GEOMETRY – Properties of shape

Pupils should be taught to:

Year 1 programme of study:

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).

Year 2 programme of study:

identify and describe the properties of 2-D shapes, including the number of sides and 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
compare and sort common 2-D and 3-D shapes and everyday objects.

Year 3 programme of study:

draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them
recognise that angles are 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.

Year 4 programme of study:

compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes
identify acute and obtuse angles and compare and order angles up to two right angles by size
identify lines of symmetry in 2-D shapes presented in different orientations
complete a simple symmetric figure with respect to a specific line of symmetry.

Year 5 programme of study:

identify 3-D shapes, including cubes and other cuboids, from 2-D representations
know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles
draw given angles, and measure them in degrees (o)

identify:
angles at a point and one whole turn (total 360o)
angles at a point on a straight line and ½ a turn (total 180o)
other multiples of 90o 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.

Year 6 programme of study:

draw 2-D shapes using given dimensions and angles
recognise, describe and build simple 3-D shapes, including making nets
compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons
illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius
recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.