

Geometry: Properties of Shapes

IDENTIFYING SHAPES AND THEIR PROPERTIES

IDENTIFYING SHAPES AND THIER PROPERTIES							
Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Combine shapes to make new ones – an arch, a bigger triangle etc.	Combine shapes to make new ones – an arch, a bigger triangle etc.	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)
Talk about and explore 2D and 3D shapes (for example, circles, rectangles, triangles and cuboids) using informal and mathematical language: ‘sides’, ‘corners’, ‘straight’, ‘flat’, ‘round’.	Talk about and explore 2D and 3D shapes (for example, circles, rectangles, triangles and cuboids) using informal and mathematical language: ‘sides’, ‘corners’, ‘straight’, ‘flat’, ‘round’.		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]				illustrate and name parts of circles, including radius, diameter and circumference and
Select shapes appropriately: flat surfaces for building, a triangular prism for a roof etc.	Select shapes appropriately: flat surfaces for building, a triangular prism for a roof etc.		know that the diameter is twice the radius				
	Select, rotate and manipulate shapes in order to develop spatial reasoning skills. Compose and decompose shapes so that children recognise a shape can have other shapes <i>within</i> it, just as numbers can.						

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DRAWING AND CONSTRUCTING							
Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
				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
							recognise, describe and build simple 3-D shapes, including making nets (appears also in Identifying Shapes and Their Properties)
COMPARING AND CLASSIFYING							
			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
						distinguish between regular and irregular polygons based on reasoning about equal sides and angles	

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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	
				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			