

**Unit 6**  
**Shape and space**

**Four daily lessons**

**Merseyside Consultants'**  
**Cluster Group**

**Year 1**  
**Autumn term**

This Unit Plan is designed to guide your teaching.

You will need to adapt it to meet the needs of your class.

**Unit Objectives**

**Year 1**

**Use everyday language to describe features of familiar 3-D and 2-D shapes**, including the cube, cuboid, sphere, cylinder, cone..., circle, triangle, square, rectangle..., referring to properties such as the shapes of flat faces, or the number of faces or corners... or the number and types of sides.  
Make and describe models, patterns and pictures using construction kits.  
Recognise simple patterns. Use one or more shapes to make repeating patterns.  
Use everyday language to describe position.  
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**Link Objectives**

**Reception**

**Use language such as circle or bigger to describe the shape and size of solids and flat shapes.**  
Begin to name solid shapes such as a cube, cone, sphere... and flat shapes such as a circle, triangle, square, rectangle...  
Use a variety of shapes to make models, pictures and patterns and describe them.  
Take about, recognise and recreate patterns.  
**Use everyday language to describe position.**

(Key objectives in bold)

**Year 2**

**Use the mathematical names for common 3-D and 2-D shapes**, including the pyramid, cylinder, pentagon, hexagon, octagon...  
**Sort shapes and describe some of their features**, such as the number of sides and corners, symmetry (2-D shapes), or the shapes of faces and number of faces, edges and corners (3-D shapes).  
Make and describe shapes, pictures and patterns using, for example, solid shapes, templates, pinboard and elastic bands, squared paper, programmable robot...  
Recognise simple patterns, generalise and predict.  
**Use mathematical vocabulary to describe position.**

**Resources needed to teach this unit:**

Four soft toys (optional)  
Resource Sheet 6.1  
Resource Sheet 6.2  
Resource Sheet 6.3  
Resource Sheet 6.4  
Card shape labels (circle, triangle, oblong, square)  
2-D shapes (circles, triangles, oblongs, squares: include various sizes and different types of triangles, and sets that are the same colour)  
Gummed paper shapes (optional)  
Sponge shapes or junk packages for printing circles, triangles, oblongs and squares.  
Paint  
Big sheets of paper  
Dice with faces marked with pictures of a circle, 2 different triangles, a square and 2 different oblongs  
3-D shapes, including packaging (NB there need to be enough to have some at the front and some placed around the classroom)  
3-D shape labels  
Construction kits, building blocks, etc.  
Colourful poster showing a familiar scene or a picture from a familiar Big Book or a model farm scene/doll's house or similar

Planning sheet	Day One	Unit 6 <i>Shape and space</i>	Term: <i>Autumn</i>	Year Group: <i>1</i>
Oral and Mental		Main Teaching		Plenary
Objectives and Vocabulary	Teaching Activities	Objectives and Vocabulary	Teaching Activities	Teaching Activities/ Focus Questions
		<p><b>Use everyday language to describe features of familiar 2-D shapes</b>, including the circle, triangle, square, rectangle..., referring to properties such as the number and types of sides.</p> <p>VOCABULARY Circle Triangle Square Oblong Rectangle Side Straight Curved</p> <p>RESOURCES Four soft toys or Resources Sheets 6.1 – 6.4 Card for shape labels (circle, triangle, oblong, square) Variety of 2-D shapes Gummed paper shapes (optional) Feely bag</p>	<p>Introduce the children to the four soft toys (or pictures from the Resources sheets) and explain that each toy loves to collect particular shapes.</p> <p>The hippo loves to collect circles. Show the circle shape label and stick it by the hippo. Repeat for the triangle, oblong and square.</p> <p>Take one 2-D shape and show it to the children.</p> <p>Q Which toy should we give this to? How do you know?</p> <p>Discuss the shape's properties, e.g. That's right, it's an oblong. It has four straight sides. There are two longer sides opposite each other and two shorter sides opposite each other. It has four corners and they're all the same shape, just like the corner on a piece of A4 paper.</p> <p>Repeat this for one each of the remaining triangles, squares and circles.</p> <p>Place the rest of the shapes where the children can see them. Choose different children to select a shape and give it to the right toy.</p> <p>When all of the shapes have been given to the toys, discuss each toy's collection in turn. For each set, ask questions, such as:</p> <p>Q What do these shapes all have in common?</p> <p>Q What's different about them?</p> <p>Q Which one is the largest/smallest?</p> <p>Ask the children to look carefully at the oblongs and the squares.</p> <p>Q What do the squares have in common with the oblongs?</p> <p>Q What difference is there between the square and the oblong?</p> <p>Explain to the children that oblongs and square both belong to the rectangle family (just like Debbie and Nicky belong to the Thomas family in Judith Kerr's Mog stories!). They've got a lot of things in common, but they are not exactly the same.</p> <p>Children use a selection of 2-D shapes to draw around to make a "shape animal". Alternatively they could use a selection of gummed paper shapes. Encourage them to name each shape and describe it.</p>	<p>Ask some of the children to show their "shape animals" and describe the shapes they've used.</p> <p>Put a selection of the 2-D shapes in the feely bag. Remind the children of which toy collected which shape, Choose children to come a select a shape from the feely bag. Before they pull it out, they need to describe what they can feel or the other children.</p> <p>Q What shape do you think .... has? Why do you think that?</p> <p>Q Where will that shape go? How do you know?</p> <p>Once three or four shapes have been pulled out of the bag, arrange a repeating pattern, e.g. square, triangle, square, triangle on the board.</p> <p>Q Describe the shape that will come next. How do you know it's going to be a ...?</p> <p>Repeat, using three different shapes in the pattern.</p> <p>HOMEWORK – Ask the children to look for 2-D shapes at home or on the way home and tell you about it tomorrow.</p> <p><b>By the end of the lesson children should be able to:</b></p> <p><b>recognise circles, triangles, oblongs and squares describe these shapes using words such as "straight", "curved", "sides", "corners", etc.</b></p> <p>(Refer to supplement of examples, section 5, page 80.)</p>

Planning sheet	Day Two	Unit 6 <i>Shape and space</i>		Term: <i>Autumn</i>	Year Group: <i>1</i>
Oral and Mental		Main Teaching			Plenary
Objectives and Vocabulary	Teaching Activities	Objectives and Vocabulary	Teaching Activities	Teaching Activities/ Focus Questions	
		<p><b>Use everyday language to describe features of familiar 2-D shapes</b>, including the circle, triangle, square, rectangle..., referring to properties such as the number and types of sides.</p> <p>Recognise simple patterns. Use one or more shapes to make repeating patterns.</p> <p><b>VOCABULARY</b>            Circle            Triangle            Square            Oblong            Rectangle            Side            Straight            Curved            Pattern            Repeat            Repeating</p> <p><b>RESOURCES</b>            Variety of 2-D shapes, including some that are the same colour.            Sponge shapes or junk packaging for printing circles, triangles, oblongs and squares.            Paint            Big sheets of paper</p>	<p>Follow up the homework task.</p> <p>Q Where did you see a circle/triangle, etc? Why was it there?</p> <p>Explain that you are going to describe a shape and ask the children to identify it, e.g. this shape has one curved side that goes all the way around it, this shape has 3 straight sides and three corners, etc. As the children identify the shapes, place them up on the board, where they can be clearly seen.</p> <p>Explain that you are going to make a repeating pattern, using some of the card shapes. Start by using just two shapes, repeated twice.</p> <p>Q Which shape comes first? Which comes second? Which comes third? Which comes fourth?</p> <p>Q Describe the shape that will come next. How do we know?</p> <p>Invite a child to come and make a different repeating pattern. Again, question the other children as to what will come next as they build up the pattern.</p> <p>Move onto using different coloured shapes, e.g. red square, blue circle, green oblong, red square, blue circle, green oblong, etc.</p> <p>Q Which shape and colour will come next? How do we know?</p> <p>Repeat two or three more times, again asking children to select the initial pattern.</p> <p>Children make a "pattern snake" by printing a repeating pattern using different shapes. They then compare their snake with a partner's and describe it. Then they copy their partner's snake underneath their own.</p> <p><b>NB Make some pattern snakes with mistakes in for discussion during the plenary.</b></p>	<p>Show the children a pattern snake that one of the children has made.</p> <p>Q Describe this pattern for me.</p> <p>Show the children one of the pattern snakes with a mistake in.</p> <p>Q Describe this pattern for me.</p> <p>Don't mention that it has a mistake initially, unless none of the children mention it.</p> <p>Q What should the pattern be? What needs to change?</p> <p><b>By the end of the lesson children should be able to:</b></p> <p><b>describe 2-D shapes using words such as "straight", "curved", "sides", "corners", etc.</b></p> <p><b>describe and make a repeating pattern using 2-D shapes</b></p> <p>(Refer to supplement of examples, section 5, page 80, 82.)</p>	

Planning sheet	Day Three	Unit 6 <i>Shape and space</i>	Term: <i>Autumn</i>	Year Group: <i>1</i>
Oral and Mental		Main Teaching		Plenary
Objectives and Vocabulary	Teaching Activities	Objectives and Vocabulary	Teaching Activities	Teaching Activities/ Focus Questions
		<p><b>Use everyday language to describe features of familiar 3-D and 2-D shapes</b>, including the cube, cuboid, sphere, cylinder, cone..., referring to properties such as the shapes of flat faces, or the number of faces or corners,</p> <p>Make and describe models, patterns and pictures using construction kits.</p> <p>VOCABULARY  Cube  Cuboid  Sphere  Cylinder  Cone  Face  Edge  Flat  Curved  Corner/Points</p> <p>RESOURCES  Dice with faces marked with pictures of a circle, 2 different triangles, a square and 2 different oblongs.  Variety of 3-D shapes, including packaging and everyday materials, including some placed around the classroom. <b>(NB There need to be enough so that every pair can find at least one shape!)</b>  3-D shape labels  Construction kits, building blocks, etc.  Feely bag</p>	<p>Roll the shape dice and sow the children the face that is uppermost.</p> <div data-bbox="969 311 1648 355" style="border: 1px solid black; padding: 2px;">Q What shape is this? How do you know?</div> <p>Repeat two more times.</p> <p>Show children the 3-D shapes, and explain how some of them have flat faces.</p> <p>Roll the dice again and invite a child to find a 3-D shape that has a flat face the same shape as the 2-D shape on the dice (e.g. if a circle has been rolled, they might pick up a cylinder or a cone).</p> <p>For each shape that is picked up, name it and put a label by it.</p> <div data-bbox="969 630 1648 695" style="border: 1px solid black; padding: 2px;">Q How would you describe this 3-D shape? Tell me about its edges/faces, etc.</div> <p>Draw the children's attention to the cube and the cuboid.</p> <div data-bbox="969 751 1648 807" style="border: 1px solid black; padding: 2px;">Q What have the cube and cuboid got in common?</div> <div data-bbox="969 815 1648 866" style="border: 1px solid black; padding: 2px;">Q How are they different?</div> <p>In pairs, ask the children to go on a shape hunt and find at least one 3-D shape or object in the classroom and bring it back to the carpet before you count down from, e.g. ten to zero.</p> <div data-bbox="969 975 1648 1046" style="border: 1px solid black; padding: 2px;">Q What shape is this tin of baked beans/cornflakes packet/ball, etc? How do you know? Describe it for me.</div> <p>Ask the children to look carefully at the set of 3-D shapes, then describe one for them, e.g. this shape has 6 flat faces, and each face is a square. Which shape is it?</p> <p>Repeat for one or two other 3-D shapes.</p> <p>In twos or threes, the children build a model using construction kits, building blocks, etc. This might be a model of a building or vehicle in a familiar story (e.g. the troll's bridge, the three bears' house, Cinderella's carriage, etc) or a model from another curriculum area (e.g. a ride on a seaside funfair or a building they've seen whilst out on a local walk, etc). encourage the children to name and describe the 3-D shapes they are using.</p>	<p>Put a selection of 3-D shapes in a feely bag and have another set available for the children to see.</p> <p>Put your hand in and describe carefully the shape you are feeling. Ask the children to look carefully at the shapes that are out and identify which shape you are describing. Then draw it out – were they correct?</p> <div data-bbox="1686 480 2107 552" style="border: 1px solid black; padding: 2px;">Q How did you know I was describing the cube/cone/sphere, etc?</div> <p>Invite a child to have a go at describing a shape in the feely bag for the others to identify.</p> <div data-bbox="1686 922 2107 1334" style="border: 1px solid black; padding: 5px;"> <p><b>By the end of the lesson children should be able to:</b></p> <p><b>Begin to recognise and name some 3-D shapes, including the cube, cuboid, sphere, cylinder, cone</b>  <b>Describe these shapes using everyday language such as flat, straight, curved, etc.</b></p> <p>(Refer to supplement of examples, section 5, page 80, 82.)</p> </div>

Planning sheet		Day Four	Unit 6 <i>Shape and space</i>	Term: <i>Autumn</i>	Year Group: 1
Oral and Mental		Main Teaching			Plenary
Objectives and Vocabulary	Teaching Activities	Objectives and Vocabulary	Teaching Activities	Teaching Activities/ Focus Questions	
		<p>Use everyday language to describe features of familiar 3-D and 2-D shapes, including the cube, cuboid, sphere, cylinder, cone..., referring to properties such as the shapes of flat faces, or the number of faces or corners,</p> <p>Use everyday language to describe position.</p> <p>VOCABULARY            Cube            Cuboid            Sphere            Cylinder            Cone            Face            Edge            Flat            Curved            Corner/Points            Top            Middle            Bottom            On top of            Underneath            Above            Next to            Opposite            Left            Right            Higher than            Lower than            Between</p> <p>RESOURCES            Colourful poster showing a familiar scene or a picture in a familiar big book or a model farm scene/doll's house or similar.            Variety of 3-D shapes, including packaging and everyday materials            Construction kits, building block or similar            Selection of 2-D shapes</p>	<p>Before the lesson, move some items around the classroom into unusual places.</p> <p>Ask the children to look really carefully around the classroom to see if anything has moved or is in the wrong place. Can they describe where it is and where it should be? e.g. Kieran's chair is on top of the teacher's desk and it should be under his table, the toy box is next to the door and it should be on the middle shelf, etc.</p> <p>Ask the children to look really carefully at the scene in the picture or model, because you are going to ask them some questions about it, e.g.:</p> <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">Q What is underneath the table?</div> <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">Q What is on top of the TV?</div> <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">Q Where is the goldfish bowl?</div> <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">Q What is next to Goldilocks?</div> <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">Q Where is Baby Bear's bowl of porridge?</div> <p>Get the children to help you make a list of position words and write them on the board.</p> <p>Give individual children directions to go and stand or sit in particular places, e.g. Zoe, please go and stand next to the tray units, Raj, please go and sit on the opposite side of the table to Cheng, etc.</p> <p>In pairs, children sit back to back, both with some 3-D shapes, construction kits or building blocks. One child puts some shapes out in front of them or builds a model, then describes the position of the shapes/components of the model to the other child, who has to make it. Compare the models or layout of the shapes - are they the same? Swap over so each has a turn at describing the position of their shapes.</p>	<p>Sit in a circle and give everyone a 2-D or 3-D shape to hold.</p> <p>Give one child a very specific direction, e.g. Ibrahim, can you put your cube next to the computer.</p> <p>That child then gives another child an instruction to put their shape in a particular place., and so on, until the final child instructs you, the teacher to put your shape in a particular place.</p> <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">Q Where is there a sphere?</div> <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">Q Which shelf is the cube on?</div> <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">Q What is underneath the desk?</div> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p><b>By the end of the lesson, the children should be able to:</b></p> <p><b>Describe where things are using words such as above, below, under, on top of, top, middle, bottom, between, next to, opposite, etc.</b></p> <p>(Refer to supplement of examples, section 5, page 86.)</p> </div>	







