


Dereham Church Infant and Nursery School- Science

	Year group: 1, Summer 2	Area/topic: Everyday materials
	<p><i>(Objectives from NC/ELG/Development matters)</i></p> <p>Working scientifically:</p> <ul style="list-style-type: none"> * Observing closely, using simple equipment * Performing simple tests * Identifying and classifying * Using their observations and ideas to suggest answers to questions * Gathering and recording data to help in answering questions <p>Everyday materials:</p> <ul style="list-style-type: none"> * Distinguish between an object and the material from which it is made (Year 1, D1) * Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock (Year 1, D2) * Describe the simple physical properties of a variety of everyday materials (Year 1, D3) * 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) 	

Prior learning	Future learning
<p>* Use all their senses in hands-on exploration of natural materials. (Nursery - Materials, including changing materials)</p> <p>* Explore collections of materials with similar and/or different properties. (Nursery - Materials, including changing materials)</p> <p>* Talk about the differences between materials and changes they notice. (Nursery - Materials, including changing materials)</p> <p>Prior learning in the Autumn term:</p> <ul style="list-style-type: none"> * Distinguish between an object and the material from which it is made (Year 1, D1) * Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock (Year 1, D2) * Describe the simple physical properties of a variety of everyday materials (Year 1, D3) 	<ul style="list-style-type: none"> * 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) * Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. (Year 2, D6)

*Compare and group together a variety of everyday materials on the basis of their simple physical properties. (Year 1, D4)

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

Key knowledge and skills	Possible evidence
<p>*I can identify and name a range of materials including wood, glass, metal, plastic, water, rock, brick, paper, fabric and foil. (D2)</p> <p>*I can describe if a material is hard, soft, stretchy, stiff, shiny, dull, rough, smooth, bendy or not bendy. (D3)</p> <p>*I can sort and group materials with similar properties together. (D4)</p> <p>*I understand the terms transparent, translucent and opaque. (D3)</p> <p>*I can conduct an experiment to find transparent, translucent and opaque materials. (D4)</p> <p>*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)</p> <p>*I can use the results from an experiment to answer questions and to decide on the most suitable material for a given purpose. (D5)</p> <p>*I can begin to understand the terms waterproof and absorbent. (D3)</p> <p>*I can conduct an experiment to decide if a material is waterproof or not waterproof. (D3)</p>	<p>There will be evidence of children meeting the 'I can' statements through:</p> <ul style="list-style-type: none"> *Quotes taken from discussions. *Children can correctly use the key vocabulary during lessons. *Children recording through drawing and writing where appropriate. *Children recording data from an experiment within a group or individually. *Photographs of children's learning. *Written explanations of understanding or adult scribing a child's

<p>*I can conduct an experiment to decide if a material is absorbent or not absorbent. (D3) *I can identify if a material is floating or sinking when placed in water. (D2 & D3)</p>	<p>understanding depending on individual needs.</p>
<p><i>Key vocabulary</i></p>	
<p>Object, material, wood, plastic, glass, metal, water, rock, brick, paper, fabric, elastic, foil, card, rubber, wool, clay, concrete, material, foil, rubber, stretchy, stiff, shiny, dull, rough, smooth, bendy, floppy, flexible, waterproof, absorbent, see-through, not see-through, opaque, transparent, translucent</p>	
<p><i>Common misconceptions</i></p>	<p><i>Books linking to this area</i></p>
<p>*Children may think of materials as being only fabrics. *Children may think materials are only things you build with. *Children may think that the word rock describes an object rather than a material. *Children may think solid is another word for hard.</p>	<p>*No-Bot the robot with no bottom! By Sue Hendra *The three little pigs *Hansel and Gretel *Lost and found by Oliver Jeffers (E.g. Which material would be best to make a boat?) *Make yourself a home by Signe Torp *Building a home by Polly Faber</p>
<p><i>Memorable first hand experiences</i></p>	<p><i>Opportunities for communication</i></p>
<p>*Experimenting with using materials in water to see which materials are waterproof or not. *Experimenting with using materials to absorb water. * Experimenting with using materials in water to see which</p>	<p>*Children to be given opportunities for communication with partners, groups and whole class to discuss as completing practical activities and also to share findings. *Children to compare with one another their results from</p>

materials sink and which materials float.
*Using torches to explore if materials are transparent, translucent or opaque.
*Using results from an experiment to build a product (cross-curricular links).

experiments.
*Through the use of Explorify.

DCINS Reasonable adjustments for pupils with SEND

Communication and Interaction

- *Visual aids, pictures of equipment with words labelled, word mats with pictures for key words in that lesson.*
- *Freedom to explore scientific equipment and investigate in own way.*
- *Hands on experiences to encourage communication and interaction with others.*
- *Pre teaching any new vocabulary.*

Cognition and Learning

- *Opportunity for lots of hands on exploration and verbally sharing thoughts and ideas.*
- *Freedom to explore scientific equipment and processes.*
 - *Pre teaching new vocabulary or concepts.*
 - *Activities adapted if needed for safety and ease.*
- *Visual aids, pictures of equipment, mats with key words and pictures*
- *Learning recorded through photos and adult quotes, children not expected to write for recording their understanding.*
- *Using working walls to aid learning and remind of previous learning.*

Social, Emotional and Mental health

- *Awareness of individual needs, any potential triggers within the curriculum and the child's background.*
- *Pre prepare children for any activity they could find triggering or difficult in some way.*
 - *Practical activities or experiments to be completed within a smaller group or 1:1 if needed.*
- *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.*
- *Adjustments made where needed to suit individual.*

Sensory and Physical

- *Adult support with any practical activities.*
- *Awareness of the individual's likes or dislikes and their own reactions to sensory activities.*
- *If a child enjoys sensory activities, then plan for this wherever possible within the lesson.*