



## Reception: Shape and Space

<p><b>Unit 3: Shape</b>  <b>Unit 6: Space</b>  <b>Unit 17: Shape</b></p>	
<p><b>Importance of this topic</b></p>	<p>Shape and spatial awareness play an important role in helping children to develop visualisation skills, and in understanding mathematical relationships.</p> <p>This topic is important because it introduces language related to position, direction, 2D shapes and 3D shapes as well as composing and decomposing shapes.</p> <p>It focuses on allowing children to explore properties of shapes rather than naming them, for example investigating whether they roll or could be stacked.</p>
<p><b>How this topic develops</b></p>	<p><b>Unit 3:</b>  This is a topic on 3D and 2D shapes.</p> <p>Children explore the properties of 3D shapes, investigating curved and flat surfaces.</p> <p>They explore the relationship between 3D and 2D shapes by making prints from the surface of 3D shapes.</p> <p><b>Unit 6:</b>  This unit focuses on spatial awareness, introducing positional language and exploring viewpoints, for example that someone can't see an object behind them.</p> <p><b>Unit 17:</b>  Children compose and decompose shapes so that they recognise a shape can have other shapes within it, just as numbers can.</p>
<p><b>Structures and representations</b></p>	<p><b>3D shapes</b></p> <p>They should be given experience of a range of 3D shapes and objects that they can manipulate and explore.</p> <p><b>2D shapes</b></p> <p>They will also see 2D shapes in a variety of orientations.</p>

<p><b>Key vocabulary</b></p>	<p>In the 'Shape and Space' unit, children will learn vocabulary for discussing position and direction, for the names of shapes, and for discussing shapes' functions and properties.</p> <p>in; on; below; under; above; behind; in front of; up; down; across; circle; square; rectangle; triangle; cone; brick; cuboid; cylinder; cube; roll; slide; stack; push; rotate; curved; flat; straight; round; similar; side; face; corner</p>
<p><b>Misconceptions and interventions</b></p>	<p><b>Confusing shapes' names</b></p> <p>Children may apply the names of 2D shapes to 3D shapes or vice versa. They may also use common objects to describe the shapes rather than the name of the shape.</p> <p>Do encourage links with real-life objects, but repeat the names of the shapes when modelling stem sentences to describe them.</p> <p><b>Confusing 'forwards' and 'backwards'</b></p> <p>Children may confuse the terms 'forwards' and 'backwards'</p> <p>To intervene, use movement in PE and when lining up to encourage understanding and use of this key language.</p> <p><b>Not recognising different orientations</b></p> <p>Children may fail to recognise a shape when its orientation changes, and may focus on superficial differences such as colour or size.</p> <p>To assist, ensure that children see shapes in many orientations, and become accustomed to these.</p> <p><b>Not understanding that shapes can be composed and decomposed.</b></p> <p>Children may not understand how a shape can be made of different shapes.</p> <p>Help children fold a square of paper into triangles. Show them how to build different shapes with pattern blocks.</p>
<p><b>Assessing for mastery</b></p>	<p>Children who have mastered this topic will be able to follow and give instructions using positional and directional language, understanding that language will change depending on viewpoint and direction.</p> <p>They will be able to match 3D shapes to their 2D prints and name each 2D shape.</p> <p>They will also be able to sort, describe and draw or build common 2D and 3D shapes.</p>

