

## Year 2 Chemical Science: Everyday Materials (Uses of Materials)

## Unit 1

<p><b>Scientific Investigations:</b></p> <ul style="list-style-type: none"> <li>- Identifying and Classifying Things</li> <li>- Researching Using Secondary Sources</li> <li>- Comparative and Fair Testing</li> </ul>	<p><b>Scientific Skills Applied:</b></p> <p>ASK</p> <ul style="list-style-type: none"> <li>- To explore the world around them</li> <li>- To ask their own questions</li> </ul> <p>BREAKDOWN</p> <ul style="list-style-type: none"> <li>- To carry out simple tests</li> <li>- To use simple measurements</li> <li>- To use simple equipment</li> </ul> <p>CAPTURE</p> <ul style="list-style-type: none"> <li>- To observe closely</li> <li>- To compare using simple features</li> <li>- To record what they notice in different ways</li> <li>- To sort things using simple features</li> <li>- To group things using simple features</li> </ul> <p>DESCRIBE</p> <ul style="list-style-type: none"> <li>- To explain what they found out</li> <li>- To talk about what they have seen</li> <li>- To use simple scientific language</li> <li>- To know there are different ways to answer</li> </ul>	
<p><b>Scientists:</b></p> <ul style="list-style-type: none"> <li>- John McAdam – Macadamisation – invention of road surfaces.</li> <li>- Charles Dunlop – invention of rubber for tyres.</li> <li>- Charles Mcintosh – waterproof.</li> </ul>		
<p><b>Prior Learning:</b></p> <ul style="list-style-type: none"> <li>- Distinguish between an object and the material from which it is made. (Y1 - Everyday materials)</li> <li>- Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock. (Y1 - Everyday materials)</li> <li>- Describe the simple physical properties of a variety of everyday materials. (Y1 - Everyday materials)</li> <li>- Compare and group together a variety of everyday materials on the basis of their simple physical properties. (Y1 - Everyday materials)</li> </ul>		
Curriculum	Learning Intention	Knowledge and Key Vocabulary
<p><b><u>Making links to previous learning and discuss the model (if needed)</u></b></p>	<p>What do you already know about everyday materials pre assessment task?</p>	
<p><b><u>Knowledge and skills through investigations</u></b> Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>- identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper, and cardboard for particular uses</li> <li>- find out how the shapes of solid objects made from some materials can be changed</li> </ul>	<p>What are materials used for?</p> <p>Sort objects made from different materials – identify the uses of materials e.g., wood, metal, glass, fabric, rock/stone.</p> <p>Compare the uses of everyday materials in and around the school with materials</p> <p>Observe closely the uses of different materials, and record observations.</p>	<p><b><u>Knowledge:</u></b></p> <ul style="list-style-type: none"> <li>- To name 5 materials and explain what they are being used for</li> <li>- To explain how materials are suitable for purpose</li> <li>- To name all 4 ways that the shape of some materials can be changed (<i>stretched, twisted, bent, and squashed</i>).</li> <li>- To know 3 things about John McAdam and the process of Macadamisation.</li> </ul>

<p>by squashing, bending, twisting, and stretching.</p> <p>Notes and guidance (non-statutory):</p> <ul style="list-style-type: none"> <li>- Pupils should identify and discuss the uses of different everyday materials so that they become familiar with how some materials are used for more than one thing (metal can be used for coins, cans, cars, and table legs; wood can be used for matches, floors, and telegraph poles) or different materials are used for the same thing (spoons can be made from plastic, wood, metal, but not normally from glass). They should think about the properties of materials that make them suitable or unsuitable for particular purposes and they should be encouraged to think about unusual and creative uses for everyday materials. Pupils might find out about people who have developed useful new materials, for example John Dunlop, Charles Macintosh, or John McAdam.</li> </ul> <p>Pupils might work scientifically by:</p> <ul style="list-style-type: none"> <li>- comparing the uses of everyday materials in and around the school with materials found in other places (at home, the journey to school, on visits, and in stories, rhymes, and songs), observing closely, identifying, and classifying the uses of different materials, and recording their observations.</li> </ul>	<p><b>What properties of materials make them suitable for a particular use?</b></p> <p>Distinguish between absorbent and waterproof materials. Discuss what happens when water is placed on these materials.</p> <p>Consider why some properties of materials make them suitable or unsuitable for different uses. Investigate if some items can be made by more than one material (e.g., cutlery) and explain why. Investigate if some materials can be used to make more than one thing.</p> <p><b>How can you change the shape of materials?</b></p> <p>Discuss which materials are recyclable and why. Explain the recycling process. Investigate how some objects can be changed by applying different forces. Record results in a table.</p> <p>Research people who have developed useful new materials, for example John Dunlop, Charles Macintosh, or John McAdam Link to local firm Tarmac through a visit from staff to describe materials used and how these materials are changed and used to build roads.</p>	<p><b>Vocabulary:</b></p> <ul style="list-style-type: none"> <li>- Names of materials – wood, metal, plastic, glass, brick, rock, paper, cardboard</li> <li>- Properties of materials – as for Year 1 plus opaque, transparent, translucent, reflective, non-reflective, flexible, rigid</li> <li>- Materials - natural; man-made; manufactured; object; group.</li> <li>- Properties - change; bake; bend; twist; stretch; squash; heat; cool; freeze; melt; boil.</li> </ul>
<p><b>Application and Assessment Activity</b></p>	<p><a href="https://www.educationquizzes.com/ks1/science/">https://www.educationquizzes.com/ks1/science/</a></p>	
<p><b>Thinking Deeper:</b> Can You Really Make a Chocolate Teapot? Research and investigate – <i>Outreach science</i></p>		
<p><b>Links to other subjects:</b></p> <ul style="list-style-type: none"> <li>• Subject Specific links –</li> </ul>		

- English: new vocabulary, explaining their work and their ideas, describing images and layout for non-fiction (science investigation format).
- Maths: sorting activities, comparing materials and amounts.
- ICT: learning from online activities.
- Art & DT: why we use different materials for different things.

- Personal Development – working in pairs, small and larger groups.

- SMSC – talk of recycling and the overuse of plastic.

- Cultural Capital –necessary toolkit of practical skills is developed and added to over time.

- Careers – builder, architect, interior designer, product designer, building in industry, Tarmac local firm

- British Values – working in pairs and small groups with others coherently.

- Equality – valuing the responses of peers and their ideas