

## Geometry- Properties of shape

IDENTIFYING SHAPES AND THIER PROPERTIES							
Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Talk about and explore 2D and 3D shapes using mathematical language E.g. sides, corners, round, flat.	Select, rotate and manipulate shapes in order to develop spatial reasoning skills.	recognise and name common 2-D and 3-D shapes, including: * 2-D shapes [e.g. rectangles (including squares), circles and triangles] * 3-D shapes [e.g. cuboids (including cubes), pyramids and spheres].	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)
Select shapes appropriately E.g a circle for a wheel.	Names some common 3D shapes, e.g. a sphere or cube.		identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces				illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius
Combine shapes to make new ones.	Understanding that the orientation of a shape does not change its properties.		identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid]				

Is beginning to see shapes in the environment, e.g. a house is seen as a square with a triangle roof.							
DRAWING AND CONSTRUCTING							
Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Uses blocks to build structures.	Compose and decompose shapes so children know that a shape can have other shapes in it E.g. you can remove one side of a square to form a triangle			draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them	complete a simple symmetric figure with respect to a specific line of symmetry	draw given angles, and measure them in degrees ( $^{\circ}$ )	draw 2-D shapes using given dimensions and angles
	Puts 2D shapes together to make part of a picture, e.g. triangles and a circle to make a flower.						recognise, describe and build simple 3-D shapes, including making nets (appears also in Identifying Shapes and Their Properties)

	Builds more complex structures, substituting combinations for an-other shape.						
		COMPARING AND CLASSIFYING					
Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Recognises and identifies objects that are alike, e.g. red objects.			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	compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons
Sorts by using a single attribute, e.g. 'I picked out all the heart-shaped pieces.'						distinguish between regular and irregular polygons based on reasoning about equal sides and angles	
		ANGLES					
Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
				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	

				<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 acute and obtuse angles and compare and order angles up to two right angles by size</p>	<p>identify:</p> <ul style="list-style-type: none"> <li>* angles at a point and one whole turn (total <math>360^\circ</math>)</li> <li>* angles at a point on a straight line and <math>\frac{1}{2}</math> a turn (total <math>180^\circ</math>)</li> <li>* other multiples of <math>90^\circ</math></li> </ul>	<p>recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles</p>
				<p>identify horizontal and vertical lines and pairs of perpendicular and parallel lines</p>			