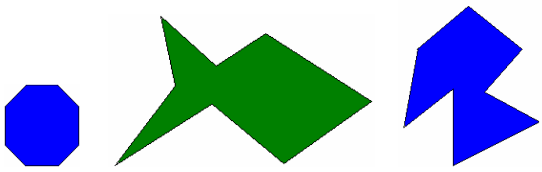
Year 2	**star**	A star has points coming out of the centre.
	pentagon	A pentagon has 5 straight sides and 5 corners. Ensure that children see pentagons in a variety of forms.
	hexagon	A hexagon has 6 straight sides and 6 corners.  Ensure that children see hexagons in a variety of forms.
	octagon	An octagon has 8 straight sides and 8 corners.  Ensure that children see octagons in a variety of forms.

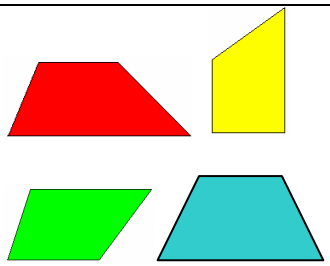
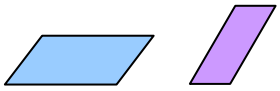
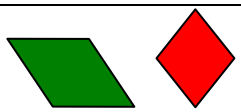
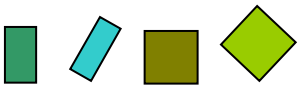
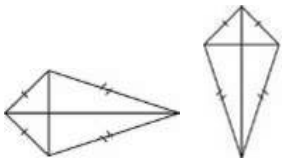
Year	Vocabulary	Definition
Year 3		**Properties of Shape**
	shape	The shape of an object is its outline.
	flat	A flat object has a level surface with no ups or downs.
	curved	A line that is not straight or an object that is not flat.
	straight	A line or edge which has no curves is straight.
	round	A round object is shaped like a circle or a ball.
	hollow	A hollow shape has a space inside it.
	solid	A solid shape has no space inside it.
	corner	Two or more edges or sides meet at a corner.  This triangle has 3 corners. This cube has 8 corners.
	point, pointed	A sharp part of a shape is a point.  point The pyramid is pointed.
	face	A face is one of the surfaces of a 3D shape.  This pyramid has 5 faces.
	side	A line in a 2D shape is called a side.
	edge	An edge is where 2 faces meet in a 3D shape.
	end	The outer parts of a 3D shape are called the ends.  This rod has 2 ends.
	surface	A surface is the 2D boundary of a 3D object.
	bigger	Comparing the size of two objects. The dog is bigger than the cat.
	larger	Comparing the size of two objects. The butterfly is larger than the ant.

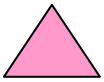
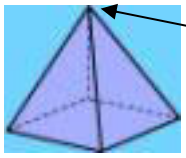
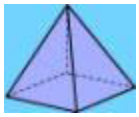
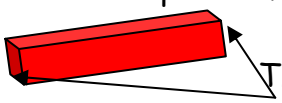
Year 3	**smaller**	Comparing the size of two objects. The bike is smaller than the car.
	symmetrical	A shape is symmetrical if we can fold it so that one half covers the other half exactly.
	line of symmetry	The line of symmetry divides a shape into symmetrical parts. The blue line is the line of symmetry.
	fold	Bend so that one part covers another.
	match	When you fold a shape and one half covers the other exactly, the two halves match.  The two halves of this shape match.
	mirror line	The mirror line is another way of saying line of symmetry.
	reflection	A mirror view.
	right-angled	A right angle is the angle made by a quarter turn or 90°.  
	vertex	A vertex of a shape is a point at which 2 or more edges meet. It is more commonly referred to as a 'corner'.
	vertices	More than one vertex.
	3D shapes	
	cube	 A cube has 6 square faces all the same size. It also has 8 corners and 12 edges.

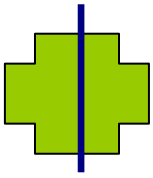
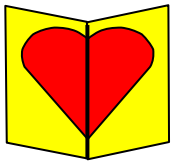
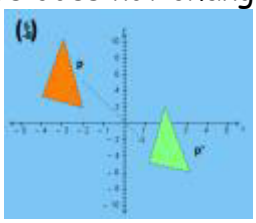
Year 3	**cuboid**	  A cuboid has 6 rectangular faces.
	pyramid	There are two types of pyramids:  square based pyramid (1 square face and 4 triangular faces) triangular based pyramid (4 triangular faces) also called a tetrahedron
	sphere	A sphere has only one curved face.
	hemisphere	 A hemisphere is half a sphere. It is made by cutting through the centre of a sphere, e.g. when the earth is cut in two it creates the northern hemisphere and the southern hemisphere.
	cone	A cone has a circle as its base, a curved face and a point.
	cylinder	A cylinder has circular faces at each end and a curved face.
	prism	A prism is a solid shape with matching ends. A prism has the same cross-section all across its length (like Blackpool rock!)  
	2D shapes	
	circle	A circle is a shape where it is always the same distance from the edge to the centre.
	circular	Something is circular if it has the same shape as a circle.

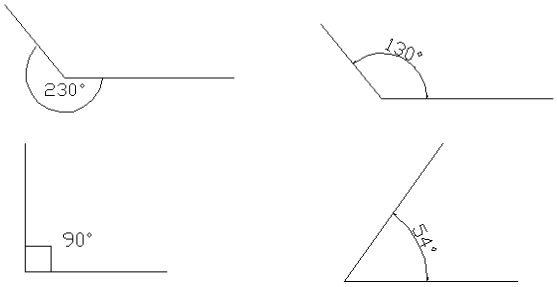
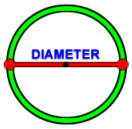
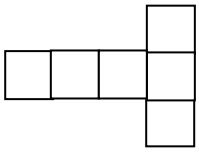
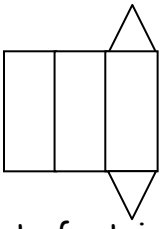
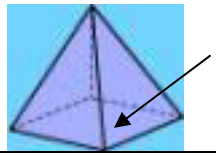
Year 3	**semicircle**	 A semicircle is one half of a circle made by cutting along a line that goes from side to side through the middle of the circle.
	triangle	A triangle has 3 straight sides and 3 corners. Ensure that children see triangles in a variety of forms.
	triangular	Something is triangular if it has the same shape as a triangle.
	square	A square is a special type of rectangle. It has 4 straight sides of the same lengths and 4 right angles. Ensure that children see squares in various rotations.
	rectangle	A rectangle has 4 straight sides. Pairs of opposite sides are the same length.
	rectangular	Something is rectangular if it has the same shape as a rectangle.
	star	A star has points coming out of the centre.
	pentagon	A pentagon has 5 straight sides and 5 corners. Ensure that children see pentagons in a variety of forms.
	pentagonal	Something is pentagonal if it has the same shape as a pentagon.
	hexagon	A hexagon has 6 straight sides and 6 corners.  Ensure that children see hexagons in a variety of forms.
	hexagonal	Something is hexagonal if it has the same shape as a hexagon.

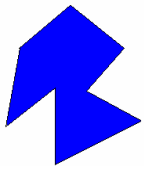
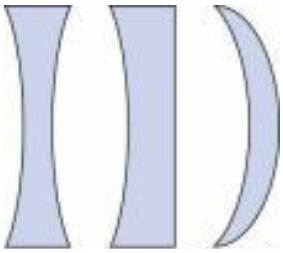
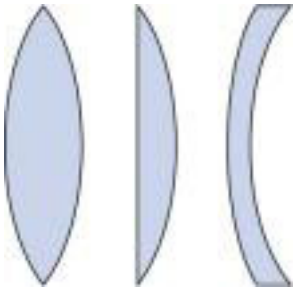
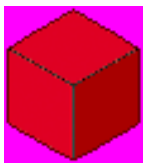
Year 3	**octagon**	An octagon has 8 straight sides and 8 corners.  Ensure that children see octagons in a variety of forms.
	octagonal	Something is octagonal if it has the same shape as an octagon.
	quadrilateral	A polygon with four sides. See the table below for examples of quadrilaterals.

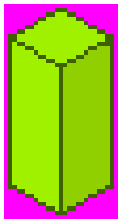
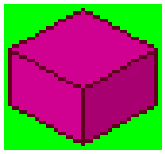
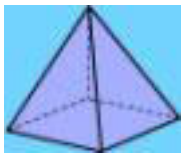
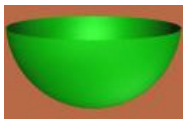
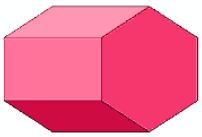
trapezium	
parallelogram	
rhombus	
rectangles	
kite	
arrowhead	
irregular quadrilaterals	

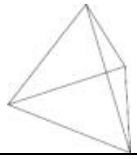
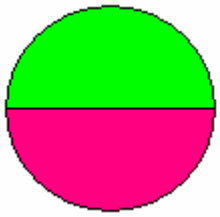
Year	Vocabulary	Definition
Year 4		**Properties of Shape**
	shape	The shape of an object is its outline.
	flat	A flat object has a level surface with no ups or downs.
	line	A line has no width; it has only one measurement - its length.
	curved	A line that is not straight or an object that is not flat.
	straight	A line or edge which has no curves is straight.
	round	A round object is shaped like a circle or a ball.
	hollow	A hollow shape has a space inside it.
	solid	A solid shape has no space inside it.
	corner	Two or more edges or sides meet at a corner.  This triangle has 3 corners. This cube has 8 corners.
	point, pointed	A sharp part of a shape is a point.  point The pyramid is pointed.
	face	A face is one of the surfaces of a 3D shape.  This pyramid has 5 faces.
	side	A line in a 2D shape is called a side.
	edge	An edge is where 2 faces meet in a 3D shape.
	end	The outer parts of a 3D shape are called the ends.  This rod has 2 ends.
	surface	A surface is the 2D boundary of a 3D object. Face can be used instead.
	bigger	Comparing the size of two objects. The dog is bigger than the cat.
	larger	Comparing the size of two objects. The butterfly is larger than the ant.

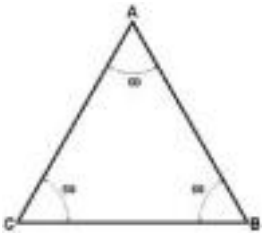
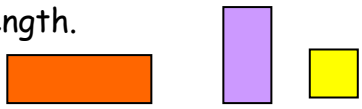
Year 4	**smaller**	Comparing the size of two objects. The bike is smaller than the car.
	symmetrical	A shape is symmetrical if we can fold it so that one half covers the other half exactly.
	line of symmetry	The line of symmetry divides a shape into symmetrical parts. The blue line is the line of symmetry.
	line symmetry	If a shape is symmetrical about a line, it has line symmetry 
	fold	Bend so that one part covers another.
	match	When you fold a shape and one half covers the other exactly, the two halves match.  The two halves of this shape match.
	mirror line	The mirror line is another way of saying line of symmetry.
	reflection	A mirror view.
	reflect	To produce a reflection, you need to reflect the object in a mirror line.
	translation	A translation moves an object by sliding it in any direction. The shape does not change size. 

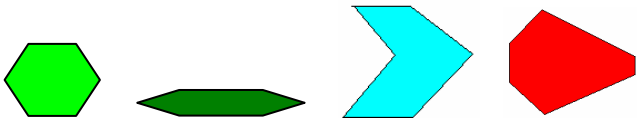
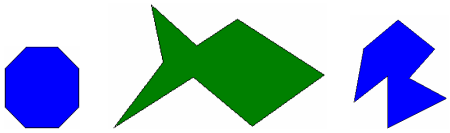
Year 4	**vertex**	A vertex of a shape is a point at which 2 or more edges meet. It is more commonly referred to as a 'corner'.
	vertices	More than one vertex.
	angle	An angle is made when two straight lines cross or meet each other at a point. Its size is measured by the amount one line has been turned in relation to the other. 
	right-angled	A right angle is the angle made by a quarter turn or 90°.
	centre	Exactly in the middle of a shape.
	radius	The length of a straight line from the centre of the circle to its circumference (edge).
	diameter	A line that cuts a circle in half and passes through the centre of the circle. 
	net	A net shows you what a solid shape would look like if you could lay it out flat.  net of a cube  net of a triangular prism
	base	The bottom face of a solid shape. 
	square-based	When the bottom face of a solid shape is a square, e.g. in a square-based pyramid.

Year 4	**vertex**	A vertex of a shape is a point at which 2 or more edges meet. It is more commonly referred to as a 'corner'.
	vertices	More than one vertex.
	regular	A 2D regular shape has all sides the same length and all angles the same. On a 3D regular shape, all of the faces are identical regular polygons. A regular octagon  An irregular octagon.
	irregular	Any shape which is not regular (see above).
	concave	A concave surface curves inwards like the inside of a bowl or a spoon. (Caves go inwards!) 
	convex	A convex surface curves outwards like the outside of a bowl or the back of a spoon. 
	open	When making nets of a cube, if the cube is open it is like an open box, it will have five faces rather than six.
	closed	When making nets of a cube, if the cube is closed it creates a solid shape.
	3D shapes	
	3D	An object that has 3 dimensions: length, width and height.
	three-dimensional	An object that has 3 dimensions: length, width and height.
	cube	 A cube has 6 square faces all the same size. It also has 8 corners and 12 edges.

Year 4	**cuboid**	  A cuboid has 6 rectangular faces.
	pyramid	There are two types of pyramids:  square based pyramid (1 square face and 4 triangular faces) triangular based pyramid (4 triangular faces) also called a tetrahedron
	sphere	A sphere has only one curved face.
	hemisphere	 A hemisphere is half a sphere. It is made by cutting through the centre of a sphere, e.g. when the earth is cut in two it creates the northern hemisphere and the southern hemisphere.
	spherical	Something is spherical if it has the same shape as a sphere.
	cone	A cone has a circle as its base, a curved face and a point.
	cylinder	A cylinder has circular faces at each end and a curved face.
	cylindrical	Something is cylindrical if it has the same shape as a cylinder.
	prism	A prism is a solid shape with matching ends. A prism has the same cross-section all across its length (like Blackpool rock!) 

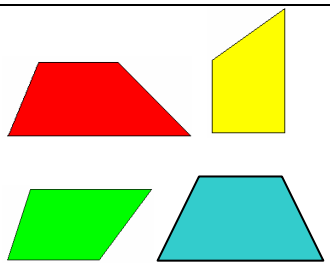
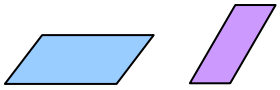
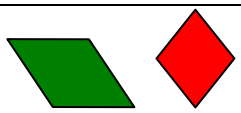
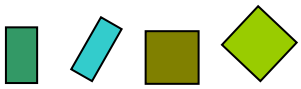
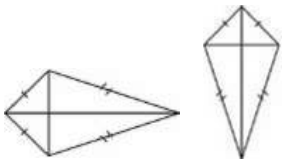
Year 4	**tetrahedron**	A regular polyhedron with 4 faces that are congruent (the same size and shape) equilateral triangles.  A tetrahedron
	polyhedron	A 3D shape whose faces are all polygons. These are cube, cuboid, triangular prism, pentagonal prism, hexagonal prism, octagonal prism, tetrahedron, square based pyramid, pentagonal pyramid, octagonal pyramid, octahedron, dodecahedron and icosahedron. When each of the faces of a polyhedron is identical it is called a regular polyhedron. There are 5 different regular polyhedra (plural of polyhedron); tetrahedron (4 triangular faces), cube (6 square faces), octahedron (8 triangular faces), dodecahedron (12 pentagonal faces) and icosahedron (20 triangular faces).
	2D shapes	
	2D	Flat shapes are two dimensional. They have length and width, but no height or thickness.
	two-dimensional	Flat shapes are two dimensional. They have length and width, but no height or thickness.
	circle	A circle is a shape where it is always the same distance from the edge to the centre.
	circular	Something is circular if it has the same shape as a circle.
	semi-circle	 A semicircle is one half of a circle made by cutting along a line that goes from side to side through the middle of the circle.
	triangle	A triangle has 3 straight sides and 3 corners. Ensure that children see triangles in a variety of forms.
	triangular	Something is triangular if it has the same shape as a triangle.

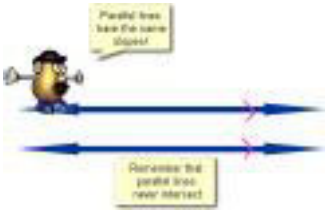
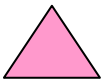
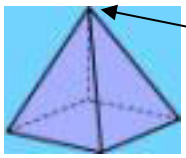
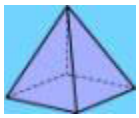
Year 4	**equilateral triangle**	All three sides of an equilateral triangle are the same length and all the angles are equal at 60°. 
	isosceles triangle	An isosceles triangle has two equal sides and two angles that are equal.
	square	A square is a special type of rectangle. It has 4 straight sides of the same lengths and 4 right angles. Ensure that children see squares in various rotations.
	rectangle	A rectangle has 4 straight sides. Pairs of opposite sides are the same length. 
	rectangular	Something is rectangular if it has the same shape as a rectangle.
	oblong	A quadrilateral with four right angles and two pairs of equal parallel sides with each pair different in length. (A rectangle in which one pair of edges is longer than the other – the other form of rectangle being a square).
	star	A star has points coming out of the centre.

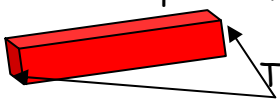
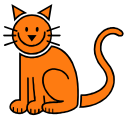
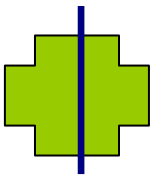
Year 4	**pentagon**	A pentagon has 5 straight sides and 5 corners. Ensure that children see pentagons in a variety of forms.
	pentagonal	Something is pentagonal if it has the same shape as a pentagon.
	hexagon	A hexagon has 6 straight sides and 6 corners.  Ensure that children see hexagons in a variety of forms.
	hexagonal	Something is hexagonal if it has the same shape as a hexagon.
	heptagon	A heptagon has 7 straight sides and 7 corners. 20p and 50p coins are examples of heptagons. Ensure that children see heptagons in a variety of forms.
	octagon	An octagon has 8 straight sides and 8 corners.  Ensure that children see octagons in a variety of forms.
	octagonal	Something is octagonal if it has the same shape as an octagon.
	polygon	Any flat shape with three or more straight sides. When all the sides and angles of a polygon are equal, it is called a regular polygon.

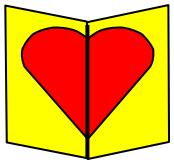
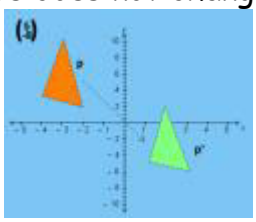
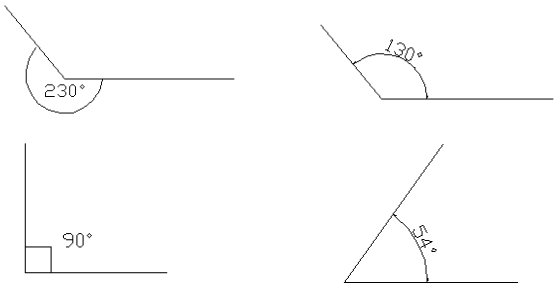
No. of sides	Name of polygon
3	triangle
4	quadrilateral
5	pentagon
6	hexagon
7	heptagon
8	octagon
9	nonagon
10	decagon
11	hendecagon
12	dodecagon

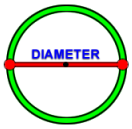
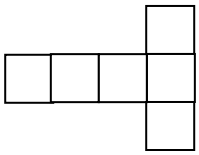
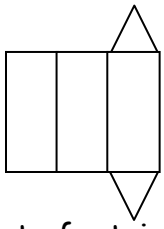
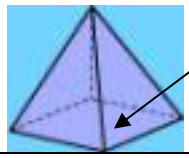
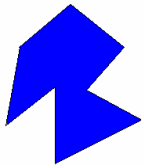
Year 4	**quadrilateral**	A polygon with four sides. See the table below for examples of quadrilaterals.

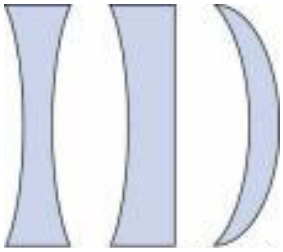
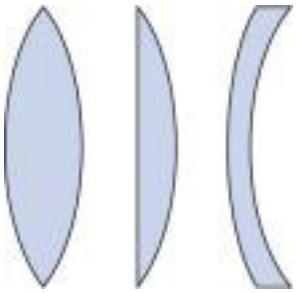
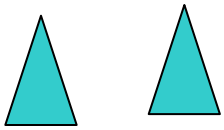
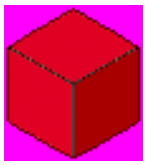
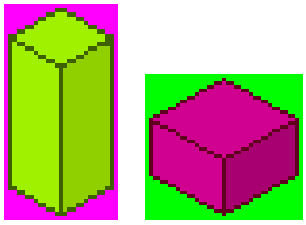
trapezium	
parallelogram	
rhombus	
rectangles	
kite	
arrowhead	
irregular quadrilaterals	

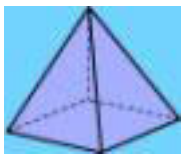
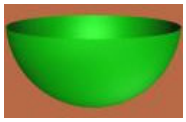
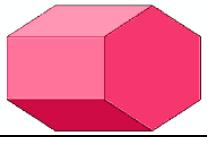
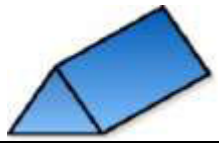
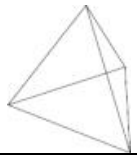
Year	Vocabulary	Definition
Year 5		**Properties of Shape**
	shape	The shape of an object is its outline.
	flat	A flat object has a level surface with no ups or downs.
	line	A line has no width; it has only one measurement - its length.
	parallel	Parallel lines never meet. They are the same distance apart from each other all the way along their length. 
	perpendicular	Two lines which meet at right angles to each other are perpendicular.
	curved	A line that is not straight or an object that is not flat.
	straight	A line or edge which has no curves is straight.
	round	A round object is shaped like a circle or a ball.
	hollow	A hollow shape has a space inside it.
	solid	A solid shape has no space inside it.
	corner	Two or more edges or sides meet at a corner.  This triangle has 3 corners. This cube has 8 corners.
	point, pointed	A sharp part of a shape is a point.  point The pyramid is pointed.
	face	A face is one of the surfaces of a 3D shape.  This pyramid has 5 faces.
	side	A line in a 2D shape is called a side.
	edge	An edge is where 2 faces meet in a 3D shape.

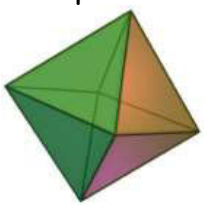
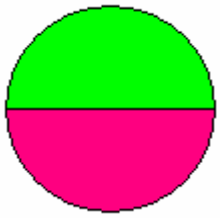
Year 5	**end**	The outer parts of a 3D shape are called the ends.  This rod has 2 ends.
	surface	A surface is the 2D boundary of a 3D object. Face can be used instead.
	bigger	Comparing the size of two objects.  The dog is bigger than the cat.
	larger	Comparing the size of two objects. The butterfly is larger than the ant.
	smaller	Comparing the size of two objects. The bike is smaller than the car.
	symmetrical	A shape is symmetrical if we can fold it so that one half covers the other half exactly.
	line of symmetry	The line of symmetry divides a shape into symmetrical parts. The blue line is the line of symmetry.
	axis of symmetry	Axis of symmetry is another name for line of symmetry.
	line symmetry	If a shape is symmetrical about a line, it has line symmetry 

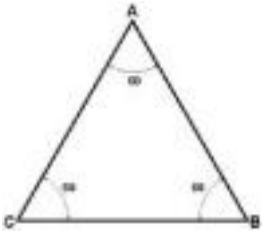
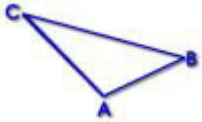
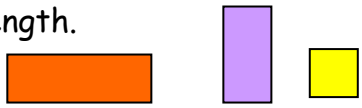
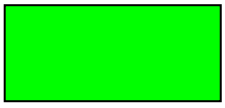
Year 5	**reflective symmetry**	If a shape is symmetrical about a line, it has reflective symmetry (line symmetry).
	fold	Bend so that one part covers another.
	match	When you fold a shape and one half covers the other exactly, the two halves match.  The two halves of this shape match.
	mirror line	The mirror line is another way of saying line of symmetry.
	reflection	A mirror view.
	reflect	To produce a reflection, you need to reflect the object in a mirror line.
	translation	A translation moves an object by sliding it in any direction. The shape does not change size. 
	vertex	A vertex of a shape is a point at which 2 or more edges meet. It is more commonly referred to as a 'corner'.
	vertices	More than one vertex.
	angle	An angle is made when two straight lines cross or meet each other at a point. Its size is measured by the amount one line has been turned in relation to the other. 
	right-angled	A right angle is the angle made by a quarter turn or 90°.

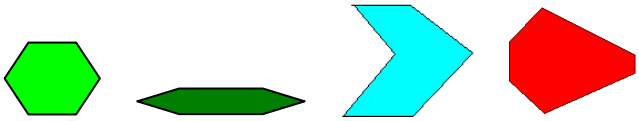
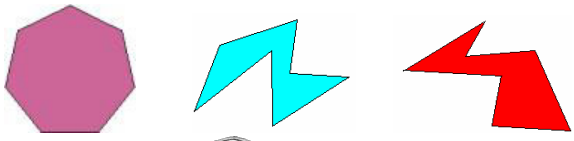
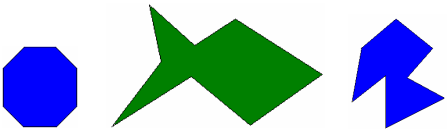
Year 5	**acute**	An acute angle is less than 90°.
	obtuse	An obtuse angle is more than 90° but less than 180°.
	centre	Exactly in the middle of a shape.
	radius	The length of a straight line from the centre of the circle to its circumference (edge).
	diameter	A line that cuts a circle in half and passes through the centre of the circle. 
	net	A net shows you what a solid shape would look like if you could lay it out flat.  net of a cube  net of a triangular prism
	base	The bottom face of a solid shape. 
	square-based	When the bottom face of a solid shape is a square, e.g. in a square-based pyramid.
	regular	A 2D regular shape has all sides the same length and all angles the same. On a 3D regular shape, all of the faces are identical regular polygons. A regular octagon  An irregular octagon.
	irregular	Any shape which is not regular (see above).

Year 5	**concave**	A concave surface curves inwards like the inside of a bowl or a spoon. (Caves go inwards!) 
	convex	A convex surface curves outwards like the outside of a bowl or the back of a spoon. 
	open	When making nets of a cube, if the cube is open it is like an open box, it will have five faces rather than six.
	closed	When making nets of a cube, if the cube is closed it creates a solid shape.
	congruent	Two shapes are congruent if they are exactly the same. One shape can be placed exactly on the other. The sides must be the same length and the angles must also be equal.  These triangles are congruent.
	3D shapes	
	3D	An object that has 3 dimensions: length, width and height.
	three-dimensional	An object that has 3 dimensions: length, width and height.
	cube	 A cube has 6 square faces all the same size. It also has 8 corners and 12 edges.
	cuboid	 A cuboid has 6 rectangular faces.

Year 5	**pyramid**	There are two types of pyramids:  square based pyramid (1 square face and 4 triangular faces) triangular based pyramid (4 triangular faces) also called a tetrahedron
	sphere	 A sphere has only one curved face.
	hemisphere	 A hemisphere is half a sphere. It is made by cutting through the centre of a sphere, e.g. when the earth is cut in two it creates the northern hemisphere and the southern hemisphere.
	spherical	Something is spherical if it has the same shape as a sphere.
	cone	 A cone has a circle as its base, a curved face and a point.
	cylinder	 A cylinder has circular faces at each end and a curved face.
	cylindrical	Something is cylindrical if it has the same shape as a cylinder.
	prism	A prism is a solid shape with matching ends. A prism has the same cross-section all across its length (like Blackpool rock!)  
	tetrahedron	A regular polyhedron with 4 faces that are congruent (the same size and shape) equilateral triangles.  A tetrahedron

Year 5	**polyhedron**	A 3D shape whose faces are all polygons. These are cube, cuboid, triangular prism, pentagonal prism, hexagonal prism, octagonal prism, tetrahedron, square based pyramid, pentagonal pyramid, octagonal pyramid, octahedron, dodecahedron and icosahedron. When each of the faces of a polyhedron is identical it is called a regular polyhedron. There are 5 different regular polyhedra (plural of polyhedron); tetrahedron (4 triangular faces), cube (6 square faces), octahedron (8 triangular faces), dodecahedron (12 pentagonal faces) and icosahedron (20 triangular faces).
	octahedron	An octahedron is a 3D shape with 8 triangular faces. 
	2D shapes	
	2D	Flat shapes are two dimensional. They have length and width, but no height or thickness.
	two-dimensional	Flat shapes are two dimensional. They have length and width, but no height or thickness.
	circle	A circle is a shape where it is always the same distance from the edge to the centre.
	circular	Something is circular if it has the same shape as a circle.
	semi-circle	 A semicircle is one half of a circle made by cutting along a line that goes from side to side through the middle of the circle.
	triangle	A triangle has 3 straight sides and 3 corners. Ensure that children see triangles in a variety of forms.
	triangular	Something is triangular if it has the same shape as a triangle.

Year 5	**equilateral triangle**	All three sides of an equilateral triangle are the same length and all the angles are equal at 60°. 
	isosceles triangle	An isosceles triangle has two equal sides and two angles that are equal.
	scalene triangle	In a scalene triangle, all sides are different and all angles are different. 
	square	A square is a special type of rectangle. It has 4 straight sides of the same lengths and 4 right angles. Ensure that children see squares in various rotations.
	rectangle	A rectangle has 4 straight sides. Pairs of opposite sides are the same length. 
	rectangular	Something is rectangular if it has the same shape as a rectangle.
	oblong	A quadrilateral with four right angles and two pairs of equal parallel sides with each pair different in length. (A rectangle in which one pair of edges is longer than the other – the other form of rectangle being a square). 

Year 5	**star**	A star has points coming out of the centre.
	pentagon	A pentagon has 5 straight sides and 5 corners. Ensure that children see pentagons in a variety of forms.
	pentagonal	Something is pentagonal if it has the same shape as a pentagon.
	hexagon	A hexagon has 6 straight sides and 6 corners.  Ensure that children see hexagons in a variety of forms.
	hexagonal	Something is hexagonal if it has the same shape as a hexagon.
	heptagon	A heptagon has 7 straight sides and 7 corners.  20p and 50p coins are examples of heptagons. Ensure that children see heptagons in a variety of forms.
	octagon	An octagon has 8 straight sides and 8 corners.  Ensure that children see octagons in a variety of forms.
	octagonal	Something is octagonal if it has the same shape as an octagon.

Year 5

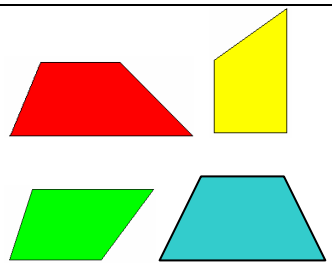
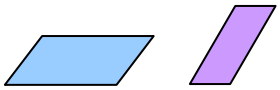
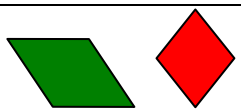
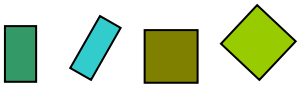
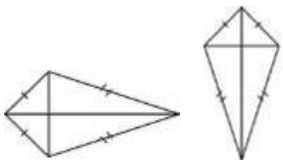
polygon

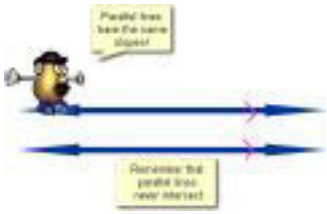
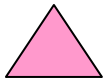
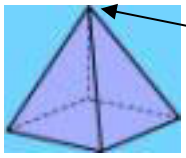
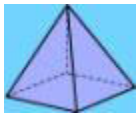
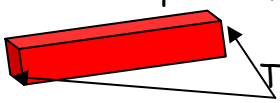
Any flat shape with three or more straight sides.
When all the sides and angles of a polygon are equal, it is called a regular polygon.

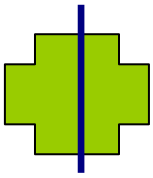
No. of sides	Name of polygon
3	triangle
4	quadrilateral
5	pentagon
6	hexagon
7	heptagon
8	octagon
9	nonagon
10	decagon
11	hendecagon
12	dodecagon

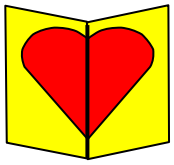
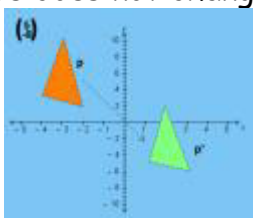
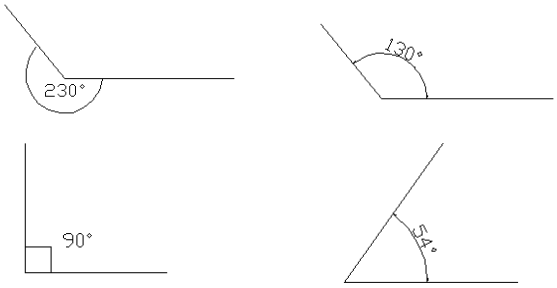
quadrilateral

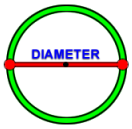
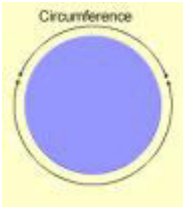
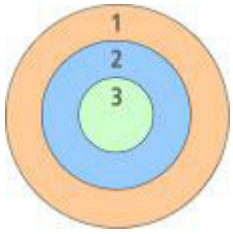
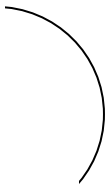
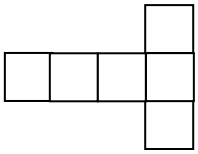
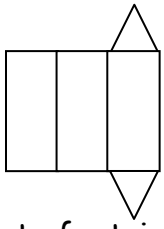
A polygon with four sides. See the table below for examples of quadrilaterals.

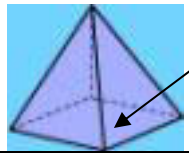
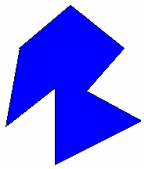
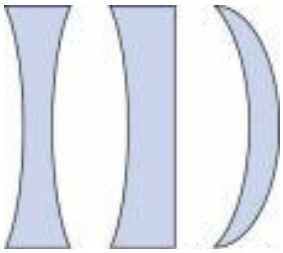
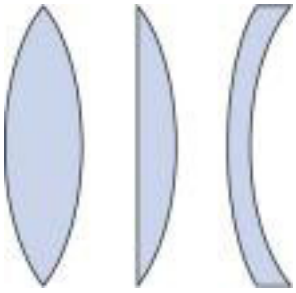
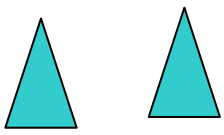
trapezium	
parallelogram	
rhombus	
rectangles	
kite	
arrowhead	
irregular quadrilaterals	

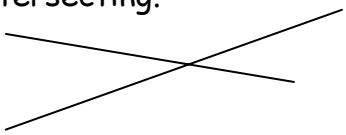
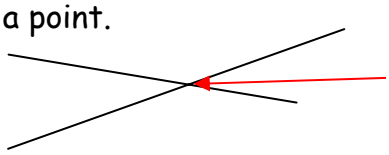
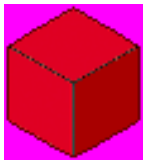
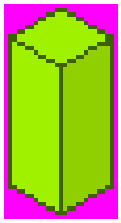
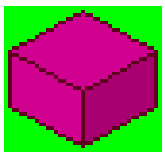
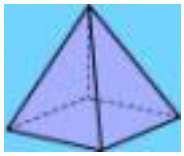
Year	Vocabulary	Definition
Year 6		**Properties of Shape**
	shape	The shape of an object is its outline.
	flat	A flat object has a level surface with no ups or downs.
	line	A line has no width; it has only one measurement - its length.
	parallel	Parallel lines never meet. They are the same distance apart from each other all the way along their length. 
	perpendicular	Two lines which meet at right angles to each other are perpendicular.
	curved	A line that is not straight or an object that is not flat.
	straight	A line or edge which has no curves is straight.
	round	A round object is shaped like a circle or a ball.
	hollow	A hollow shape has a space inside it.
	solid	A solid shape has no space inside it.
	corner	Two or more edges or sides meet at a corner.  This triangle has 3 corners. This cube has 8 corners.
	point, pointed	A sharp part of a shape is a point.  point The pyramid is pointed.
	face	A face is one of the surfaces of a 3D shape.  This pyramid has 5 faces.
	side	A line in a 2D shape is called a side.
	edge	An edge is where 2 faces meet in a 3D shape.
	end	The outer parts of a 3D shape are called the ends.  This rod has 2 ends.

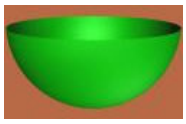
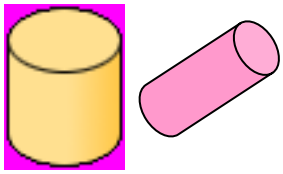
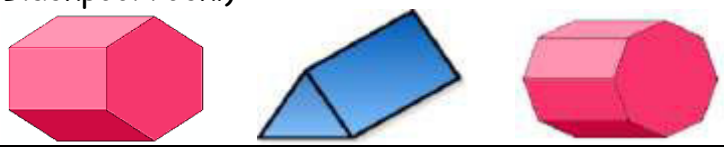
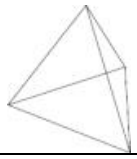
Year 6	**surface**	A surface is the 2D boundary of a 3D object. Face can be used instead.
	bigger	Comparing the size of two objects. The dog is bigger than the cat.
	larger	Comparing the size of two objects. The butterfly is larger than the ant.
	smaller	Comparing the size of two objects. The bike is smaller than the car.
	symmetrical	A shape is symmetrical if we can fold it so that one half covers the other half exactly.
	line of symmetry	The line of symmetry divides a shape into symmetrical parts. The blue line is the line of symmetry.
	axis of symmetry	Axis of symmetry is another name for line of symmetry.
	line symmetry	If a shape is symmetrical about a line, it has line symmetry 
	reflective symmetry	If a shape is symmetrical about a line, it has reflective symmetry (line symmetry).

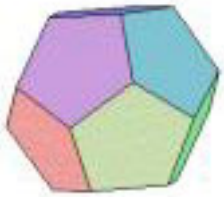
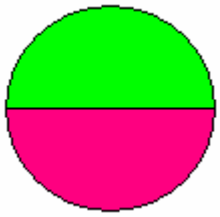
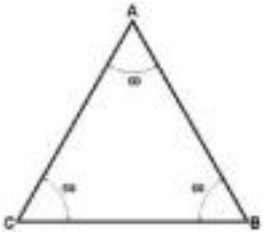
Year 6	**fold**	Bend so that one part covers another.
	match	When you fold a shape and one half covers the other exactly, the two halves match.  The two halves of this shape match.
	mirror line	The mirror line is another way of saying line of symmetry.
	reflection	A mirror view.
	reflect	To produce a reflection, you need to reflect the object in a mirror line.
	translation	A translation moves an object by sliding it in any direction. The shape does not change size. 
	vertex	A vertex of a shape is a point at which 2 or more edges meet. It is more commonly referred to as a 'corner'.
	vertices	More than one vertex.
	angle	An angle is made when two straight lines cross or meet each other at a point. Its size is measured by the amount one line has been turned in relation to the other. 
	right-angled	A right angle is the angle made by a quarter turn or 90°.
	acute	An acute angle is less than 90°.
	obtuse	An obtuse angle is more than 90° but less than 180°.
	reflex	A reflex angle is greater than 180°.
	centre	Exactly in the middle of a shape.

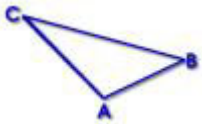
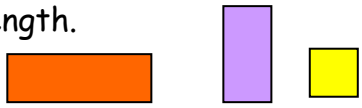
Year 6	**radius**	The length of a straight line from the centre of the circle to its circumference (edge).
	diameter	A line that cuts a circle in half and passes through the centre of the circle. 
	circumference	The circumference is the distance across the circle through the centre. 
	concentric	Circles of different sizes but which have the same centre are concentric. 
	arc	An arc is part of the circumference of a circle. If you continued the two ends of this line, it would form a circle. 
	net	A net shows you what a solid shape would look like if you could lay it out flat.  net of a cube  net of a triangular prism

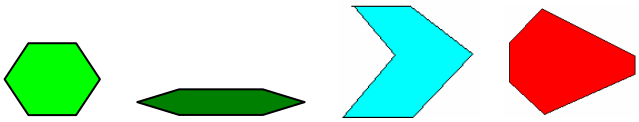
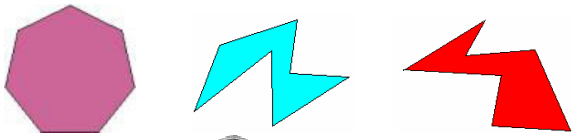
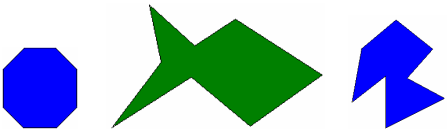
Year 6	**base**	The bottom face of a solid shape.  base
	square-based	When the bottom face of a solid shape is a square, e.g. in a square-based pyramid.
	regular	A 2D regular shape has all sides the same length and all angles the same. On a 3D regular shape, all of the faces are identical regular polygons. A regular octagon  An irregular octagon.
	irregular	Any shape which is not regular (see above).
	concave	A concave surface curves inwards like the inside of a bowl or a spoon. (Caves go inwards!) 
	convex	A convex surface curves outwards like the outside of a bowl or the back of a spoon. 
	open	When making nets of a cube, if the cube is open it is like an open box, it will have five faces rather than six.
	closed	When making nets of a cube, if the cube is closed it creates a solid shape.
	congruent	Two shapes are congruent if they are exactly the same. One shape can be placed exactly on the other. The sides must be the same length and the angles must also be equal.  These triangles are congruent.

Year 6	**intersecting**	If two or more lines cross, they are said to be intersecting.  These lines intersect.
	intersection	A crossing point or place. Two or more lines intersect at a point.  This is the intersection.
	plane	A flat surface with no ripples, curves or bumps. Plane shapes have length or width but no thickness (2D or flat shapes).
	tangram	A Chinese puzzle consisting of a square divided into seven pieces that must be arranged to match particular designs.
	3D shapes	
	3D	An object that has 3 dimensions: length, width and height.
	three-dimensional	An object that has 3 dimensions: length, width and height.
	cube	 A cube has 6 square faces all the same size. It also has 8 corners and 12 edges.
	cuboid	  A cuboid has 6 rectangular faces.
	pyramid	There are two types of pyramids:  square based pyramid (1 square face and 4 triangular faces) triangular based pyramid (4 triangular faces) also called a tetrahedron
	sphere	 A sphere has only one curved face.

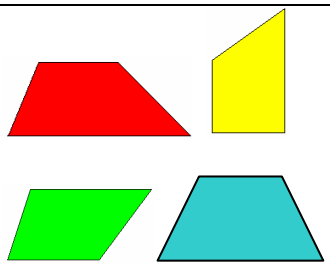
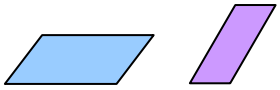
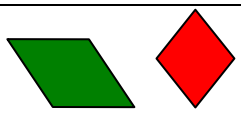
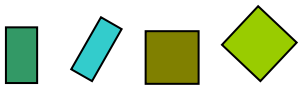
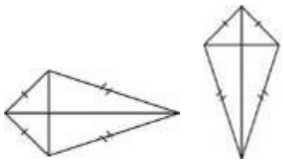
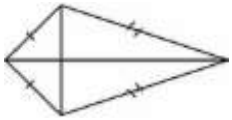
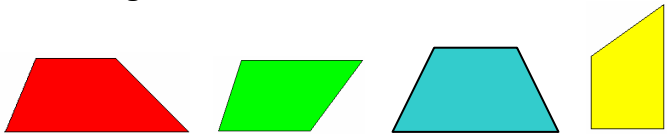
Year 6	**hemisphere**	 A hemisphere is half a sphere. It is made by cutting through the centre of a sphere, e.g. when the earth is cut in two it creates the northern hemisphere and the southern hemisphere.
	spherical	Something is spherical if it has the same shape as a sphere.
	cone	A cone has a circle as its base, a curved face and a point.
	cylinder	 A cylinder has circular faces at each end and a curved face.
	cylindrical	Something is cylindrical if it has the same shape as a cylinder.
	prism	A prism is a solid shape with matching ends. A prism has the same cross-section all across its length (like Blackpool rock!) 
	tetrahedron	A regular polyhedron with 4 faces that are congruent (the same size and shape) equilateral triangles.  A tetrahedron
	polyhedron	A 3D shape whose faces are all polygons. These are cube, cuboid, triangular prism, pentagonal prism, hexagonal prism, octagonal prism, tetrahedron, square based pyramid, pentagonal pyramid, octagonal pyramid, octahedron, dodecahedron and icosahedron. When each of the faces of a polyhedron is identical it is called a regular polyhedron. There are 5 different regular polyhedra (plural of polyhedron); tetrahedron (4 triangular faces), cube (6 square faces), octahedron (8 triangular faces), dodecahedron (12 pentagonal faces) and icosahedron (20 triangular faces).

Year 6	**octahedron**	An octahedron is a 3D shape with 8 triangular faces.
	dodecahedron	A regular polyhedron with 12 faces that are congruent (the same size and shape) regular pentagons.  A dodecahedron
	2D shapes	
	2D	Flat shapes are two dimensional. They have length and width, but no height or thickness.
	two-dimensional	Flat shapes are two dimensional. They have length and width, but no height or thickness.
	circle	A circle is a shape where it is always the same distance from the edge to the centre.
	circular	Something is circular if it has the same shape as a circle.
	semi-circle	 A semicircle is one half of a circle made by cutting along a line that goes from side to side through the middle of the circle.
	triangle	A triangle has 3 straight sides and 3 corners. Ensure that children see triangles in a variety of forms.
	triangular	Something is triangular if it has the same shape as a triangle.
	equilateral triangle	All three sides of an equilateral triangle are the same length and all the angles are equal at 60°. 

Year 6	**isosceles triangle**	An isosceles triangle has two equal sides and two angles that are equal.
	scalene triangle	In a scalene triangle, all sides are different and all angles are different. 
	square	A square is a special type of rectangle. It has 4 straight sides of the same lengths and 4 right angles. Ensure that children see squares in various rotations.
	rectangle	A rectangle has 4 straight sides. Pairs of opposite sides are the same length. 
	rectangular	Something is rectangular if it has the same shape as a rectangle.
	oblong	A quadrilateral with four right angles and two pairs of equal parallel sides with each pair different in length. (A rectangle in which one pair of edges is longer than the other – the other form of rectangle being a square).
	star	A star has points coming out of the centre.
	rhombus	A parallelogram with four equal sides and equal opposite angles.

Year 6	**pentagon**	A pentagon has 5 straight sides and 5 corners. Ensure that children see pentagons in a variety of forms.
	pentagonal	Something is pentagonal if it has the same shape as a pentagon.
	hexagon	A hexagon has 6 straight sides and 6 corners.  Ensure that children see hexagons in a variety of forms.
	hexagonal	Something is hexagonal if it has the same shape as a hexagon.
	heptagon	A heptagon has 7 straight sides and 7 corners.  20p and 50p coins are examples of heptagons. Ensure that children see heptagons in a variety of forms.
	octagon	An octagon has 8 straight sides and 8 corners.  Ensure that children see octagons in a variety of forms.
	octagonal	Something is octagonal if it has the same shape as an octagon.
	polygon	Any flat shape with three or more straight sides. When all the sides and angles of a polygon are equal, it is called a regular polygon.

No. of sides	Name of polygon
3	triangle
4	quadrilateral
5	pentagon
6	hexagon
7	heptagon
8	octagon
9	nonagon
10	decagon
11	hendecagon
12	dodecagon

<table>
<tr><td rowspan="4">Year 6</td><td>quadrilateral</td><td>A polygon with four sides. See the table below for examples of quadrilaterals.
<table>
<tr><td>trapezium</td><td>  </td></tr>
<tr><td>parallelogram</td><td>  </td></tr>
<tr><td>rhombus</td><td>  </td></tr>
<tr><td>rectangles</td><td>  </td></tr>
<tr><td>kite</td><td>  </td></tr>
<tr><td>arrowhead</td><td> </td></tr>
<tr><td>irregular quadrilaterals</td><td> </td></tr>
</table></td></tr>
<tr><td>kite</td><td>A flat shape having two sets of equal sides and one set of opposite angles that are equal.
  </td></tr>
<tr><td>parallelogram</td><td>A quadrilateral with opposite sides that are parallel and of equal length and opposite angles that are equal.
 </td></tr>
<tr><td>trapezium</td><td>A quadrilateral with one pair of parallel sides.
An isosceles trapezium has two non-parallel sides the same length.
  </td></tr>
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