


Subject –Science Summer 2 Year 1 Everyday Materials (continued from Autumn 2) & Seasonal Change

TAPS Assessment: Bridge Strength

Key vocabulary: 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					
National Curriculum	Week	NC – Coverage	Disciplinary Knowledge	Substantive Knowledge	Activity Outline
<p>The national curriculum for Science aims to ensure that all pupils:</p> <p><b>Working Scientifically Key stage 1</b></p> <p>Pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:</p> <p>§ asking simple questions and recognising that they can be answered in different ways</p> <p>§ observing closely, using simple equipment</p> <p>§ performing simple tests</p> <p>§ identifying and classifying</p> <p>§ using their observations and ideas to suggest answers to questions</p> <p>§ gathering and recording data to help in answering questions</p>	1	<ul style="list-style-type: none"> <li>distinguish between an object and the material from which it is made</li> <li>identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock</li> </ul>	I can sort and classify objects and materials using a range of properties	<p>I know the names of everyday materials including wood, plastic, metal and water, and rock.</p> <p>I can describe properties of materials e.g. I know wood is strong, flexible and long-lasting (durable).</p> <p>I know some types of rocks can be hard, durable but other rocks like chalk can be soft and wears away quickly.</p>	<p>Children to complete KWL grid assess their knowledge/recall of materials. At this point children should also be able to complete what 'what I know' with greater depth as part of this unit has been taught in Autumn. Reintroduce key vocabulary.</p> <p>BBI – Provide children with a range of materials. Recap simple physical properties of materials. Ask children to explore the properties of the provided materials using a prepared table. The class to then engage in a hot seating activity, where the class teacher (and then the children) pretend to be a material and the children ask questions about its properties in order to identify and name the material. Following this activity, children to describe wood, rocks and then a material of their choice using the scientific vocabulary they had been introduced to.</p>
<p><b>Subject Content</b></p> <ul style="list-style-type: none"> <li>distinguish between an object and the material from which it is made</li> <li>identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock</li> <li>describe the simple physical properties of a variety of everyday materials</li> </ul>	2	<ul style="list-style-type: none"> <li>identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock</li> <li>describe the simple physical properties of a variety of everyday materials</li> </ul>	I can use my observations and ideas to suggest answers.	<p>I know that some objects are made from one material and some are made from more than one material e.g. a plastic sharpener is made from plastic and metal.</p> <p>I know that materials can be described by their properties e.g. shiny, stretchy, rough etc.</p> <p>e.g. I know that metal can be strong, hard and shiny.</p> <p>I know that some types of plastic are flexible.</p>	<p>Show chn a tray with the cloth over the objects. Chn to look carefully at the objects and decide which of them is the odd one out. Remind chn to consider material properties e.g. What makes it different from the other objects? Ask chn to get into groups of four, two of the group to select some objects on a tray, one of which is the odd one out. Encourage the pair to discuss their choices together to make sure they are selecting correctly. Ask chn to move beyond the materials and select objects according to the properties of the materials such as</p>

<ul style="list-style-type: none"> <li>Compare and group together a variety of everyday materials on the basis of their simple physical properties.</li> </ul> <p><b>School Context</b></p> <p>Identify the materials key local buildings are made from and discuss why those materials have been used</p> <p><b>Common Misconceptions</b></p> <p>Some children may think:</p> <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>					<p>hard, soft, stretchy, stiff, bendy/floppy. E.g. hard plastic rulers, pencil sharpener, etc. and then a floppy plastic bag. Encourage pairs of chn to circulate around the room, joining different groups of chn so everyone get a chance to try a variety of tray selections. Capture chn's evidence orally (iPads)</p>
	<p>3</p>	<ul style="list-style-type: none"> <li>Compare and group together a variety of everyday materials on the basis of their simple physical properties.</li> </ul>	<p><b>TAPS Assessment: Bridge Strength</b></p> <ul style="list-style-type: none"> <li>I can collect data to measure bridge strength using pennies (or equivalent).</li> <li>I can use my data to compare bridge shapes.</li> </ul>	<p>I know that some materials are stronger than others. I know that materials can be compared on the basis of their physical properties including strength.</p>	<p>Show pictures of different types of bridges (local if possible). Discuss similarities and differences between e.g. Flat or beam bridge, Arch bridge, Beam bridge and Concertina bridge. How do we find out which bridge shape is the strongest? Discuss and select: paper or card, A4 or other, test objects to place on model bridge. Discuss success criteria for a fair comparison which groups will need to decide upon: same number of books on each side, same gap, same test objects (pennies/blocks etc). Could allocate group roles e.g. Resource manager, Fair comparison checker, Test object counter, Group reporter. What should we record? E.g. number of pennies before the bridge falls. <u>Children to record results in a table. After testing ask children to identify the strongest and weakest bridge shape.</u> Could compare results from different groups and discuss reasons for differences.</p>

	4	<p><u>Seasonal Change</u></p>	<p>I can interpret data in the charts and makes comparisons.</p>	<p>I know that in the UK, it is usually colder and rainier in winter, and hotter and drier in the summer. I know that this change in weather causes many other changes. E.g numbers of minibeasts found outside; seed and plant growth; leaves on trees; and type of clothes worn by people.</p>	<p><b>Children to go out daily ( 2weeks) before this week's session to record the weather</b> e.g.</p>  <p>In this session children to compare data with what they had gathered in the winter. <b>Use children's last session</b> to make a final set of observations about how plants (including trees) and the animals outside have changed <b>through the four seasons</b>. Capture evidence orally.</p>
	5		<p>I can interpret data in the charts and makes comparisons.</p>	<p>I know that in the UK, it is usually colder and rainier in winter, and hotter and drier in the summer. I know that this change in weather causes many other changes. E.g numbers of minibeasts found outside; seed and plant growth; leaves on trees; and type of clothes worn by people.</p>	