

**Math Curriculum – Key Skills**  
**Geometry: Properties of Shape**

Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<b>Identifying Shapes and their Properties</b>							
		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].  <i>Recognise common 2D and 3D shapes presented in different orientations, and know that rectangles, triangles, cuboids and pyramids are not always similar to one another.</i>	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 the radius surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid]  <i>Use precise language to describe the properties of 2D and 3D shapes, and compare shapes by reasoning about similarities and differences in properties.</i>		identify lines of symmetry in 2-D shapes presented in different orientations  <i>Identify regular polygons, including 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.</i>  <i>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</i>	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)  illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius
DMG – 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’.  Select shapes appropriately: flat surfaces for a building, a triangular prism for a roof, etc.  Combine shapes to make new ones – an arch, a bigger triangle etc.	DMG – Select, rotate and manipulate shapes in order to develop special reasoning skills.						
<b>Drawing and Constructing</b>							
		<i>Compose 2D and 3D shapes from smaller shapes to match an example, including manipulating shapes to place them in particular orientations.</i>		draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them  <i>Draw polygons by joining marked points, and identify parallel and perpendicular sides.</i>	complete a simple symmetric figure with respect to a specific line of symmetry  <i>Draw polygons, specified by coordinates in the first quadrant, and translate within the first quadrant.</i>	draw given angles, and measure them in degrees ( ° )	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)  <i>Draw, compose, and decompose shapes according to given properties, including dimensions, angles and area, and solve related problems.</i>
<b>Comparing and Classifying</b>							
	DMG – Compose and decompose shapes so that children can recognise a shape can have other shapes within it, just as numbers can.		compare and sort common 2-D and 3-D shapes and everyday objects  <i>Use precise language to describe the properties of 2D and 3D shapes, and compare shapes by reasoning about similarities and differences in properties.</i>		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  <i>Compare areas and calculate the area of rectangles (including squares) using standard units.</i>  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
<b>Angles</b>							
				recognise angles as a property of shape or a description of a turn  <i>Recognise right angles as a property of shape or a description of a turn, and identify right angles in 2D shapes presented in different orientations.</i>		know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles  <i>Compare angles, estimate and measure angles in degrees (°) and draw angles of a given size.</i>	

**Key:** National curriculum / *Ready to Progress Criteria*

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				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 ½ 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			