Town End Junior School

National Curriculum 2014 and Ready to Progress Criteria

Strand: Geometry

Objectives in black are National Curriculum statutory requirements; objectives in blue are non-statutory ready to progress criteria.

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Properties of shapes • 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). 1G–1 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. 1G–2 Compose 2D and 3D shapes from smaller shapes to match an example, including manipulating shapes to place them in particular orientations.	**Properties of shapes** • Identify & describe the properties of 2-D shapes, including the number of sides & symmetry in a vertical line. • Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces. 2G–1 Use precise language to describe the properties of 2D and 3D shapes, and compare shapes by reasoning about similarities and differences in properties. • Identify 2-D shapes on the surface of 3-D shapes, e.g. a circle on a cylinder & a triangle on a pyramid. • Compare and sort common 2-D and 3-D shapes and everyday objects.	**Properties of shapes** • 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. 3G–1 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. • Identify horizontal and vertical lines and pairs of perpendicular and parallel lines. 3G–2 Draw polygons by joining marked points, and identify parallel and perpendicular sides.	**Properties of shapes** • Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes. 4G–2 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. • 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. 4G–3 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.	**Properties of shapes** • 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. 5G–1 Compare angles, estimate and measure angles in degrees (°) and draw angles of a given size. • Draw given angles, and measure them in degrees (°). • 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°. • 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.	Properties of shapes • Draw 2-D shapes using given dimensions and angles. 6G–1 Draw, compose, and decompose shapes according to given properties, including dimensions, angles and area, and solve related problems. • 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.

Position and direction • Describe position, directions and movements, including half, quarter and three -quarter turns.	**Position and direction** • Order and arrange combinations of mathematical objects in patterns. • Use mathematical vocabulary to describe position, direction and movement, including distinguishing between rotation as a turn and in terms of right angles for quarter, half and three - quarter turns (clockwise and anti -clockwise), and movement in a straight line.		**Position and direction** • Describe positions on a 2-D grid as coordinates in the first quadrant. • Describe movements between positions as translations of a given unit to the left/right and up/down. • Plot specified points and draw sides to complete a given polygon. 4G –1 Draw polygons, specified by coordinates in the first quadrant, and translate within the first quadrant.	**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.	**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.