

POSITION, DIRECTION AND MOVEMENT					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Describe position, direction and movement, including half, quarter and three-quarter turns.	Use mathematical vocabulary to describe position, direction and movement including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise) Compass points (N, E, W, S)	Use mathematical vocabulary to describe position, direction and movement including distinguishing between rotation as a turn and in terms of quarters and eighths of a turn (clockwise and anti-clockwise) Compass points (NW, NE, SW, SE)	Describe positions on a 2-D grid as coordinates in the first quadrant	Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed	Describe positions on the full coordinate grid (all four quadrants)
			Describe movements between positions as translations of a given unit to the left/right and up/down		
			Plot specified points and draw sides to complete a given polygon (in first quadrant)		Plot specified points and draw sides to complete a given polygon (in all four quadrants)
PATTERN					
	Order and arrange combinations of mathematical objects in patterns and sequences				
IDENTIFYING SHAPES AND THEIR PROPERTIES					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Recognise and name common 2-D and 3-D shapes, including: * 2-D shapes [e.g. rectangles (including squares), circles and	Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line	Revise from Y2 (drip) identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line	Identify lines of symmetry in 2-D shapes presented in different orientations	Identify 3-D shapes, including cubes and other cuboids, from 2-D representations	Recognise, describe and build simple 3-D shapes, including making nets (appears also in Drawing and Constructing)

<p>triangles] * 3-D shapes [e.g. cuboids (including cubes), pyramids and spheres].</p>	<p>Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces</p>	<p>identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid]</p>			<p>Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius</p>
DRAWING AND CONSTRUCTING					
<p>Use modelling materials to experiment in making 2D shapes.</p>	<p>Use modelling materials to make 2D shapes.</p>	<p>Draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them</p>	<p>Complete a simple symmetric figure with respect to a specific line of symmetry</p>	<p>Draw given angles, and measure them in degrees ($^{\circ}$)</p>	<p>Draw 2-D shapes using given dimensions and angles Recognise, describe and build simple 3-D shapes, including making nets (appears also in Identifying Shapes and Their Properties)</p>

COMPARING AND CLASSIFYING					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	Compare and sort common 2-D and 3-D shapes and everyday objects	Revise from Y3 (drip) compare and sort common 2-D and 3-D shapes and everyday objects	Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes	Use the properties of rectangles to deduce related facts and find missing lengths and angles Distinguish between regular and irregular polygons based on reasoning about equal sides and angles	Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons
ANGLES					
		Recognise angles as a property of shape or a description of a turn		Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles	
		Identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle	Identify acute and obtuse angles and compare and order angles up to two right angles by size	Identify: * angles at a point and one whole turn (total 360°) * angles at a point on a straight line and $\frac{1}{2}$ a turn (total 180°) * other multiples of 90°	Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles

		Identify horizontal and vertical lines and pairs of perpendicular and parallel lines	Identify horizontal and vertical lines and pairs of perpendicular and parallel lines (in new shapes)	Revise (drip) identify horizontal and vertical lines and pairs of perpendicular and parallel lines (in new shapes)	Revise (drip) identify horizontal and vertical lines and pairs of perpendicular and parallel lines (in new shapes)
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Year 1 Geometry

Shape - Recognise and name common 2-D and 3D shapes.

Position and Direction - Describe position, directions and movements, including half, quarter and three-quarter turns

Name 2D shapes such as square and circle.

Use positional words to describe where an object is

Name 3D shapes such as cube and sphere. Name shapes in any orientation or size.

Understand terms clockwise and anti-clockwise when making turns in relation to themselves and objects.

Know that shapes such as triangles do not always look the same.

Make turns including quarter, half and $\frac{3}{4}$ turns using objects and also relate these to clocks

Link 2 and 3-D shapes to common objects.

Program robot to make turns.

Year 2 Geometry - Shape

Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line.	Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces.	Identify 2-D shapes on the surface of 3-D shapes [for example, a circle on a cylinder and a triangle on a pyramid].	Compare and sort common 2-D and 3-D shapes and everyday objects.
<p>Use everyday language to describe properties of 2D shapes (sides, corners, straight, curved)</p> <p>Know names of 2D shapes: circle, triangle, square, rectangle, hexagon, pentagon, octagon.</p> <p>Opportunities to identify shapes from pictures (moving from concrete to the abstract).</p> <p>Present shapes in different orientations.</p> <p>Recognise that the same shape can be different sizes.</p> <p>Make shapes using pinboards including regular and irregular shapes.</p>	<p>Use everyday language to describe properties of 3D shapes (faces, edges, vertices, flat, curved)</p> <p>Know names of 3D shapes: cube, cuboid, pyramid, sphere, cone, cylinder.</p> <p>Opportunities to identify shapes from pictures (moving from concrete to the abstract).</p> <p>Present shapes in different orientations.</p> <p>Make shapes using blocks, polydron etc.</p>	<p>Begin to understand the differences between 2D and 3D shapes.</p>	<p>Sort 2D shapes according to a single criterion - eg: shapes which have a straight side, shapes with a right angle.</p> <p>Sort 3D shapes or objects according to a single criterion - eg: shapes which have at least 1 square face, shapes that will roll.</p> <p>Sort using Venn and Carroll diagrams.</p>

<p>Draw shapes using square or dotty paper, including regular and irregular shapes.</p> <p>Understand the vocabulary <i>reflective</i> and <i>symmetry</i>.</p> <p>Be able to use a mirror to identify symmetry in 2 D shapes.</p> <p>Draw the reflection.</p> <p>Be able to draw a line on a shape and recognise that both sides are the same.</p> <p>Construct simple patterns which have reflective symmetry e.g. patterns on a butterfly wing or on squared paper.</p>			
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Year 2 Geometry - Position and Direction

Order and arrange combinations of mathematical objects in patterns and sequences.

Use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise).

Make patterns and sequences with real objects, numbers etc.

Develop a sequence/pattern. Give another child instructions on how to build a model.

Use ordinal numbers to describe the position of an object in a row e.g. the third in the line

Respond to and use positional language

Respond to and use directional language

Describe the position of an object

Understand the concept of turn.

Distinguish between left and right and clockwise and anti-clockwise.

Use when giving directions

Use a programmable toy and include turns and straight lines.

Give directions to other children e.g. In PE.

Use directions to 'find the treasure'

Use barrier games.

Relate a right angle to a quarter turn.

Know that half a turn would have 2 right angles.

Know that a full turn would have 4 right angles.

Know that three-quarter turns would have 3 right angles

Identify right angles in 2D shapes and in the classroom.

Use a right angle checker in their work.

Year 3 Geometry - Shape

<p>Draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them.</p>	<p>Recognise angles as a property of shape or a description of a turn.</p>	<p>Identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle.</p>	<p>Identify horizontal and vertical lines and pairs of perpendicular and parallel lines.</p>
<p>Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line.</p> <p>Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces.</p> <p>Identify 2-D shapes on the surface of 3-D shapes [for example, a circle on a cylinder and a triangle on a pyramid] compare and sort common 2-D and 3-D shapes and everyday objects.</p>	<p>To use mathematical vocabulary to describe position, direction and movement, including movement in a straight line.</p> <p>To distinguish between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise).</p>	<p>To recognise a right angle</p>	<p>To recognise a right angle</p>

Year 4 Geometry - Shape

<p>Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes.</p>	<p>Identify acute and obtuse angles and compare and order angles up to two right angles by size.</p>	<p>Identify lines of symmetry in 2-D shapes presented in different orientations.</p>	<p>Complete a simple symmetric figure with respect to a specific line of symmetry.</p>
<p>Name, describe, draw and sort regular and irregular polygons using a range of properties.</p> <p>Use Venn and Carroll diagrams to sort shapes according to defined criteria.</p> <p>Use shape vocabulary accurately, including side, polygon, diagonal, regular, irregular, common.</p> <p>Know correct names of triangles (isosceles, equilateral, scalene).</p> <p>Know names of quadrilaterals including parallelogram, rhombus, trapezium.</p>	<p>Know vocabulary - acute, obtuse</p> <p>Know acute is less than a right angle</p> <p>Know that obtuse is more than a right angle but less than a straight line angle (2 right angles).</p> <p>Order angles by size.</p> <p>Know and use a protractor.</p>	<p>Understand what symmetry is</p> <p>Find lines of symmetry by folding shapes</p> <p>Understand how to use a mirror line - vertical, horizontal, diagonal (lines not always touching or dissecting the pattern/shape)</p>	<p>Draw symmetrical patterns using a variety of media</p>

Year 4 Geometry - position and direction

Describe positions on a 2-D grid as coordinates in the first quadrant.	Describe movements between positions as translations of a given unit to the left/right and up/down.	Plot specified points and draw sides to complete a given polygon.
<p>Understand coordinates</p> <p>Give coordinates for objects within a grid</p> <p>Use knowledge of co-ordinates to describe position of shapes.</p> <p>Know the first quadrant and x and y points</p>	<p>Physically translate shapes horizontally or vertically.</p> <p>Explain translations</p>	<p>Draw a shape on a quadrant grid given 2 co-ordinates.</p>

Year 5 Geometry

<p>Identify 3-D shapes, including cubes and other cuboids, from 2-D representations</p>	<p>Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles</p>	<p>Draw given angles, and measure them in degrees (o)</p>	<p>Identify: -angles at a point and one whole turn (total 360°) -angles at a point on a straight line and $\frac{1}{2}$ a turn (total 180°) -other multiples of 90°</p>	<p>Use the properties of rectangles to deduce related facts and find missing lengths and angles</p>	<p>Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.</p>
<p>Understand the difference between 3-D and 2-D.</p> <p>Know the language needed for 2D and 3D vocabulary.</p>	<p>Know known facts i.e. what a reflex angle is.</p> <p>Use easy angles such as 90° to interpret 50° would be $\frac{1}{2}$ of 90°.</p>	<p>Read a protractor.</p> <p>Recognise and know what an angle is.</p> <p>Draw accurately with a ruler.</p> <p>Interpret scales</p>	<p>Multiples of 9 and therefore 90.</p> <p>Understand clockwise and anticlockwise</p> <p>180° is the sum of the angles on a straight line.</p> <p>Know what a quarter, half and $\frac{3}{4}$ represent.</p>	<p>Know that a rectangle has right angles as corners and they're 90°</p> <p>Understand the interior angles add up to 360°</p> <p>That a rectangle has sets of parallel lines which can be paired in length.</p> <p>Apply the facts of a rectangle to any problem.</p>	<p>Understand the interior angles is connected to the amount of sides. Know how to work this out.</p> <p>Distinguish what regular is.</p> <p>Written and verbal reasoning in sentences using technical vocabulary.</p>

Year 6 Geometry - Shape

<p>Draw 2-D shapes using given dimensions and angles</p>	<p>Recognise, describe and build simple 3-D shapes, including making nets</p>	<p>Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons</p>	<p>Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius</p>	<p>Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.</p>
<p>Know 2D shape properties (interior angles, sides, length)</p> <p>Measure and draw angles accurately using a protractor</p>	<p>Understand technical language of 3D shape</p> <p>Understand properties of 2D and 3D shape.</p> <p>Accurately measure angles</p> <p>Use practical equipment to concrete knowledge.</p>	<p>Understand properties of shape (angles, no. of sides)</p> <p>Know angles on a straight line</p> <p>Know interior angles for each shape</p> <p>Apply knowledge of different shapes where explanation in technical language must be accurate</p>	<p>Understand radius, diameter and circumference</p> <p>$D=2r$</p>	<p>Know perpendicular and parallel lines</p> <p>Understand angles on a straight line equal 180°</p> <p>Understand that a full rotation is 360°</p> <p>Apply previous knowledge of shape.</p>

Year 6 Geometry - Position and Direction

Describe positions on the full coordinate grid (all four quadrants)

Draw and translate simple shapes on the coordinate plane and reflect them in the axes.

Understand how to read co-ordinates

Draw accurately with a ruler

Understand shape and their properties

Use tracing paper (flip, turn and move)

Be able to explain the position of new shape.

Use mirror lines as an axis.