

	<p>Year group: Year 2, Summer 2</p>	<p>Area/topic: Everyday materials</p>
<p>(objectives from NC/ELG/Development matters)</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) <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) *Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for 	<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, for the particular uses of everyday materials, including metals, wood and plastic. (Y5 - Properties and changes of materials)

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

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.

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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 conduct our own experiment. (D3 & D5)
- *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)

Possible evidence

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

Key vocabulary

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.

Decompose, recycle, reuse, dissolve	
Common misconceptions	Books linking to this area
<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 cataaulling 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	Opportunities for communication
<ul style="list-style-type: none"> *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. 	<ul style="list-style-type: none"> *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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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.