Maths Objectives – Shape

Key Stage	Objective	Child Speak Target
KS 1 Y1	Recognise and name common 2-D and 3-D shapes, including 2-D shapes [for example, rectangles (including squares), circles and triangles].	*I can name common 2-D shapes such as rectangles, squares, circles and triangles.*
KS 1 Y1	Recognise and name common 2-D and 3-D shapes, including 3-D shapes [for example, cuboids (including cubes), pyramids and spheres].	*I can name some 3-D shapes such as cuboids and cubes, pyramids and spheres.*
KS 1 Y2	Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line.	*I can describe the properties of some 2-D shapes, including the number of sides they have and facts about their symmetry.*
KS 1 Y2	Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces.	*I can describe the properties of some 3-D shapes, including the number of edges, faces and vertices they have.*
KS 1 Y2	Identify 2-D shapes on the surface of 3-D shapes [for example, a circle on a cylinder and a triangle on a pyramid].	*I can tell you which 2-D shapes appear as the faces on 3-D shapes, such as triangles on a pyramid.*
KS 1 Y2	Compare and sort common 2-D and 3-D shapes and everyday objects.	*I can compare 2-D and 3-D shapes with everyday objects around me.*
KS 2 Y3	Draw 2-D shapes and make 3-D shapes using modelling materials.	*I draw 2-D shapes and make 3-D shapes using modelling materials.*
KS 2 Y3	Recognise 3-D shapes in different orientations and describe them.	*I recognise and can describe 3-D shapes even when they have been turned about in different ways.*
KS 2 Y3	Recognise angles as a property of shape or a description of a turn.	*I know an angle is used to measure how far something turns. An angle is also the point in a 2-D shape.*
KS 2 Y3	Identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn .	*I know what a right angles is and I know that two right angles make a half-turn, three make three quarters of a turn and four right angles make a complete turn.*
KS 2 Y3	Identify whether angles are greater than or less than a right angle.	*I can tell whether an angle is greater than or less than a right angle.*
KS 2 Y3	Identify horizontal and vertical lines and pairs of perpendicular and parallel lines.	*I know when a line is horizontal or vertical or when two lines are perpendicular or parallel.*
KS 2 Y4	Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes.	*I can group 2-D shapes based on their properties (such as the number of sides) and sizes.*
KS 2 Y4	Identify acute and obtuse angles and compare and order angles up to two right angles by size.	*I can find acute and obtuse angles and order a set of given angles by size.*
KS 2 Y4	Identify lines of symmetry in 2-D shapes presented in different orientations.	*I can find all the lines of symmetry in 2-D shapes.*
KS 2 Y4	Complete a simple symmetric figure with respect to a specific line of symmetry.	*If I have been given one half of a symmetrical shape, I can complete the other half based on the position of the line of symmetry.*
KS 2 Y5	Identify 3-D shapes, including cubes and other cuboids, from 2-D representations.	*I can Identify 3-D shapes, including cubes and other cuboids, from 2-D drawings.*
KS 2 Y5	Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles.	*I know that angles are measured in degrees and I can estimate and compare acute, obtuse and reflex angles.*
KS 2 Y5	Draw given angles, and measure them in degrees (°).	*I can draw a given angle (such as 47°), and then measure them in degrees (°).*
KS 2 Y5	Identify angles at a point and one whole turn (total 360°).	*I know one whole turn - or a set of angles all around a point - measure a total of 360°.*
KS 2 Y5	Identify angles at a point on a straight line and a turn (total 180°).	*I know that a straight line - or angles that add up to a straight line - measure 180°.*
KS 2 Y5	Identify other multiples of 90°.	*I can identify multiples of 90° (right angles).*
KS 2 Y5	Use the properties of rectangles to deduce related facts and find missing lengths and angles.	*I can find the missing lengths and angles of a rectangle.*
KS 2 Y5	Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.	*I know regular shapes have equal sides and angles and irregular shapes do not have equal sides and angles.*

Key Stage	Objective	Child Speak Target
KS 2 Y6	Draw 2-D shapes using given dimensions and angles.	*I accurately draw 2-D shapes using given dimensions and angles.*
KS 2 Y6	Recognise, describe and build simple 3-D shapes, including making nets.	*I can recognise, describe and build 3-D shapes, including making nets.*
KS 2 Y6	Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons.	*I can classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons.*
KS 2 Y6	Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius.	*I know the parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius.*
KS 2 Y6	Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.	*I can work with angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.*
KS3	Derive and apply formulae to calculate and solve problems involving: perimeter and area of triangles, parallelograms, trapezia, volume of cuboids (including cubes) and other prisms (including cylinders).	
KS3	Calculate and solve problems involving: perimeters of 2-D shapes (including circles), areas of circles and composite shapes.	
KS3	Draw and measure line segments and angles in geometric figures, including interpreting scale drawings.	
KS3	Derive and use the standard ruler and compass constructions (perpendicular bisector of a line segment, constructing a perpendicular to a given line from/at a given point, bisecting a given angle); recognise and use the perpendicular distance from a point to a line as the shortest distance to the line .	
KS3	Describe, sketch and draw using conventional terms and notations: points, lines, parallel lines, perpendicular lines, right angles, regular polygons, and other polygons that are reflectively and rotationally symmetric.	
KS3	Use the standard conventions for labelling the sides and angles of triangle ABC, and know and use the criteria for congruence of triangles.	
KS3	Derive and illustrate properties of triangles, quadrilaterals, circles, and other plane figures [for example, equal lengths and angles] using appropriate language and technologies.	
KS3	Position	
KS3	Identify properties of, and describe the results of, translations, rotations and reflections applied to given figures.	
KS3	Shape	
KS3	Identify and construct congruent triangles, and construct similar shapes by enlargement, with and without coordinate grids.	
KS3	Apply the properties of angles at a point, angles at a point on a straight line, vertically opposite angles.	
KS3	Understand and use the relationship between parallel lines and alternate and corresponding angles.	
KS3	Derive and use the sum of angles in a triangle and use it to deduce the angle sum in any polygon, and to derive properties of regular polygons.	
KS3	Apply angle facts, triangle congruence, similarity and properties of quadrilaterals to derive results about angles and sides, including Pythagoras' Theorem, and use known results to obtain simple proofs.	
KS3	Use Pythagoras' Theorem and trigonometric ratios in similar triangles to solve problems involving right-angled triangles.	
KS3	Use the properties of faces, surfaces, edges and vertices of cubes, cuboids, prisms, cylinders, pyramids, cones and spheres to solve problems in 3-D.	
KS3	Interpret mathematical relationships both algebraically and geometrically.	