

SHCPS Progression in Geometry: Properties of shapes

	EIFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
IDENTIFYING SHAPES AND THEIR PROPERTIES	Three and Four-Year-Olds Reception Early Learning Goals						
	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, 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]. recognise that rectangles, triangles, cuboids and pyramids are not always similar to each other.	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 surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid]	describe the properties of 2-D and 3-D shapes using accurate language, including lengths of lines and acute and obtuse for angles greater or lesser than a right angle. knowledge of the properties of shapes is extended at this stage to symmetrical and non-symmetrical polygon and polyhedron. recognise 3D shapes in different orientations and describe them.	identify lines of symmetry in 2D shapes presented in different orientations. recognise line symmetry in a variety of diagrams, including where the line of symmetry does not dissect the original shape.	identify 3-D shapes, including cubes and other cuboids, from 2-D representations	recognise, describe and build simple 3-D shapes, including making nets illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius

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COMPARING & CLASSIFYING	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'. Compose and decompose shapes so that children 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		compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes compare lengths and angles to decide if a polygon is regular or irregular.	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.
DRAWING & CONSTRUCTING SHAPES			draw lines and shapes using a straight edge	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 ($^{\circ}$) become accurate in drawing lines with a ruler to the nearest millimetre, and measuring with a protractor. use conventional markings for parallel lines and right angles	draw 2-D shapes using given dimensions and angles recognise, describe and build simple 3-D shapes, including making nets

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ANGLES				recognise angles as a property of shape or a description of a turn 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 horizontal and vertical lines and pairs of perpendicular and parallel lines	identify acute and obtuse angles and compare and order angles up to two right angles by size	know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles draw given angles, and measure them in degrees ($^{\circ}$) 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