

# Geometry: Properties of Shapes

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 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)
	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
	identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid]				
DRAWING AND CONSTRUCTING					
		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)

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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		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 $360^\circ$ ) * angles at a point on a straight line and $\frac{1}{2}$ a turn (total $180^\circ$ ) * other multiples of $90^\circ$	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			
READY TO PROGRESS					
1G-1 Recognise	2G-1 Use precise	3G-1 Recognise right		5G-1 Compare angles,	

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common 2D and 3D shapes presented in different orientations, and know that rectangles, triangles, cuboids and pyramids are not always similar to one another.	language to describe the properties of 2D and 3D shapes, and compare shapes by reasoning about similarities and differences in properties.	angles as a property of shape or a description of a turn, and identify right angles in 2D shapes presented in different orientations.		estimate and measure angles in degrees ( $^{\circ}$ ) and draw angles of a given size	
				G–2 Compare areas and calculate the area of rectangles (including squares) using standard units.	
1G–2 Compose 2D and 3D shapes from smaller shapes to match an example, including manipulating shapes to place them in particular orientations.		3G–2 Draw polygons by joining marked points, and identify parallel and perpendicular sides.	4G–1 Draw polygons, specified by coordinates in the first quadrant, and translate within the first quadrant.		6G–1 Draw, compose, and decompose shapes according to given properties, including dimensions, angles and area, and solve related problems.
			4G–2 Identify regular polygons, including		

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			<p>equilateral triangles and squares, as those in which the side-lengths are equal and the angles are equal. Find the perimeter of regular and irregular polygons.</p>		
			<p>4G–3 Identify line symmetry in 2D shapes presented in different orientations. Reflect shapes in a line of symmetry and complete a symmetric figure or pattern with respect to a specified line of symmetry.</p>		