Dereham Church Infant and Nursery School- Mathematics

	Year group: 2	Area/topic: Mathematics- properties of shape
	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 Compare and sort common 2-D and 3-D shapes and everyday objects 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 Compare and sort common 2-D and 3-D shapes and everyday objects	

Prior learning	Future learning
During EYFS children focussed on shape and patterns in phases 3 and 6. Children completed a shape block in Autumn term of Year 1. Shape features frequently in regular maths meetings.	The learning from this unit will be continued and applied further, particularly within Measurement, position and direction, mass and capacity

What pupils need to know or do to be secure	
Key knowledge and skills	Possible evidence
To recognise 2D and 3D shapes Count the sides of a 2D shape To count the vertices of a 2D shape	Successfully name 2D and 3D shapes Completed match the shape activities

Successfully draw 2D shapes To identify lines of symmetry on shapes To use lines of symmetry to complete shapes Sort 2-D shapes To count the faces on a 3-D shape To count the edges on a 3-D shape Count vertices on 3-D shapes Sort 3-D shapes Make patterns with 2-D and 3-D shapes	2D shapes drawn on squared or dotted paper Vertical lines of symmetry drawn on shapes Shapes drawn accurately on square paper Photos of shapes sorted correctly into 2 groups Identification of the number of faces on a range of 3-D shapes Placing a selection of 3-D shapes in order from smallest number of edges to largest. Solve problems that include vertices Cut and stick activity where 3-Dshapes have been sorted appropriately Photos of children continuing a friends pattern using solid 3-D shapes
Key vocabulary	
2D, 3D, circle, triangle, square, rectangle, pentagon, hexagon, quadrilateral, octagon, cuboid, cube, sphere, triangular prism, cone, cylinder, sides, vertex, vertices, symmetrical, vertical, more, fewer, curved, face, surface, edges,	

Common misconceptions	Books linking to this area
Children may call 3-D shapes by the names of the faces, for example calling a cube a square. Children may not be able to differentiate between 2-D and 3-D shapes, particularly when looking at an image.	Mouse Shapes by Ellen Stoll Walsh Which one doesn't belong? By Christopher Danielson

Children may miscount the sides of shapes, either not counting all the sides or counting a side more than once. Children may miscount the number of vertices a shape has, either by not counting all the vertices or counting a vertex more than once. Children may not recognise that a shape has the same number of sides and vertices If children do not draw their vertical line accurately, they will be unable to determine whether a shape is/is not symmetrical. Children may not use mirrors accurately. Children need to be able to use a ruler to draw 2-D shapes accurately or their drawings will not be symmetrical. When looking at an image, children may only count the visible faces. Children may mix up faces and curved surfaces. Children may not be able to visualise the 2-D shapes that make up a 3-D shape	The perfect fit by Naomi Jones One more try by Naomi Jones Triangle by Mac Barnett Circle by Mac Barnett Square by Mac Barnett
Memorable first hand experiences	Opportunities for communication
Using a selection of different sized 2D and 3D shapes	Identifying and discussing the odd one out Completing sentence stems provided by White Rose

DCINS Reasonable adjustments for pupils with SEND

Communication and Interaction	Cognition and Learning
Use a range of visual aids Give clear instructions one at a time Repetition Provide simple instructions Pre teach vocabulary Use working wall where modelling is displayed Give children thinking time Model task	Check understanding regularly Allow rest breaks Give thinking time Colour code signs that could be confusing Work checklists Break down tasks into small steps Give opportunities for over-learning
Social, Emotional and Mental health	**Sensory and Physical**
Allow access to a quiet and calm space Give child a special role to increase self esteem Provide a visual support- what to do if you are stuck Provide a movement break Seat pupil by more confident peer Now and next board Sand timers Movement breaks Break down tasks into small steps	Consider carpet space position Reduce background noise Provide a range of manipulatives- dienes may be too small Appropriate seating Wobble boards Writing slope Enlarge text Variety of writing tools available