


## Dereham Church Infant and Nursery School- Science

	Year group: Nursery	Area/topic: Materials
<p><i>(Objectives from NC/ELG/Development matters)</i></p> <ul style="list-style-type: none"> <li>*Use all their senses in hands-on exploration of natural materials. (Understanding the world)</li> <li>*Explore collections of materials with similar and/or different properties. (Understanding the world)</li> <li>*Talk about the differences between materials and changes they notice. (Understanding the world)</li> </ul>		

Prior learning	Future learning
<ul style="list-style-type: none"> <li>*Explore materials with different properties. (Birth to three)</li> <li>*Explore natural materials, indoors and outside. (Birth to three)</li> </ul>	<ul style="list-style-type: none"> <li>*Explore the natural world around them. (Reception)</li> <li>*Describe what they see, hear and feel whilst outside. (Reception)</li> <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>

Working scientifically & encouraging scientific enquiry
<p><b>Classification</b></p> <ul style="list-style-type: none"> <li>*Sorting materials based on simple properties.</li> </ul> <p><b>Observations</b></p> <ul style="list-style-type: none"> <li>*Children to be encouraged to make observations of materials and describe their properties.</li> </ul> <p><b>Observing over time</b></p> <ul style="list-style-type: none"> <li>*Children to complete an investigation to see how materials change e.g. ice cubes or chocolate melting.</li> </ul>

## What pupils need to know or do to be secure

Key knowledge and skills	Possible evidence
<p><b>Children will be taught to:</b></p> <ul style="list-style-type: none"> <li>-Talk about materials they explore, using their senses.</li> <li>-Join materials to make models.</li> <li>-Recognise different properties of materials when creating art work e.g. describe something as dark, light or shiny</li> <li>-Be supported by adults to name the materials they are using.</li> <li>-Develop scissor skills and explore how different materials cut. Adults to encourage children to comment on how some materials are more difficult to cut than others.</li> <li>-Explore and experiment with different construction materials to build models.</li> <li>-Understand the use and purpose of materials within the classroom for example knowing to draw onto paper and where not to draw.</li> <li>-Choose appropriate materials for completing an activity within their classroom. Children may not necessarily use the correct names of materials but will understand their use within the classroom.</li> <li>-Explore and experiment with different construction materials to build models. Children will be taught to choose their own materials from a range of options.</li> <li>-Begin to explain why they have chosen a particular material, naming one property.</li> </ul>	<ul style="list-style-type: none"> <li>*Can name the material they are using.</li> <li>*Can talk about one property of a material.</li> <li>*Can talk about ingredients for recipes.</li> <li>*Can talk about how mixtures change when ingredients are added.</li> <li>*Can talk about how materials change when cooked.</li> <li>*Can talk about how materials change when heated.</li> <li>*Can talk about how materials change when frozen.</li> </ul>
<p><b>Key vocabulary</b></p>	
<p>Mix, stir, cook, hot, oven, microwave, change, burn, melt, hard, runny, set, freeze, freezer, cold, blended, hard, soft, bendy, stiff, wobbly, wood, plastic, paper, card, fabric, shiny</p>	
Common misconceptions	Books linking to this area
<p>Some children may think:</p> <ul style="list-style-type: none"> <li>*A material is better to use because it is 'bigger' not thicker, rigid etc.</li> <li>*The material is 'box' not cardboard.</li> </ul>	<ul style="list-style-type: none"> <li>*Gingerbread man</li> <li>*Pat a cake</li> <li>*Little Red Hen</li> </ul>

<i>Memorable first hand experiences</i>	<i>Opportunities for communication</i>
<ul style="list-style-type: none"> <li><i>*Following recipes to cook.</i></li> <li><i>*Building models.</i></li> </ul>	<ul style="list-style-type: none"> <li><i>*Children to be given opportunities for communication with partners, groups and whole class to discuss as completing practical activities.</i></li> <li><i>*Adults to model and encourage discussion during play.</i></li> </ul>

*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.*