

Unit 6

Four daily lessons

North West Consultants

Shape and Space Reasoning about shapes

Year 1
Spring term

Unit Objectives

Year One

- Use everyday language to describe the features of familiar 2D and 3D shapes, referring to shapes with flat faces, number of faces or corners, number of sides.
- Make and describe models, patterns and pictures using everyday materials, plasticine.
- To use everyday language to describe position.
- Talk about things that turn.
- Use one or more shapes to make patterns, describe repeating patterns.
- Predict from simple patterns, and suggest extensions.

This Unit Plan is designed to guide your teaching.

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

Resources needed to teach this unit:

Collections of 2D and 3D shapes
Toy windmills
Plasticine
Playdough
Paints
Sponge painting shapes
Set hoops
A large table cloth prefolded or prefolded fabric cut into triangles, squares, circles etc.

Link Objectives

Year F2

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

Year 2

- Use mathematical names for common 3D and 2D shapes.
- Sort shape and describe their features.
- Make and describe shapes, pictures and patterns.
- Begin to recognise line symmetry.
- Use mathematical language to describe position, direction and movement.
- Recognise whole, half and quarter turns, to the left or right, clockwise or anti clockwise.
- Know a right angle is a measure of a quarter turn and recognise right angles in squares or rectangles.
- Give instructions for moving around a route n straight lines and round right-angled corners.

Planning Sheet		Day 1	Unit 6: Shape and space	Term: Spring	Year Group: 1
Oral and Mental		Main Teaching			Plenary
Objectives and Vocabulary	Teaching Activities	Objectives and Vocabulary	Teaching Activities	Teaching Activities/Focus Questions	
<p>To use everyday language to describe curved and straight shapes.</p> <p>Vocabulary Shape Circle Square Triangle Rectangle Half a circle Half circle Straight Curved Sort Set Group Same Different Sides Corners</p>	<p>Ask children to stand up, with their bodies, make a straight shape, make a curved shape.</p> <p>With two unlabelled set hoops, tell the children you are going to sort some 2D shapes into two sets.</p> <p>Q: Talk to your partner. can you guess how I am sorting.</p> <p>Sort a selection of shapes with criteria curved and straight sides: various size, colour of circles, squares, rectangles, triangles.</p> <p>Q: What is the same, what is different about the shapes?</p> <p>Discuss similarities and differences, e.g. number of sides, triangles, colours.</p> <p>Q: What can you tell me about the sides?</p> <p>Give some children some shapes and ask to sort.</p> <p>Q: do you think they are in the right hoop? Why? Why not?</p> <p>Label the hoops curved and straight edges, sort any remaining shapes.</p>	<p>To describe the features of 2D shape.</p> <p>Resources Folded cloth or folded pre-cut cloth shapes.</p> <p>Vocabulary Shape Fold Corners Sides Guess</p>	<p>With a large tablecloth pre-folded e.g. fold in two to make a rectangle, fold again to make a smaller rectangle, fold again into triangle, smaller triangle etc.</p> <p>Lay folded cloth on floor.</p> <p>Q: What shapes is it? How do you know it's a...</p> <p>Q: When I unfold the cloth what shape do you think it will be? Tell your partner why.</p> <p>Ask children for their predictions. Unfold again and describe the shape. Repeat the unfolding asking children to describe by number of sides, corners.</p> <p>What is the same what is different about a square and a rectangle?</p> <p>By the end of the session the children should be able to: Describe the properties of 2D shape according to straight / curved, number of corners, sides.</p>	<p>Refer back to activity from oral and mental. Introduce a half circle. Discuss its properties.</p> <p>Q: What could we do with this one? Why does it not fit in either hoop?</p> <p>Ask children for their suggestions.</p> <p>Introduce overlapping the two hoops.</p> <p>Q: Will this half circle fit in here? Why?</p> <p>Discuss having a curved and a straight edge.</p> <p>Give each child a shape including hemispheres ask to sort.</p> <p>By the end of the lesson the children will be able to describe some of the features of 2D shapes.</p>	

Planning Sheet	Day 2	Unit 6: Shape and space		Term: Spring	Year Group: 1
Oral and Mental		Main Teaching			Plenary
Objectives and Vocabulary	Teaching Activities	Objectives and Vocabulary	Teaching Activities	Teaching Activities/Focus Questions	
<p>To use everyday language to describe the features of familiar 3D shapes.</p> <p>Vocabulary Shape Surface Cone Sphere Cube Cuboid Cylinder Square-based Pyramid Corner Round Point Face Edge</p>	<p>Put a cube in a bag so children can't see.</p> <p>Teacher puts hand in and describes the shape using clues such as:</p> <p>The shape has lots of corners. It has 6 faces.</p> <p>Repeat with other shapes. Invite children to "be the teacher" and give clues.</p>	<p>To use everyday language to describe the features of familiar 2D ad 3D shapes, referring to flat faces, number of faces or corners.</p> <p>Vocabulary Face Cube, cuboid (as 1st column)</p> <p>Resources Paint Paper Brushes 3D shapes</p>	<p>Show the children a cube.</p> <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <p>What shape is this? How do you know?</p> </div> <p>How many flat faces? How many corners?</p> <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <p>What shape are the faces?</p> </div> <p>Show the children a cuboid. Discuss as above.</p> <p>Using a weetabix box or similar show the children how to open up the net and cut out the faces/</p> <p>Stick onto a piece of paper. Count the faces. Discuss their shape. No. of faces etc.</p> <p>Task Ask the children in pairs to flatten boxes, and cut out their faces. Provide cubes, cuboids.</p>	<p>Ask the children about the number of faces on a cube or cuboid? What is the same?</p> <p>Together with children, look at a Pringles carton. Ask them how many faces? What shape are the faces? Disassemble and discuss the findings.</p> <div style="border: 1px solid black; padding: 10px; margin-top: 20px;"> <p>By the end of the lesson children should be able to say hw many faces a cube or cuboid has and be able to describe other 3D shapes.</p> </div>	

Planning Sheet	Day 3	Unit 6: Shape and space	Term: Spring	Year Group: 1
Oral and Mental		Main Teaching		Plenary
Objectives and Vocabulary	Teaching Activities	Objectives and Vocabulary	Teaching Activities	Teaching Activities/Focus Questions
		<p>To make and describe models, patterns and pictures using everyday materials.</p> <p>Vocabulary Cone Cube Cuboid Cylinder Sphere Pyramid Face Edge Corner</p> <p>Resources 3D shapes Paper Beads Cubes Playdough</p>	<p>Show child a cone. Ask them how many faces. Remind them about the cylinder. Revise the names of cube, cuboid, cylinder and cone and the number of faces and corners.</p> <p>Demonstrate how to use a cube to print a square. Then use a cone to print a circle. Then use a cuboid to print 2 rectangles. (Repeat the pattern again).</p> <p>Demonstrate how to print on playdough using different faces.</p> <p>Demonstrate threading a bead pattern.</p> <p>In groups children produce patterns printing with paint or in playdough or threading bead strings.</p>	<p>plenary</p> <p>Look at a sphere. What is its name? How many faces does it have?</p> <p>Where do faces end / start.</p> <p>Does the sphere have edges / corners?</p> <p>How is sphere different from a cube?</p> <div style="border: 1px solid black; padding: 5px; margin-top: 20px;"> <p>By end of the lesson children should be able to create a pattern using the faces of 3D shapes</p> </div>

Planning Sheet	Day 4	Unit 6: Shape and space	Term: Spring	Year Group: 1
Oral and Mental		Main Teaching		Plenary
Objectives and Vocabulary	Teaching Activities	Objectives and Vocabulary	Teaching Activities	Teaching Activities/Focus Questions
		<p>To talk about things that turn.</p> <p>Vocabulary Turn Clockwise Anti-clockwise Half turn Whole turn</p>	<p>Ask the children what they can see around the room that turns. (Put a windmill, clock etc. in the room ready).</p> <p>Ask did anyone manage to find any toys at home that turn. Did they find any other objects. (Pepper mill, wheels, tin opener, clock)</p> <p>Discuss hands of clock. Ask do they always move in the same direction.</p> <p>Discuss "clockwise" (NOT anti-clockwise.)</p>	<p>Plenary</p> <p>Take children to playground.</p> <p>Talk about turning.</p> <p>Demonstrate a whole turn. Everyone does one.</p> <p>Repeat for half turn.. What will we see if we do a half turn?</p> <div style="border: 1px solid black; padding: 5px; margin-top: 20px;"> <p>By the end of the lesson the children will be able to demonstrate a full and half turn and will know the expressions clockwise and anti-clockwise.</p> </div>

