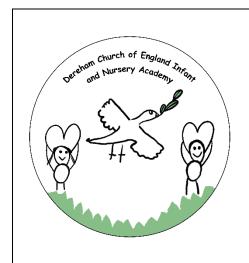
Dereham Church of England Infant and Nursery Academy- Mathematics



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

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

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,

Books linking to this area		
Mouse Shapes by Ellen Stoll Walsh		
Which one doesn't belong? By Christopher Danielson		

Common misconceptions

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.

Children may miscount the sides of shapes, either not counting all the sides or counting a side more than ance. Children may miscount the number of vertices a shape has, either by not counting all the vertices or counting a vertex more than ance. 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

Communication and Interaction

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

Cognition and Learning

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

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

Sensory and Physical

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