


Dereham Church Infant and Nursery School- Science

	Year group: 1	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) 		

Prior learning	Future learning
<ul style="list-style-type: none"> * Use all their senses in hands-on exploration of natural materials. (Nursery - Materials, including changing materials) * Explore collections of materials with similar and/or different properties. (Nursery - Materials, including changing materials) * Talk about the differences between materials and changes they notice. (Nursery - Materials, including changing materials) 	<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)

Working scientifically & encouraging scientific enquiry
<p>Identifying & classifying:</p> <ul style="list-style-type: none"> * Children to identify materials and name. * Children to sort and group objects that are made from the same material.

- *Children to sort and group materials that are the same.
- *Children to sort and group materials that have similar properties.

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 see-through or not.
- *Children to explain their findings and answer questions based on which material is most opaque or transparent.
- *Children to collect data within a group and record this simply with others.

Research using secondary resources:

- *Children to see images of how materials are used for larger objects or items that children cannot practically see in person.

What pupils need to know or do to be secure	
Key knowledge and skills	Possible evidence
<ul style="list-style-type: none"> *I recognise that materials are all around us. (D2) *I can identify and name the materials objects in my classroom are made from including objects made from wood, glass, metal and plastic. (D1 & D2) *I can sort and group objects together that are made from the same material. (D1 & D2) *I can look at an object and describe the way the material it is made from looks and feels describing the simple properties. (D3) *I can recognise that different materials can have similar properties and can sort materials based on their simple properties. E.g. Placing all smooth materials together. (D4) *I can conduct a simple test to see if water goes through a range of materials or not and begin to use the terms 'waterproof' and 'not waterproof' when discussing the results. (D2, D3, A3 & A5) *I can understand and use the vocabulary 'opaque' and 'transparent'. (D3) *I can work in a group to conduct an experiment to decide if a material is opaque or transparent. (D2 & D3) *I can work in a group to record if a material is opaque or transparent. (A6 & D3) 	<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. *Children recording data from an experiment. *Photographs of children's learning. *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, 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

- *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.

Books linking to this area

- *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

Memorable first hand experiences

- *Material hunt around school.
- *Experimenting with using materials in water to see which materials are waterproof or not.
- *Using torches to explore if materials are see-through or not.

Opportunities for communication

- *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 experiments.
- *Through the use of Explorify.

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DCINS Reasonable adjustments for pupils with SEND

<p>Communication and Interaction</p> <ul style="list-style-type: none"> *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. 	<p>Cognition and Learning</p> <ul style="list-style-type: none"> *Opportunity for lots of hands on exploration and verbally sharing thoughts and ideas. *Freedom to explore scientific equipment and processes. <ul style="list-style-type: none"> *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.
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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.*