


Dereham Church Infant and Nursery School- Science

	Year group: Reception	Area/topic: Materials
	<p><i>(Objectives from NC/ELG/Development matters)</i></p> <ul style="list-style-type: none"> *Explore the natural world around them. (Understanding the world) *Describe what they see, hear and feel whilst outside. (Understanding the world) 	

Prior learning	Future learning
<ul style="list-style-type: none"> *Use all their senses in hands-on exploration of natural materials. (Nursery) *Explore collections of materials with similar and/or different properties. (Nursery) *Talk about the differences between materials and changes they notice. (Nursery) 	<ul style="list-style-type: none"> *Distinguish between an object and the material from which it is made. (Y1 - Everyday materials) *Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock. (Y1 - Everyday materials) *Describe the simple physical properties of a variety of everyday materials. (Y1 - Everyday materials) *Compare and group together a variety of everyday materials on the basis of their simple physical properties. (Y1 - Everyday materials)
<p><i>Working scientifically & encouraging scientific enquiry</i></p>	

Classification & identification

**Grouping materials that are similar.*

Comparative testing

**Children to set up an inquiry that includes materials and materials changing state e.g. can we stop ice melting? Do ice cubes melt at different rates in different areas of the playground?*

**Begin to investigate how some materials are not waterproof.*

Observing over time

**Investigate ice melting. How long does it take ice to melt? How does the block of ice change over time? How does a snowman change over time?*

Research using secondary sources

**Looking at photos of objects and materials.*

What pupils need to know or do to be secure

<i>Key knowledge and skills</i>	<i>Possible evidence</i>
<p><i>Children will be taught to:</i></p> <ul style="list-style-type: none"><i>-Recognise the basic use for some materials within their classroom e.g. paper is for drawing on whereas plastic is not. Children may not necessarily use the correct names of materials to begin with but will understand their use within the classroom.</i><i>-Use simple vocabulary when choosing materials to work with e.g. paper.</i><i>-Begin to describe materials through exploration during continuous provision.</i><i>-Use their senses to explore natural materials in the environment, such as stones, twigs, leaves, feathers, seeds, flowers etc.</i><i>-Have a range of opportunities to explore a variety of materials and use different materials for creating models or to build with. This will allow children to begin to understand simple properties of some materials. Adults will encourage children to describe the materials they are using to build or create models with.</i><i>-Learn material names through stories E.g. brick house in 'The three little pigs'</i><i>-Use the correct language when talking about a material an object is made from.</i>	<ul style="list-style-type: none"><i>*Evidence will be collected through photos, quotes and children's recording (e.g. drawing).</i><i>*Children can name the material they are using and why.</i><i>*Children can talk about multiple properties of a material and why it is suited for its purpose.</i><i>*Can observe changes in their natural world and say how it is different or will change in the future.</i><i>*Can compare and describe how</i>

<p>-Notice patterns on materials e.g. when looking at bricks. Children may take rubbings of different materials such as brick, stone or wood to discover the patterns they create.</p> <p>-Have a simple understanding of how some materials can change e.g. ice can melt to become water, chocolate can be melted when cooking</p>	<p>materials change over time and in different conditions.</p>
---	--

Key vocabulary

Ice, water, frozen, icicle, snow, melt, wet, cold, slippery, smooth, big, bigger, biggest, smaller, smallest, hard, soft, bendy, rigid, wood, plastic, paper, card, metal, strong, weak, hot, apply heat, waterproof, soggy, not waterproof, best, change, change back, plastic, brick, rock, wood, metal, glass, straw.

<p><i>Common misconceptions</i></p>	<p><i>Books linking to this area</i></p>
-------------------------------------	--

*Material only means fabric.
 *All plastic/wood etc. is the same.

*Aliens love underpants by Claire Freedman (Which underpants have the best pingy pants elastic for catapulting aliens?)
 *Hansel and Gretel by Bethan Woolwin (Willow the witch needs to build a new house after the children ate it. Which chocolate bar/biscuit will be the best to build with?)
 *The three little pigs (Exploring materials to build houses).

<p><i>Memorable first hand experiences</i></p>	<p><i>Opportunities for communication</i></p>
--	---

*Children to be given the opportunity to explore different objects made from a range of materials.
 *Children to be set a building challenge and given the opportunity to explore materials for construction.
 *Explore materials changing state e.g. watching ice melt or chocolate.

*Whilst carrying out investigations, encourage children to ask their own questions and to explain their observations.
 *When children are building and choosing materials, encourage them to explain the material they are using and why they have chosen this.
 *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.*