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| | Year group: Year 1, Summer 2 | Area/topic: Everyday materials |
| | (objectives from NC/ELG/Development matters)<br>**Working scientifically:**<br>*Observing closely, using simple equipment<br>*Performing simple tests<br>*Identifying and classifying<br>*Using their observations and ideas to suggest answers to questions<br>*Gathering and recording data to help in answering questions<br><br>**Everyday materials:**<br>*Distinguish between an object and the material from which it is made (Year 1, D1)<br>*Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock (Year 1, D2)<br>*Describe the simple physical properties of a variety of everyday materials (Year 1, D3)<br>*Compare and group together a variety of everyday materials on the basis of their simple physical properties. (Year 1, D4)<br>*Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses (Year 2, D5) | |

| Prior learning | Future learning |
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| *Use all their senses in hands-on exploration of natural materials. (Nursery - Materials, including changing materials)<br>* Explore collections of materials with similar and/or different properties. (Nursery - Materials, including changing materials)<br>*Talk about the differences between materials and changes they notice. (Nursery - Materials, including changing materials)<br><br>**Prior learning in the Autumn term:**<br>*Distinguish between an object and the material from which it is made (Year 1, D1)<br>*Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock (Year 1, D2)<br>*Describe the simple physical properties of a variety of everyday materials (Year 1, D3)<br>*Compare and group together a variety of everyday materials on the basis of their simple physical properties. (Year 1, D4) | *Identify and compare the suitability of a variety of everyday materials., including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. (Year 2, D5)<br>*Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. (Year 2, D6) |
| Working scientifically & encouraging scientific enquiry | |

**Identifying & classifying:**
*Children to identify materials, name and group.
*Children to sort and group materials that have similar properties.
*Children to group materials that are waterproof/absorbent.
*Children to group materials that are transparent, translucent or opaque.

**Comparative testing:**
*Children to conduct a simple test to see if materials are waterproof or not.
*Children to use torches to explore if materials are transparent, translucent or opaque.
*Children to conduct an investigation to answer questions based on transparent, translucent and opaque materials.
*Children to collect data within a group and record this simply with others.
*Children to conduct an investigation to find materials that float and materials that sink.
*Children to conduct an investigation to identify materials that are waterproof and materials that are absorbent.

**Research using secondary resources:**
*Children to use books, photos and online resources such as Explorify to learn about materials.

| What pupils need to know or do to be secure | |
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| Key knowledge and skills | Possible evidence |
| *I can identify and name a range of materials including wood, glass, metal, plastic, water, rock, brick, paper, fabric and foil. (D2)<br>*I can describe if a material is hard, soft, stretchy, stiff, shiny, dull, rough, smooth, bendy or not bendy. (D3)<br>*I can sort and group materials with similar properties together. (D4)<br>*I understand the terms transparent, translucent and opaque. (D3)<br>*I can conduct an experiment to find transparent, translucent and opaque materials. (D4)<br>*I can recognise and explain why it might be necessary to have a transparent, translucent or opaque material whilst providing examples of when these might be needed. . (D1 & D5)<br>*I can use the results from an experiment to answer questions and to decide on the most suitable material for a given purpose. (D5)<br>*I can ***begin*** to understand the terms waterproof and absorbent. (D3)<br>*I can conduct an experiment to decide if a material is waterproof or not waterproof. (D3)<br>*I can conduct an experiment to decide if a material is absorbent or not absorbent. (D3)<br>*I can identify if a material is floating or sinking when placed in water. (D2 & D3) | **There will be evidence of children meeting the 'I can' statements through:**<br>*Quotes taken from discussions.<br>*Children can correctly use the key vocabulary during lessons.<br>*Children recording through drawing and writing where appropriate.<br>*Children recording data from an experiment within a group or individually.<br>*Photographs of children's learning.<br>*Written explanations of understanding or adult scribing a child's understanding depending on individual needs. |
| Key vocabulary | |
| Object, material, wood, plastic, glass, metal, water, rock, brick, paper, fabric, elastic, foil, card, rubber, wool, clay, | |

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| concrete, material, foil, rubber, stretchy, stiff, shiny, dull, rough, smooth, bendy, floppy, flexible, waterproof, absorbent, see-through, not see-through, opaque, transparent, translucent | |

| Common misconceptions | Books linking to this area |
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| *Children may think of materials as being only fabrics.<br>*Children may think materials are only things you build with.<br>*Children may think that the word rock describes an object rather than a material.<br>*Children may think solid is another word for hard. | *No-Bot the robot with no bottom! By Sue Hendra<br>*The three little pigs<br>*Hansel and Gretal<br>*Lost and found by Oliver Jeffers (E.g. Which material would be best to make a boat?)<br>*Make yourself a home by Signe Torp<br>*Building a home by Polly Faber |
| **Memorable first hand experiences** | **Opportunities for communication** |
| *Experimenting with using materials in water to see which materials are waterproof or not.<br>*Experimenting with using materials to absorb water.<br>* Experimenting with using materials in water to see which materials sink and which materials float.<br>*Using torches to explore if materials are transparent, translucent or opaque.<br>*Using results from an experiment to build a product (cross-curricular links). | *Children to be given opportunities for communication with partners, groups and whole class to discuss as completing practical activities and also to share findings.<br>*Children to compare with one another their results from experiments.<br>*Through the use of Explorify. |

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Reasonable adjustments for pupils with SEND

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| **Communication and Interaction**<br>*Visual aids, pictures of equipment with words labelled, word mats with pictures for key words in that lesson.<br>*Freedom to explore scientific equipment and investigate in own way.<br>*Hands on experiences to encourage communication and interaction with others.<br>*Pre teaching any new vocabulary. | **Cognition and Learning**<br>*Opportunity for lots of hands on exploration and verbally sharing thoughts and ideas.<br>*Freedom to explore scientific equipment and processes.<br>*Pre teaching new vocabulary or concepts.<br>*Activities adapted if needed for safety and ease.<br>*Visual aids, pictures of equipment, mats with key words and pictures<br>*Learning recorded through photos and adult quotes, children not expected to write for recording their understanding.<br>*Using working walls to aid learning and remind of previous learning. |
| **Social, Emotional and Mental health**<br>*Awareness of individual needs, any potential triggers within the curriculum and the child's background.<br>*Pre prepare children for any activity they could find triggering or difficult in some way.<br>*Practical activities or experiments to be completed within a smaller group or 1:1 if needed.<br>*If the class are sharing their learning within a large group, take the child in a smaller focus group if they struggle with social situations.<br>*Adjustments made where needed to suit individual. | **Sensory and Physical**<br>*Adult support with any practical activities.<br>*Awareness of the individual's likes or dislikes and their own reactions to sensory activities.<br>*If a child enjoys sensory activities, then plan for this wherever possible within the lesson. |