

**Butler's Hill Infant and Nursery School - Term: Autumn 1 Topic Theme: Michael Recycle**  
**Year 1 Weekly Planning – SCIENCE**



**Working Scientifically: Throughout all strands of the curriculum**

1. asking simple questions and recognising that they can be answered in different ways
2. observing closely, using simple equipment
3. performing simple tests
4. identifying and classifying
5. using their observations and ideas to suggest answers to questions
6. gathering and recording data to help in answering questions

**LINKED SCIENTIST:** Leo Baekeland – invented man-made plastic (Linked to topic of recycling and plastics in the ocean)

**SLC: Focus on vocab (see flip chart)**

- Back and forth talk where appropriate
- Thinking out loud
- Explaining new words linked to properties (Words on the door to practice)
- Encourage chd to fully explain what they know and understand

**National Curriculum for Materials:**

Pupils should be taught to:

1. **distinguish between an object and the material** from which it is made
2. identify and **name a variety of everyday materials**, including wood, plastic, glass, metal, water, and rock
3. describe the simple **physical properties** of a variety of everyday materials
4. **compare and group** together a variety of everyday materials on the basis of their simple physical properties

**Cross Curricular links to Environmental Geography unit Autumn 1 – How can we save the world?**

**LINKS TO SCHOOL AIMS: Caring**

**Activity:**

- **Sorting and classifying** recyclable materials and creating a **bar graph to show our findings**

**Working Scientifically:**

- Gathering and recording data to help in answering questions
- Performing a simple test
- Identifying and classifying

**Weaving Knowledge and Understanding:**

- a. Can they describe the properties of the material using their senses / specific vocabulary – smooth, rough, shiny, hard etc...
- b. Can explain **WHY** a material might be used for a specific job – investigation
- c. Sort materials into groups by a given criteria

**More able challenge: Questioning**

Can they describe things that are similar between materials

Can they explain what happens when some materials are heated – reversal / irreversible

**Non-statutory:**

Pupils should explore, name, discuss and raise and answer questions about everyday materials so that they become familiar with the names of materials and properties such as: hard/soft; stretchy/stiff; shiny/dull; rough/smooth; bendy/not bendy; waterproof/not waterproof; absorbent/not absorbent; opaque/transparent. Pupils should explore and experiment with a wide variety of materials, not only those listed in the programme of study, but including for example: brick, paper, fabrics, elastic, foil. Pupils might work scientifically by: performing simple tests to explore questions, for example: 'What is the best material for an umbrella? ...for lining a dog basket? ...for curtains? ...for a bookshelf? ...for a gymnast's leotard?'

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| <b>Vocabulary</b> | <b>WK</b> | <b>Objective</b> | <b>Main Teaching</b> | <b>Independent Activity / Afl</b> |
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| <p>Information Sources Senses</p> <p><u>Properties:</u><br/> <i>hard</i><br/> <i>soft</i><br/> <i>bumpy</i><br/> <i>smooth</i><br/> <i>rough</i><br/> <i>rigid</i><br/> <i>flexible</i><br/> <i>transparent</i><br/> <i>opaque</i><br/> <i>waterproof</i><br/> <i>absorbent</i></p> <p><u>Materials:</u><br/> Fabric<br/> Leather<br/> Glass<br/> Metal<br/> Brick<br/> Stone<br/> Clay<br/> Wood<br/> Liquid<br/> Sand<br/> Man-made<br/> Natural</p> | <p><b>1</b></p> | <p>To identify and <b>name a variety of everyday materials</b> including:<br/> wood<br/> plastic<br/> glass<br/> metal,<br/> water<br/> rock<br/> fabric</p> <p><b>To compare and group</b> together a variety of everyday materials on the basis of their simple physical properties</p> | <p><b>LO</b> To identify and sort materials based on their material type / and <b>OTHER CRITERIA</b>.</p> <p><b>MIND MAP:</b><br/> What do you know already about the term 'MATERIALS'?<br/> Discuss their responses and record on the white board and keep for the end of the topic as a pre/post assessment.<br/> <b>IWB / Power Point - Basic naming of materials / sorting and grouping</b><br/> <u>Practical Activity:</u><br/> <b>Q: What are Materials?</b></p> <p>Reveal a range of materials and discuss - what they are and what they have been made from - encourage conversation about why they have been made from these materials and how they feel etc.</p> <p>How could we group these items based on similarities and differences. Encourage children to suggest possibilities.</p> <p>Finally group using the above headings - Wood, Plastic, Metal, Glass, Fabric and clay - not all the materials will fit into those groups like wool, stone ... discuss</p> <p><b>NEXT:</b> Reveal a couple of items made from wood and plastic / metal/ plastic - what could we do for them - VENN Diagram - overlap the hoops!</p> | <p><b>Working Scientifically: Identifying and classifying</b></p> <p><b>WILF:</b> I can name and sort a variety of objects based on their material type - metal, wood, plastic, glass, fabric</p> <p>Using the prepared writing frame children sort the materials into the above material types</p> <p>LA: Sort into 3 groups</p> <p>HA Extension: Using a Venn Diagram writing frame children look at the materials that have been made by more than one material Wood Metal Wood and Metal</p> |
|  | <p><b>2</b></p> | <p>To describe the simple <b>physical properties</b> of a variety of everyday materials – using senses and scientific vocabulary</p>  | <p><b>LO</b> To use <b>scientific vocabulary</b> to describe the properties of different materials / compare and group</p> <p><b>Q: How do these materials feel?</b></p> <p><b>IWB: PowerPoint - Describing materials / Compare and Group</b></p> <p><u>Practical Activity:</u><br/> Look at the items on the carpet and sort according to their properties - <i>hard soft bumpy smooth rough rigid</i></p>  | <p><b>Working Scientifically: Identifying and classifying / Performing simple tests</b></p> <p><u>WILF:</u><br/> I can <b>investigate</b> a range of items based on the physical properties using my senses – sight / touch.</p> <p>LA – with support / differentiated sheet</p>   |

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|   |   | <p><i>flexible transparent opaque</i></p> <p>Discuss how they can be sorted in different ways - not just on their material but their PROPERTIES</p> <p>Use a feely bag and conceal a range of items for the children to have go at describing the MATERIAL and the other children to guess the ITEM</p>  |  |
| 3 | <p><b>To distinguish between an object and the material</b> from which it is made</p>   | <p><i>LO All the items around them have been made from something - either man made or natural (but still changed by man to suit its purpose usually)</i></p> <p><b>Q: What's the item ... Whats the material?</b></p> <p><b>IWB: PowerPoint - ITEM - MATERIALS</b></p> <p>Talk about how these items have been carefully made out of a specific material based on</p> <p><u>Practical Activity:</u></p> <p>Again looking at a range of items on the carpet - can children now separate the item and the material orally can they talk about the 'thing' and what it has been made from? What is it used for?</p>             | <p><b>Working Scientifically identifying and classifying</b></p> <p><b>WILF: I can identify the item and the material</b></p> <p>Children to select an item and be able to talk about What it is, what its made from and what it is used for.</p> <p>Prepared Writing Frame:<br/>LA - Differentiated writing frame</p>   |
| 4 | <p>To describe the simple <b>physical properties</b> of a variety of everyday materials –</p> <p><b>Why are items made from specific materials ?</b></p> <p><b>Key vocabulary:</b></p> <p><b>Transparent / opaque</b></p> | <p><i>LO: Why items made from certain materials.</i></p> <p><b>Q: Why are windows made from glass? Discuss</b></p> <p><b>IWB: PowerPoint - Year 1 Properties and uses</b></p> <p><b>Investigation 1:</b></p> <p><b>Scenario:</b> We have been asked to help Michael Recycle provide Messy Town with the best materials to mop up their mess at their celebration party - using a range of materials ! But which should he choose?<br/>Discuss:</p> <p><b>You will need:</b></p> <ul style="list-style-type: none"> <li>➤ Variety of papers</li> <li>➤ Water</li> <li>➤ Pipette - use the same amount of water 1ml</li> </ul> | <p><b>Working Scientifically:</b></p> <p><b>Asking simple questions and recognising that they can be answered in different ways</b></p> <p><b>Using their observations and ideas to suggest answers to questions</b></p> <p><b>Observing closely, using simple equipment</b></p> <p><b>Performing simple tests</b></p> <p><b>WILF: I can plan an experiment using simple equipment - pipettes (time to practice without the papers first)</b></p> <p>Children to test 3 different papers' absorbency – order their effectiveness (1<sup>st</sup> – 3<sup>rd</sup>) based on absorbency and speed in which it soaked up the</p> |

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|                 | <p>Absorbent / waterproof</p> <p>Properties</p>                    | <p><b>Fair Test:</b> same size piece of paper / water<br/> <b>Which paper absorbed.. Some (3<sup>rd</sup> place), Most (2<sup>nd</sup>) and ALL the water. <u>The property we are looking for is the MOST absorbent Equipment</u> - range of syringes with different scales and pipettes. Chd to have time to investigate the equipment and practice collecting 1ml</b></p> <p><b>Investigation 2:</b> To be carried out during Icy Issues - based on water as a material<br/> <b>Q: Does the ice melting cause sea levels to rise – see separate sheet for investigation</b><br/> <b>You will need:</b></p> <ul style="list-style-type: none"> <li>➤ A bowl with a flat top</li> <li>➤ Ice cubes</li> <li>➤ Water</li> <li>➤ Marker pen</li> <li>➤ Something to heat the water / ice – hotwater bottle</li> </ul> | <p>paper.</p> <p>Key vocab – absorbs / soaks up / waterproof and properties</p> <p>WILF: I can carry out an experiment to understand the impact of climate change in the Arctic –<br/> Record using writing frame</p> <p>LA – with support / teacher to scribe levels of understanding</p>  |
| <p><b>5</b></p> | <p>Identify and name a variety of everyday materials</p>           | <p><b>LO:</b> Identify a range of materials used to build a large structure<br/> <b>Q: What was used to build our school?</b></p> <p>IWB: Look at the range of structures and landmarks - what was used to build these buildings / landmarks and why?</p> <p>Walk outside and look at our school - not the things in our school, but the basic structure of the school.</p> <p>List the materials we noticed - why have these materials been used?</p> <p>Also watch video of The Three Little Pigs</p> <p><b><a href="https://www.youtube.com/watch?v=fwKxGj2UUuU">https://www.youtube.com/watch?v=fwKxGj2UUuU</a></b></p>  | <p>WILF: I can draw label the parts of a house, naming the material each element is made from and orally discuss WHY</p> <p>Differentiated frames<br/> LA - Cut and stick the parts of the house and discuss with T materials<br/> Use the lego/blocks to build a basic house structure</p> <p>LMA - House frame for chd to complete labelling where possible</p> <p>MA+ Design your own house - what materials did you need?</p> |
| <p><b>6</b></p> | <p>Gathering and recording data to help in answering questions</p> | <p><b>LO:</b> Collecting data</p> <p>IWB: Real Life Scenario: Michael Recycle wants to order some recycling bins for Messy Town.<br/> But how many should he order?<br/> What recycling is the most and least common in this dirty town?</p> <p><u>Practical Activity:</u><br/> Look at all the recyclable rubbish on the carpet:<br/> Sort it out and count number of items in each group and enter on to</p>   | <p>WILF: I can record data onto a bar graph<br/> Using the class tally chart create a bar graph / IWB</p> <p>LA/MA - Orally discuss what information is provided by this graph - basics most / least</p> <p>HA - interpret the data and answer the flipchart questions - Discuss findings during plenary</p>  |

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|  | 7 | Science<br>Assessmnet | See IWB = carefully read together to ensure children understand what is being asked of them - weaker readers will have support and and a scribe. |  |