



## Progression of Skills: Geometry: properties of shapes

Nursery	Reception	Y1	Y2	Y3	Y4	Y5	Y6
<p><b>Geometry: properties of shapes</b></p> <p><b>Pupils should be taught to:</b></p> <p>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'.</p> <p>Select shapes appropriately: flat surfaces for a building, a triangular pattern for a roof, etc.</p> <p>Combine shapes to make new ones – an arch, a bigger triangle, etc.</p>	<p><b>Geometry: properties of shapes</b></p> <p><b>Pupils should be taught to:</b></p> <p>Begin to use mathematical names for 'solid' 3D shapes and 'flat' 2D shapes, and mathematical terms to describe shapes.</p> <p>Select a particular named shape.</p> <p>Use familiar objects and common shapes to create and recreate patterns and build models.</p> <p>Select, rotate and manipulate shapes in order to develop spatial reasoning skills.</p> <p>Compose and decompose shapes so that children can recognise a shape can have other shapes within it, just as numbers can.</p> <p><b>ELG</b> They explore characteristics of everyday objects and shapes and use mathematical language to describe them</p>	<p><b>Geometry: properties of shapes</b></p> <p><b>Pupils should be taught to:</b></p> <p>Recognise and name common 2-D and 3-D shapes, including:</p> <p>-2-D shapes [for example, rectangles (including squares), circles and triangles] -3-D shapes [for example, cuboids (including cubes), pyramids and spheres]</p>	<p><b>Geometry: properties of shapes</b></p> <p><b>Pupils should be taught to:</b></p> <p>Identify and describe the properties of 2-D shapes, including the number of sides and 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]</p> <p>Compare and sort common 2-D and 3-D shapes and everyday objects</p>	<p><b>Geometry: properties of shapes</b></p> <p><b>Pupils should be taught to:</b></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>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><b>Geometry: properties of shapes</b></p> <p><b>Pupils should be taught to:</b></p> <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><b>Geometry: properties of shapes</b></p> <p><b>Pupils should be taught to:</b></p> <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 (<math>^{\circ}</math>)</p> <p>Identify: -angles at a point and one whole turn (total <math>360^{\circ}</math>) -angles at a point on a straight line and <math>\frac{1}{2}</math> a turn (total <math>180^{\circ}</math>) -other multiples of <math>90^{\circ}</math></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><b>Geometry: properties of shapes</b></p> <p><b>Pupils should be taught to:</b></p> <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>