

Science planning- Summer Term

- asking simple questions and recognising that they can be answered in different ways
- 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

Working scientifically:

Everyday materials

Pupils should be taught to:

- distinguish between an object and the material from which it is made
- identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock
- describe the simple physical properties of a variety of everyday materials
- compare and group together a variety of everyday materials on the basis of their simple physical properties

NC objectives:

Pupils should explore, name, discuss and raise and answer questions about everyday materials so that they become familiar with the names of materials and properties such as: hard/soft; stretchy/stiff; shiny/dull; rough/smooth; bendy/not bendy; waterproof/not waterproof; absorbent/not absorbent; opaque/transparent. Pupils should explore and experiment with a wide variety of materials, not only those listed in the programme of study, but including for example: brick, paper, fabrics, elastic, foil.

Pupils might work scientifically by: performing simple tests to explore questions, for example: 'What is the best material for an umbrella? ... for lining a dog basket? ... for curtains? ... for a bookshelf? ... for a gymnast's leotard?'

Non-statutory guidance:

The world: children know about similarities and differences in relation to places, objects, materials and living things. They talk about the features of their own immediate environment and how environments might vary from one another. They make observations of animals and plants and explain why some things occur, and talk about

EYFS: changes.

Learning intention	Working Scientifically	Activity and assessment
<p>Y1: To distinguish between an object and the material with which it is made</p> <p>YR: To explore the world around them</p>	To raise and explore own questions	<p><u>Starter-</u> Explorify: Everyday object Zoom In, Zoom Out (discussion/debate).</p> <p><u>Input-</u> What is an object? What is a material? Scavenger hunt (find something made of...).</p> <p>Feely bag activity. Child feels inside and describes object. Child tries to identify the material it is made from. Class guesses the object.</p> <p><u>Activities:</u></p> <p>1) (Adult-supported) Scavenger hunt around school. Find something made from...</p> <p>Stem sentence e.g. "The _____ is made from _____."</p>

		<p>2) (Adult supported) Range of objects on table to explore practically. Object vs material sheet: chn to tick which material(s) it is made from.</p> <p>3) (Mostly independent) Using iPads, take tricky challenge photos of different objects. Once timer is up, give photos to other pair and challenge them to guess what object they are and decide which materials they are made from together.</p> <p><u>Plenary:</u> What did you learn?</p>
<p>Y1: To identify and name a variety of everyday materials</p> <p>YR: To explore the world around them, focussing on distinguishing between man-made and natural materials</p>	<p>To observe closely to make decisions against a criteria</p>	<p><u>Starter-</u> Explorify: Odd One Out discussion/debate.</p> <p><u>Input-</u> Materials song: https://www.youtube.com/watch?v=xOKr462HLc0</p> <p>I-Spy materials game and discussion about why certain materials might be used for that object.</p> <p>Sort into main material groups.</p> <p><u>Activities:</u></p> <p>1) (Adult-supported) Scavenger hunt around school. Find something made from... (Adult to scribe)</p> <p>Stem sentence e.g. "The _____ is made from _____."</p> <p>2) (Adult supported) Range of objects on table to explore practically with magnifying glasses and mirrors etc. Photos of the objects on a table, chn to tick which material(s) it is made from.</p> <p>3) (Mostly independent) Using iPads, take tricky challenge photos of different objects. Once timer is up, give photos to other pair and challenge them to guess what object they are and decide which materials they are made from together.</p> <p><u>Plenary-</u> challenge question for CP- What different objects/materials do you use most during your discovery time?</p>
<p>Y1: To explore the properties of different materials</p> <p>YR: To explore and talk deeply about the world around them, with regards to materials and objects</p>	<p>To observe simple tests closely in order to identify and classify different materials</p>	<p><u>Starter-</u> Kim's game (memory tray)</p> <p><u>Input-</u> What is a material? Can something be made of more than 1 material? What is a property? Can materials have more than 1 property?</p> <p><u>Activities:</u></p> <p>1) Material pairs. Objects on table, pair them up to match them to the other material with the most similar properties. EXT: Sorting using hoops.</p> <p>2) Blindfold activity- objects in middle, x1 partner blindfolded and x1 feeling and guessing object/material.</p> <p>3) Simple tests- which materials sink and which float? Why? Which materials can hold water/objects? How many cubes make a boat sink?</p> <p><u>Plenary-</u> simple test results (elicit misconceptions). Discuss why some materials float and some sink instead.</p>

<p>Y1: To explore the properties of different materials</p> <p>YR: To explore and talk deeply about the world around them, with regards to materials and objects</p>	<p>To observe closely and perform tests in order to identify and classify different materials</p> <p>To raise questions/generate hypothesis for future tests</p>	<p><u>Input-</u> What is the property? T to create group in a hoop and ask chn how the materials have been sorted. Discuss previous misconceptions.</p> <p><u>Activities:</u></p> <ol style="list-style-type: none"> 1) Property tick table 2) Generate questions about specific material (e.g. Plastic/fabric/wood etc)- 'I wonder if', 'Does...?', 'Which...' 3) Simple test: Which paper is best at absorbing spilt water? (Syringe, dip, cover, leak, tear). <p><u>Plenary-</u> Test result explanations</p>
<p>Y1: To compare and group various materials based on their properties</p> <p>YR: To know about the similarities and differences in relation to materials</p>	<p>To perform simple tests and use simple equipment</p> <p>To gather and record data</p>	<p><u>Starter-</u> Odd One Out (functional footwear).</p> <p><u>Input-</u> Teddy wants to go for a picnic but the weather forecast says it is going to be rainy. He has asked for you to design an umbrella for him to take to keep him dry (depending on material properties and function). Discuss features of an umbrella. Discuss what 'waterproof' means. Show range of waterproof clothes. Fair test discussion (test all materials in same way). Discuss ways to test this as a class. Discuss how to measure amount of water.</p> <p><u>Activities:</u></p> <p>ALL: (Adult supported) test various material options with water and reason with which would be best to make Teddy's umbrella from. T's to record reasoning.</p> <p>Ext: (Independent) Waterproof objects sorting into basket and on IWB game.</p>
<p>Y1: To compare and group various materials based on their properties</p> <p>YR: To know about the similarities and differences in relation to materials</p>	<p>To perform simple tests, gather and record data</p> <p>To use observations and data to answer questions and draw conclusions</p>	<p><u>Starter-</u> Various chn to show and tell their chosen material and explain why, talking about their tests.</p> <p><u>Activities:</u></p> <p>Finish off tests (if didn't before).</p> <p>Draw/collage and label own effective umbrella design for Teddy to buy.</p> <p><u>Plenary-</u> show range of finished investigations.</p> <p>Draw conclusions as a class. Which materials are NOT very waterproof? Which materials ARE waterproof?</p>