Geometry: Properties of Shapes

Buckton Vale Primary School

IDENTIFYING SHAPES AND THIER PROPERTIES					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
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]. handle common 2-D and 3-D shapes, naming these and relating them to everyday objects fluently recognise common 2-D and 3-Dshapes in different orientations and sizes and know toast 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] identify, compare and sort shapes on the basis of their properties and use vocabulary precisely such as sides, edges, vertices and faces read and write names for shapes that are appropriate for their word spelling and reading	extend knowledge of the properties of shapes to symmetrical and non-symmetrical polygons and polyhedra	identify lines of symmetry in 2-D 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 (appears also in Drawing and Constructing) illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius Describe the properties of shapes and explain how unknown angles and lengths can be derived from known measurements

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DRAWING AND CONSTRUCTING					
	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 connect decimals and rounding to drawing and measuring straight lines in cm in a variety of contexts	complete a simple symmetric figure with respect to a specific line of symmetry draw symmetric patterns to become familiar with different orientations of lines of symmetry	draw given angles, and measure them in degrees (°) become accurate in drawing lines to the nearest mm and measure 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 (appears also in Identifying Shapes and Their Properties) Draw shapes and nets accurately, using measuring tools and conventional markings and labels for lines and angles

COMPARING AND CLASSIFYING					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	compare and sort common 2-D and 3-D shapes and everyday objects	extend knowledge	compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes **isosceles, equilateral, scalene, parallelogram, rhombus, trapezium** decide if a polygon is regular or irregular	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	compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons

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ANGLES					
		recognise angles as a property of shape or a description of a turn		know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles	
		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 use accurate language acute and obtuse for angles greater or lesser than a right angle	identify acute and obtuse angles and compare and order angles up to two right angles by size	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°	recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles
		identify **horizontal** and **vertical** lines and pairs of **perpendicular** and **parallel lines**		Use angle sum facts and other properties to make deductions about missing angles and relate these to missing number problems	