ESF Shape and Space

Phase 1		Phase 2		Phase 3		Phase 4
K1	K2	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6

IBO Overall Expectation	Learners will understand that shapes have characteristics that can be described and compared. They will understand and use common language to describe paths, regions and boundaries of their immediate environment.	Learners will continue to work with 2D and 3D shapes, developing the understanding that shapes are classified and named according to their properties. They will understand that examples of symmetry and transformations can be found in their immediate environment. Learners will interpret, create and use simple directions and specific vocabulary to describe paths, regions, positions and boundaries of their immediate environment.	Learners will sort, describe and model regular and irregular polygons, developing an understanding of their properties. They will be able to describe and model congruency and similarity in 2D shapes. Learners will continue to develop their understanding of symmetry, in particular reflective and rotational symmetry. They will understand how geometric shapes and associated vocabulary are useful for representing and describing objects and events in real-world situations.	Learners will understand the properties of regular and irregular polyhedra. They will understand the properties of 2D shapes and understand that 2D representations of 3D objects can be used to visualize and solve problems in the real world, for example, through the use of drawing and modelling. Learners will develop their understanding of the use of scale (ratio) to enlarge and reduce shapes. They will apply the language and notation of bearing to describe direction and position.
IBO Conceptual Understanding	Shapes can be described and organized according to their properties. Objects in our immediate environment have a position in space that can be described according to a point of reference.	Shapes are classified and named according to their properties. Some shapes are made up of parts that repeat in some way. Specific vocabulary can be used to describe an object's position in space.	Changing the position of a shape does not alter its properties. Shapes can be transformed in different ways. Geometric shapes and vocabulary are useful for representing and describing objects and events in real-world situations.	Manipulation of shape and space takes place for a particular purpose. Consolidating what we know of geometric concepts allows us to make sense of and interact with our world. Geometric tools and methods can be used to solve problems.

	Phase 1			Phase 2		Phase 3		Phase 4
	K1	K2	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
2D and 3D shape	Sort, describe and name familiar two-dimensional shapes and objects in the environment	Sort, describe and name familiar two- and three-dimensional shapes and objects in the environment	Sort, describe, construct and name familiar two-dimensional shapes and three-dimensional objects using appropriate vocabulary	Sort, describe, construct and label familiar two-dimensional shapes and three-dimensional objects in the environment using appropriate vocabulary	Sort, describe, compare and label regular and irregular two-dimensional shapes and three-dimensional objects using appropriate vocabulary Construct three-dimensional objects and recognize them in different orientations	Sort, draw, describe and classify regular and irregular two-dimensional shapes and three-dimensional objects using appropriate vocabulary Connect three-dimensional objects with their nets and other two-dimensional representations	Identify, describe, classify and visualize properties of triangles, quadrilaterals and polyhedrons using mathematical vocabulary Construct three-dimensional objects from given dimensions	Identify, describe, classify and visualize properties of circles using mathematical vocabulary Visualise, describe, draw and model two-dimensional representations of three-dimentsional objects and vice versa
				Identify and record examples of symmetry in the environment	Create and describe symmetrical patterns, pictures and shapes Identify and draw lines of reflective symmetry in patterns, pictures and shapes	Identify and record order of rotational symmetry Describe translations, reflections and rotations of two-dimensional shapes	Transform, reduce and enlarge two-dimensional shapes Describe and model congruency and similarity in two-dimensional shapes	Identify and use scale (ratio) to reduce and enlarge 2Dshapes Transform, reduce and enlarge 3D objects Describe and model congruency and similarity in 3D objects

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Location	Develop an understanding and begin to use simple vocabulary to describe position, for example, in, out, on, under, up, down	Develop an understanding and begin to use simple vocabulary to describe position, direction and movement, for example, inside, outside, above, below, next to Can follow and give simple directions, describing paths, regions, positions and boundaries of their immediate environment.	Describe position and direction in a practical context for example, inside, outside, above, below, next to, behind, in front of, up, down	Describe position and direction using mathematical vocabulary for example, left, right, forwards, backwards	Describe direction and position using mathematical language for example describing rotations: whole turn; half turn; quarter turn; clockwise and anti-clockwise Create and interpret simple grid references to show position and pathways (eg: A4)	Describe direction using the four compass points Locate and record features on a grid using coordinates in the first quadrant	Describe direction using the eight compass points Locate and record features on a grid using coordinates in two quadrants	Describe position using the language and notation of bearing Locate and record features on a grid using coordinates in all four quadrants