

## Science Scheme of Work

<b>Year 2 – Changing Shape (Materials and changes of state)</b>											
<b>Links made with other subjects</b>	DT - textiles kites										
<b>The BIG Question</b>	Can we change materials?										
<b>The BIG Outcome</b>	Short explanation answering the question										
<b>Science objectives</b> (link to NC)	-find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.										
<b>Prior knowledge</b> What prior knowledge is needed for children to be successful in this unit?	<i>Children already know:</i> EYFS – Understanding the world - Children know about similarities and differences in relation to places, objects, materials and living things. They talk about the features of their own immediate environment and how environments might vary from one another. They make observations of animals and plants and explain why some things occur and talk about changes. Yr 1 - <b>Comparing and Identifying materials</b>										
<b>Future learning</b> Consider the conceptual knowledge within a subject that pupils need for future learning not just the recall of facts but the importance of concepts	This unit gives prior knowledge to: Yr 4 - <b>Changes of State</b> Yr 5 - <b>Separating mixtures, Types of Change and Materials</b>										
<b>Science strands</b>	<p><u>Related Enquiry Questions</u></p> <table border="1"> <tr> <td><b>Classifying</b></td> </tr> <tr> <td>Based on the children’s own criteria, classify materials e.g. squishy, can twist vs can’t twist</td> </tr> <tr> <td><b>Observing over time</b></td> </tr> <tr> <td>Not relevant</td> </tr> <tr> <td><b>Pattern Seeking</b></td> </tr> <tr> <td>Not relevant</td> </tr> <tr> <td><b>Comparative testing</b></td> </tr> <tr> <td>-Test materials for different uses (e.g. Which material can you use to make an aeroplane? -Which fabric would you use for curtains? -Which materials are best for Cinderella’s mop? -Which fabric would you choose for Elastigirl’s costume? -Which paper can be used for a book, fabrics for a child’s dungarees, materials for aeroplanes etc?)</td> </tr> <tr> <td><b>Researching</b></td> </tr> <tr> <td>Not relevant</td> </tr> </table>	<b>Classifying</b>	Based on the children’s own criteria, classify materials e.g. squishy, can twist vs can’t twist	<b>Observing over time</b>	Not relevant	<b>Pattern Seeking</b>	Not relevant	<b>Comparative testing</b>	-Test materials for different uses (e.g. Which material can you use to make an aeroplane? -Which fabric would you use for curtains? -Which materials are best for Cinderella’s mop? -Which fabric would you choose for Elastigirl’s costume? -Which paper can be used for a book, fabrics for a child’s dungarees, materials for aeroplanes etc?)	<b>Researching</b>	Not relevant
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<b>Vocabulary/ Glossary</b>	<p><b>Names of materials</b> – wood, metal, plastic, glass, brick, rock, paper, cardboard</p> <p><b>Properties of materials</b> – Object, material, wood, plastic, glass, metal, water, rock, brick, paper, fabric, elastic, foil, card/cardboard, rubber, wool, clay, hard, soft, stretchy, stiff, bendy, floppy, waterproof, absorbent, breaks/tears, rough, smooth, shiny, dull, see-through, not see-through, opaque, transparent and translucent, reflective, non reflective, flexible, rigid</p> <p>Shape, push/pushing, pull/pulling, twist/twisting, squash/squashing, bend/bending, stretch/stretching</p>										
<b>Knowledge</b> (see italics for knowledge to remember)	<i>The knowledge that children will learn and remember:</i>										

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	<ol style="list-style-type: none"> <li>1. <i>Objects made of some materials can be changed in shape by bending, stretching, squashing and twisting.</i></li> <li>2. <i>For example, clay can be shaped by squashing, stretching, rolling, pressing etc.</i></li> <li>3. <i>This can be a property of the material or depend on how the material has been processed e.g. thickness.</i></li> </ol>
<b>SEND expectations</b>	<ol style="list-style-type: none"> <li>1. <i>Objects made of some materials can be changed in shape by bending, stretching, squashing and twisting.</i></li> </ol>
<b>Common misconceptions</b>	<ul style="list-style-type: none"> <li>-only fabrics are materials</li> <li>- only building materials are materials</li> <li>- only writing materials are materials</li> <li>- the word rock describes an object rather than a material</li> <li>- solid is another word for hard.</li> </ul>