


Dereham Church Infant and Nursery School- Science

	Year group: 2, 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"> * Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock (D2) * Describe the simple physical properties of a variety of everyday materials (D3) * 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
<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) 	<ul style="list-style-type: none"> * Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties. (Year 3, Rocks) * Notice that some forces need contact between two objects, but magnetic forces can act at a distance. (Y3 - Forces and magnets) * Compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets. (Y5 - Properties and changes of materials) * Give reasons, based on evidence from comparative and fair tests,

Prior learning in the Autumn term:

- *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)*
- *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)*

for the particular uses of everyday materials, including metals, wood and plastic. (Y5 - Properties and changes of materials)

Working scientifically & encouraging scientific enquiry

Identifying and classifying

- *Children to correctly identify and name materials.*

Observing over time

- *Children to observe how materials decompose and change over time using secondary resources.*
- *Children to observe how some materials dissolve in water.*

Comparative and fair testing

- *Children to make predictions before performing simple comparative tests.*
- *Children to complete a comparative test to find the most suitable material for a given purpose. Children to decide a way to record results of their findings.*
- **

Research using secondary resources

- *Children to observe how materials decompose and change over time using secondary resources.*

What pupils need to know or do to be secure

Key knowledge and skills

- *I can understand the negative impact some materials are having on the environment and why.*
- *I can work in a group to plan our own question based around materials as well as plan and*

Possible evidence

There will be evidence of children meeting the 'I can' statements through:

<p>conduct our own experiment. (D3 & D5)</p> <ul style="list-style-type: none"> *I can choose a way I feel is suitable to record the data and results from my own experiment. *I can explain how I know if a material is able to float or sink and when it might be useful to have a material which is able to do either of these. (D3 & D5) *I understand that some materials break down and eventually disappear whereas some materials do not. (D2 & D3) *I understand that all materials have a different timeline for decomposing. (D2 & D3) *I understand the importance of recycling and reusing materials. (D5) *I understand how people are exploring and inventing new materials and ways to combat climate change. (D5) 	<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. *Children answering and asking questions.
<h3>Key vocabulary</h3>	
<p>Material, wood, plastic, glass, metal, water, rock, brick, paper, fabric, elastic, foil, card, rubber, wool, clay, copper, gold, silver, iron, cotton, silk, wool, polyester, leather, pine, oak, man-made, natural, elasticity, strength, squashing, twisting, bending, stretching, pulling, rough, smooth, shiny, reflective, dull, transparent, translucent, opaque, rigid, flexible, floating, sinking, liquid, gas, solid.</p> <p><i>Decompose, recycle, reuse, dissolve</i></p>	
<h3>Common misconceptions</h3>	<h3>Books linking to this area</h3>
<ul style="list-style-type: none"> *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. *Children may think all materials decompose at the same speed. 	<ul style="list-style-type: none"> *Little turtle and the sea by Becky Davies & Jennie Poh *Tidy by Emily Gravett *Clean up! By Nathan Bryon & Dapo Adeola *Dear Greenpeace by Simon James *Great women who saved the planet by Kate Pankhurst *The great paper caper by Oliver Jeffers *The blue balloon by Mick Inkpen (Material properties) *Aliens love underpants by Claire Freedman (Which underpants would have the best pingy elastic for cataoulting aliens?) *What a waste by Jess French *A planet full of plastic by Neal Layton

**Somebody Swallowed Stanley by Sarah Roberts and Hannah Peck*

Memorable first hand experiences

- *Planning and conducting investigations to find the most suitable material for a given purpose.*
- *Taking part in The Great Science Share and sharing learning across the school.*
- *Using recycled materials to find a new purpose.*
- *Visiting a sea life centre to find out first-hand how materials can impact ocean life.*

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.*

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.*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.
<p>Social, Emotional and Mental health</p> <ul style="list-style-type: none">*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.	<p>Sensory and Physical</p> <ul style="list-style-type: none">*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.