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| **Year 2 - Building and assessing the conceptual understanding and learning – Geometry** |
| **End of Year Expectations:****Geometry A: properties of shapes:**Pupils should be taught to: * identify and describe the properties of 2-D shapes, including the number of sides and 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
* compare and sort common 2-D and 3-D shapes and everyday objects.

**Geometry B: position and direction**Pupils should be taught to: * 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.
 | **Non-statutory guidance:****Properties of shapes** Pupils handle and name a wider variety of common 2-D and 3-D shapes including: quadrilaterals and cuboids, prisms, cones and polygons, and identify the properties of each shape (e.g. number of sides, number of faces). Pupils identify, compare and sort shapes on the basis of their properties and use vocabulary precisely, such as sides, edges, vertices and faces. Pupils read and write names for shapes that are appropriate for their word reading and spelling. Pupils draw lines and shapes using a straight edge. **Position and direction:**Pupils should work with patterns of shapes, including those in different orientations. Pupils use the concept and language of angles to describe ‘turn’ by applying rotations, including in practical contexts (e.g. pupils themselves moving in turns, giving instructions to other pupils to do so, and programming robots using instructions given in right angles).  |
| **Autumn** | **Spring** | **Summer** |
| * Identify and describe the properties of a range of 2D shapes (including irregular shapes) – including number of sides and line symmetry.
* identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces
* compare and sort 2D and 3D shape according to different criteria
* order and arrange combinations of mathematical objects in patterns and sequences
 | * identify 2-D shapes on the surface of 3-D shapes, for example a circle on a cylinder and a triangle on a pyramid
* compare and sort common 2-D and 3-D shapes and everyday objects, recognising and describing their properties.
* Use mathematical vocabulary to describe position, direction and movement
* Investigate the concept of rotation or “turn” – in relation to angle as a movement.
* Continue to use and apply knowledge of quarter, half and three-quarter turns (clockwise and anti-clockwise)
 | * Relate quarter turns to right angles
* compare and sort common 2-D and 3-D shapes and everyday objects.
* identify and describe the properties of 2-D shapes, including the number of sides and 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
* compare and sort common 2-D and 3-D shapes and everyday objects.
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| **Key questions:*** Can I identify and describe the properties of a range of 2D shapes (including irregular shapes) – referring to the number of sides and lines of symmetry?
* Can I identify and describe the properties of a range of 3D shapes, referring to the number of vertices, edges and faces?
* Can I compare and sort 2D and 3D shapes, explaining how I have done this?
* Can I use different combinations of shapes (in different orientations) to make and extend patterns and sequences, explaining the patterns?
 | **Key questions:*** Can I identify and talk about 2D shapes on the surfaces of 3D shapes?
* Can I confidently compare and sort a range of 2D and 3D shapes, recognizing and describing their properties?
* Can I use a range of mathematical language to describe position, direction and movement?
* Can I recognize the concept of angle as movement or turn?
* Can I use and apply the language of “turn” or rotation – e.g. quarter, half and three quarter turn?

**See NCETM “Teaching for Mastery” Year 2 book – geometry**https://www.ncetm.org.uk/public/files/23305579/Mastery\_Assessment\_Y2\_Low\_Res.pdf  | **Key questions:*** Can I show that I understand that a right angle is, relating this to a “quarter turn”?
* Can I demonstrate my understanding of a range of 2D shapes (in different orientations), talking about their properties – including symmetry – using mathematical language?
* Can I demonstrate my understanding of a range of 3D shapes, talking about their properties using mathematical language?
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