

Prior learning

Year R – Floating and Sinking – Which materials will make the best boat? Which materials are waterproof?

The Three Little Pigs – Which materials will make the strongest houses and why?

National Curriculum - 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.

Vocabulary

- Materials – plastic, fabric, wood, metal, rubber, glass
- Properties – hard, soft, rough, smooth, stiff, flexible.
- Waterproof, not waterproof, absorbent, not absorbent.
- Investigation, fair test, prediction, results, observations, sorting.

Snapshot overview

Identifying Materials

Name a variety of different materials and sort objects according to the material that they are made from.

Exploring Materials

Explore a range of materials and describe the properties of the material.

Describe materials and properties

Identify an object, name the material it is made from and describe the material.

Waterproof Materials

Practically demonstrate identifying whether a material is waterproof or not waterproof.

Carry out an investigation

Make a prediction.
Carry out an investigation and make observations.

Record findings

Record findings from investigation into which materials are waterproof.



Medium Term Planning

Year Group: Year 1 **Term:** Spring 1

Topic: Materials

	Learning Objective	Input (including key questions and vocabulary)	Differentiation	Key learning
Session 1	I can identify a range of materials.	<p>Introduce new topic of materials and introduce key vocabulary for topic. Watch clip: (focus on wood, metal, fabric and plastic) https://www.youtube.com/watch?v=2td5mfgf1OI Can the children think of any other objects that are made from these materials?</p> <p><u>Activity:</u> In small groups children to be given groups of objects made from either plastic, metal, fabric or wood. Children to work together to sort the objects into the materials that they are made from.</p> <p>In books: Photo of items that have been sorted into the materials that they are made from.</p> <p><i>(Independent task – children to have A4 paper divided into 4 with headings wood, plastic, metal, fabric. Children to draw pictures of objects that are made from each material in correct sections)</i></p>	<p>Pre-teaching of vocabulary for children who are emerging/EAL (material, wood, plastic, metal, fabric).</p> <p>Extension challenge: How do you know? Can you describe what the material is like? Are they hard/soft? Stiff? Flexible?</p>	<p>Name 3 common materials.</p> <p>Know what material 3 different objects are made from.</p>

<p>Session 2</p>	<p>I can describe the properties of different materials.</p>	<p>Recap previous learning and key vocabulary.</p> <p>Introduce vocab cards for properties of materials focus on: Hard/soft, smooth/rough, stiff/flexible and show children practical examples of each property to ensure understanding of this vocabulary.</p> <p>In small groups with adult support discuss properties of metal, wood, plastic and fabric using real items and pieces of material. For example: provide children with a range of items made from metal and discuss is it hard or soft? Stiff or flexible? Smooth or rough?</p> <p>In books: Photo of items with property vocab cards that apply.</p> <p><i>(Independent task – children to have A4 paper divided into 6 with headings hard, soft, rough, smooth, flexible, stiff. Children to draw pictures of objects that they can see/think of that match to the properties. Challenge: can they label what material the property is made from too?).</i></p>	<p>Pre-teaching of vocabulary for children who are emerging/EAL (material, wood, plastic, metal, fabric).</p> <p>Challenge: Why might a certain object be made from a particular material? eg. A window is made from glass because it is strong and transparent.</p>	<p>Name 3 common materials</p> <p>Be able to describe a material using its properties.</p>
<p>Session 3</p>	<p>I can name and describe a variety of materials and their properties.</p>	<p>Recap previous learning and vocabulary.</p> <p>Activity in books:</p> <p>Children to have items on tables made from wood, metal, plastic, fabric.</p> <p>Children to draw an item and label it with the name of the object, the material it is made from and a property to describe it. For example – draw a pencil - ‘pencil’ ‘wood’ ‘hard’. Children to complete this for an object made from wood, metal, plastic and fabric.</p>	<p>Recap of key vocabulary for children who are emerging/EAL.</p>	<p>Describe 4 materials by their properties.</p>

		<i>Extension challenge: Why might an object be made from that material?</i>		
Session 4	I can explain what waterproof means.	<p>Recap previous learning and introduce new vocabulary.</p> <p>Practically demonstrate investigating whether a material is waterproof/not waterproof by pouring water onto a variety of materials (fabric, rubber, tissues, plastic, materials with holes, cardboard, sponges, metal etc)</p> <p>Activity: Children to have time to explore whether a material is waterproof or not with adult support and make observations about what happens to the materials. Do they change? Do the materials stay the same? How can you tell the materials are waterproof/not waterproof? Are the materials hard/soft, smooth/rough, stiff/flexible?</p>	Pre-teaching of new vocabulary for emerging/EAL children.	<p>Identify a material that is waterproof.</p> <p>Identify a material that is not waterproof.</p>
Session 5	I make a prediction.	<p>Recap previous learning and key vocabulary.</p> <p>Introduce investigation that children will be carrying out. We want to find waterproof materials. Why might we need waterproof materials? Coats, bottle lids, straws, umbrella etc – decide on a particular purpose for investigation (could link to other current topics)</p> <p>Discussion points:</p> <ul style="list-style-type: none"> • We will use tissue, kitchen foil, plastic, cotton wool. • How can we make sure it is a fair test? • Should we use the same amount of water on each material? Why? 	Pre-teaching of key vocabulary for emerging/EAL children.	<p>Identify materials that are waterproof and not waterproof.</p> <p>Make a verbal prediction.</p>

		<ul style="list-style-type: none"> Should we use the same size piece of material? Why? <p>Give children time to explore the materials – what properties could you use to describe them? Are they hard/soft, smooth/rough, stiff or flexible.</p> <p>Model making a verbal prediction for which materials will be waterproof/not waterproof and children to make their own verbal predictions.</p> <p>Activity in book: Children to draw and label pictures of the 4 materials that will be used in the investigation. Next to each picture children to show their prediction with a yes/no or tick/cross to show whether they think a material will be waterproof or not Adults to scribe children’s reasoning for predictions.</p>		
Session 6	I can carry out an investigation and record my findings.	<p>Recap previous learning and vocabulary.</p> <p>Remind children about the investigation and the materials that are being used. Can the children give you a verbal prediction for what materials will be waterproof/not? Why? (Link investigation back to specific context ie are we finding a material for an umbrella? Bottle lid? Etc).</p> <p>In small groups children to carry out investigation to see whether or not a material is waterproof or not. Children to make observations about what happens to the materials. Do they change? Do the materials remain strong? Etc.</p> <p>In Books: PICTURE OF INVESTIGATON BEING CARRIED OUT</p>	<p>Recap of key vocabulary for emerging/EAL children.</p> <p>Independent task: Children to have A3 paper divided into waterproof/not waterproof. Children to cut and stick pictures of objects into correct section & add their own drawings if completed.</p>	<p>Identify a material that is waterproof.</p> <p>Identify a material that is not waterproof.</p>

		<p>Children to complete results table:</p> <table border="1"> <thead> <tr> <th>Material</th> <th>Waterproof?</th> <th>Strong?</th> <th>CONTEXT OF INVESTIGATION</th> </tr> </thead> <tbody> <tr> <td>Tin foil</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Plastic</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Cotton wool</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Tissues</td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>Can the children explain their findings? Which material would make the best___ why? Record in books or scribe if necessary.</p>	Material	Waterproof?	Strong?	CONTEXT OF INVESTIGATION	Tin foil				Plastic				Cotton wool				Tissues					
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- To be able to name and sort a range of materials.
- To be able to describe materials based on their properties.
- To be able to identify some materials that are waterproof and not waterproof.
- To be able to make a prediction.
- To be able to carry out a simple experiment and explain the findings.