


# Dereham Church Infant and Nursery School- Mathematics

	<p><i>Year group: Reception</i></p>	<p><i>Area/topic: Mathematics- explore 3D shapes</i></p> <p><i>Development Matters - Reception - Select, rotate and manipulate shapes to develop spatial reasoning skills.</i></p> <p><i>Reception - Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can.</i></p> <p><i>3 and 4-year-olds - Talk about and explore 2D and 3D shapes (for example, circles, rectangles, triangles and cuboids) using informal and mathematical language: 'sides', 'corners'; 'straight', 'flat', 'round'</i></p> <p><i>3 and 4-year-olds - Notice and correct an error in a repeating pattern.</i></p> <p><i>Reception - Continue, copy and create repeating patterns.</i></p> <p><i>Birth to 5 Matters - Range 6 - Investigates turning and flipping objects in order to make shapes fit and create models; predicting and visualising how they will look (spatial reasoning)</i></p> <p><i>Range 6 Enjoys composing and decomposing shapes, learning which shapes combine to make other shapes</i></p> <p><i>Range 6 Uses own ideas to make models of increasing complexity, selecting blocks needed, solving problems and visualising what they will build</i></p> <p><i>Range 6 Spots patterns in the environment, beginning to identify the pattern "rule"</i></p> <p><i>Range 6 Chooses familiar objects to create and recreate repeating patterns beyond AB patterns and begins to identify the unit of repeat</i></p>
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Prior learning	Future learning
<p>In the Autumn term children looked at shapes with 4 sides and circles and triangles.</p>	<p>Children will apply this knowledge during daily maths meetings</p>

*What pupils need to know or do to be secure*

<i>Key knowledge and skills</i>	<i>Possible evidence</i>
<i>Recognise and name 3-D shapes</i>	<i>When reading books such as Changes, Changes by Pat Hutchins, encourage children to notice where they can see 3-D shapes. Prompt children to replicate the images in the stories using 3-D shapes. Ask them to name the shapes as they select them.</i>
<i>Find 2-D shapes within 3-D shapes</i>	<i>Provide children with a range of 3-D shapes and real-life objects. Encourage them to explore printing with 3-D shapes using paint. What do they notice? What 2-D shape can they see?</i>
<i>Use 3-D shapes for tasks</i>	<i>After reading traditional tales such as Rapunzel, children explore building towers. Which shapes do they need to use to build Rapunzel's tower? Which shapes do they need to place at the bottom of the tower? Which shapes do they need to place at the top? Prompt them to say why they have chosen to place that shape in that position.</i>
<i>3-D shapes in the environment</i>	<i>Go on a shape hunt around the classroom. Encourage children to recognise and name the 3-D shapes they find and prompt them to describe their properties. Ask the children to</i>

<p>Identify more complex patterns</p> <p>Copy and continue patterns</p> <p>Patterns in the environment</p>	<p>find another object that is the same shape or a different shape.</p> <p>Show children an AAB and ABB pattern and ask them what they notice. What patterns can they see? What is the same? What is different?</p> <p>Go outside and model making large-scale patterns with more complex pattern structures such as ABCD, AAB, ABB and ABBA. Use a range of large outdoor resources such as crates, tyres and sticks. Support children to copy and continue the patterns. What comes next in the pattern?</p> <p>Ask children to arrange patterns around a circle, such as a hoop or a paper plate. Prompt them to consider how they will continue the pattern all the way round. Does their pattern fit? Encourage children to view other patterns in the environment and replicate them.</p>
<p>Key vocabulary</p>	
<p>Same, different, flat face, curved face, 2D, 3D, roll, stack, pattern, next,</p>	
<p>Common misconceptions</p>	<p>Books linking to this area</p>
<p>Gather a range of recyclable box modelling resources of different shapes and sizes for children to build with.</p>	<p>Circle! Sphere! by Grace Lin Changes, Changes by Pat Hutchins Naughty Bus by Jan Oke</p>

<p>Enhance dough areas with 3-D shapes and real objects for children to experiment with and explore the properties of shapes.</p> <p>Encourage children to create patterns linked to their interests by providing a range of loose parts in different areas of provision.</p>	<p>Rapunzel</p> <p>Shapes, Shapes, Shapes by Tana Hoban</p> <p>Pattern Fish by Trudy Harris</p> <p>Busy, Busy, Busy by Haneul Ddang</p>
Memorable first hand experiences	Opportunities for communication
<p>Many opportunities to play games. Regular use of a range of manipulatives, loose parts, natural objects etc.</p>	<p>Ask and discuss the key questions provided by White Rose</p> <p>Discuss, share and repeat the sentence stems provided by White Rose</p>

## DCINS Reasonable adjustments for pupils with SEND

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