Geometry Progression

The Programmes of Study are organised in distinct domains, however, in practise they are not taught so discreetly and are interwoven with other areas, for example place value and the four operations. For further detail on how this achieved through our mastery curriculum, the approximate amount of time spent on each focus termly and specific teaching areas, please see our Maths Sequence of Learning Progressions.

	Autumn	Spring	Summer
Year 1	**Properties of shape: 2D and 3D shapes** • Recognise and name common 2D and 3D shapes, including: - 2D shapes (for example, rectangles (including squares), circles and triangles) - 3D shapes (for example, cuboids (including cubes), pyramids and spheres).		**Position and direction** • Describe position, direction and movement, including whole, half, quarter and three-quarter turns.
Year 2	Autumn	Spring	Summer
		Properties of shapes • Compare and sort common 2D and 3D shapes and everyday objects. • Identify and describe the properties of 2D shapes, including the number of sides and line symmetry in a vertical line • Identify and describe the properties of 3D shapes, including the number of edges, vertices and faces • Order and arrange combinations of mathematical objects in patterns and sequences • Identify 2D shapes on the surface of 3D shapes, (for example, a circle on a cylinder and a triangle on a pyramid). **Position and direction** • Compare and sort common 2D and 3D shapes and everyday objects	**Position and direction** • Use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anticlockwise). • Order and arrange combinations of mathematical objects in patterns and sequences.

Year 3	Autumn	Spring	Summer
			Angles and properties of shapes • 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. • Draw 2D shapes and make 3D shapes using modelling materials; recognise 3D shapes in different orientations and describe them.
Year 4	Autumn	Spring	Summer
			Properties of shapes: Angles and 2D shapes • Identify acute and obtuse angles and compare and order angles up to two right angles by size. • Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes. • Identify lines of symmetry in 2D shapes presented in different orientations. • Complete a simple symmetric figure with respect to a specific line of symmetry. **Position and direction** • Describe positions on a 2D grid as coordinates in the first quadrant. • Plot specified points and draw sides to complete a given polygon. • Describe movements between positions as translations of a given unit to the left/right and up/down

Year 5	Autumn	Spring	Summer
			Properties of shapes – Angles • Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles. • Identify - angles at a point and one whole turn (total 360°) - angles at a point on a straight line and 1/2 a turn (total 180°) - other multiples of 90° • Draw given angles, and measure them in degrees (°). • Use the properties of rectangles to deduce related facts and find missing lengths and angles. **Properties of shapes - Parallel and perpendicular** • Identify - angles at a point and one whole turn (total 360°) - angles at a point on a straight line and 1/2 a turn (total 180°) - other multiples of 90° • 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. • Identify 3D shapes, including cubes and other cuboids, from 2D representations **Position and direction** • Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed.

Year 6	Autumn	Spring	Summer
	Position and direction • Describe positions on the full coordinate grid (all four quadrants). • Draw and translate simple shapes on the coordinate plane, and reflect them in the axes		**Properties of shapes** • Draw 2D shapes using given dimensions and angles • Compare and classify geometric shapes based on their properties and sizes, and find unknown angles in any triangles, quadrilaterals and regular polygons. • Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles • Illustrate and name parts of circles, including radius, diameter and circumference, and know that the diameter is twice the radius. • Recognise, describe and build simple 3D shapes, including making nets **Problem Solving** • Describe positions on the full coordinate grid (all four quadrants). • Compare and classify geometric shapes based on their properties and sizes, and find unknown angles in any triangles, quadrilaterals and regular polygons. • Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles