Strand – Geometry – Properties of shapes					
Rationale					
Shape is introduced very early in school with more difficult concepts being introduced in Key Stage 2. This strand is split into four strands: identifying shapes and their properties, drawing and constructing shapes; comparing and classifying; angles. Shape is very important for growth and development. Learning shapes not only helps children identify and organise visual information, it helps them learn skills in other curriculum areas including reading, math, and science. For example, an early step in understanding numbers and letters is to recognize their shape.					
Learning					
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].	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 lines of symmetry in 2-D shapes presented in different orientations	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
Drawing and constructing					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**

		draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them	complete a simple symmetric figure with respect to a specific line of symmetry	draw given angles, and measure them in degrees (o)	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)
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		compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes	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
Angles					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**

		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	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^{o}) * angles at a point on a straight line and ½ a turn (total 180^{o}) * other multiples of 90^{o}	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			

Key Vocabulary

shape, pattern flat, line curved, straight round Names of shapes hollow, solid corner point, pointed face, side, edge, end sort	surface angle, right-angled congruent intersecting, intersection plane base, square-based vertex, vertices layer, diagram regular, irregular concave, convex	3D, three-dimensional cube, cuboid pyramid sphere, hemi-sphere, spherical cone cylinder, cylindrical prism tetrahedron, polyhedron, octahedron, dodecahedron

make, build, construct, draw, sketch centre, radius, diameter circumference, concentric, arc net	open, closed tangram	
2D, two-dimensional circle, circular, semi-circle triangle, triangular equilateral triangle, isosceles triangle, scalene triangle square, rhombus rectangle, rectangular, oblong pentagon, pentagonal hexagon, hexagonal heptagon octagon, octagonal polygon quadrilateral kite parallelogram, trapezium	size bigger, larger, smaller symmetrical line of symmetry, axis of symmetry line symmetry, reflective symmetry fold match mirror line, reflection, reflect pattern, repeating pattern, translation	