

Science

Year 2 - Spring 1- Everyday Materials

National Curriculum / End Point statement

Uses of everyday materials

- identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for different uses
- find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching

Working Scientifically

- 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.

Lesson 1	Lesson 2	Lesson 3	Lesson 4	Lesson 5 (TAPS)	Lesson 6
Reactivate learning: What is an object? Can you tell me the name of this object and what it is made from? Tell me about the properties of metal/wood/glass/plastic? Are all materials natural? WALT describe materials	WALT identify a range of materials	WALT compare what objects are made from and why	WALT investigate changing materials	WALT compare the suitability of everyday materials	WALT compare the suitability of a variety of everyday materials

Success Criteria

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<p>I can tell you the name of an object and what it is made out of.</p> <p>I can tell you about the properties of...</p> <p>Metal</p> <p>Wood</p> <p>Glass</p> <p>Plastic</p> <p>I can tell you about natural and man made materials</p>	<p>I can identify... wood, metal, plastic, glass, brick, rock, paper, cardboard</p> <p>I can identify what an object is made from</p> <p>I can answer a question about why the materials have been used in that way</p>	<p>I can tell you what an object is made from</p> <p>I can classify objects into groups based on what they are made of</p> <p>I can use the correct vocabulary to explain the properties of a material</p> <p>I can tell you why the materials were an appropriate choice</p>	<p>I can investigate how shapes can be bent, squashed, twisted and stretched</p> <p>I can talk about why they have those properties</p> <p>I can describe a solid material</p>	<p>I can use my knowledge of materials to plan an investigation</p> <p>I can tell you what I am going to do</p> <p>I can perform a simple test.</p>	<p>I can tell you about a famous scientist who developed a useful everyday object.</p> <p>I can identify which materials would be useless for some everyday objects.</p>
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Suggested Outcome

<p>Children could identify the materials used and label pictures of objects.</p>	<p>Children describe what materials objects are made from and why they are made of that material.</p>	<p>I can classify materials</p> <p>I can discuss their properties</p>	<p>A selection of objects to investigate e.g. pebble, sponge, deflated balloon, hair band, tennis ball, pipe cleaner, ruler, paper clip</p> <p>I can record my observations in a table</p>	<p>Children carry out the TAPS focusing on explaining different ways that they could test if a material was waterproof e.g. you can find out that it is waterproof by...and...</p>	<p>Create a list of ridiculous materials to use for items e.g. glass football, brick window pane, paper chair</p> <p>I can tell you why the choice of materials is ridiculous</p>
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Vocabulary	NC links
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<p>transparent, wood, metal, plastic, glass, brick, rock, paper, cardboard, solid, squashing, bending, twisting, stretching, characteristic opaque</p>	<p>DT</p>
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Key Learning

All objects are made of one or more materials that are chosen specifically because they have suitable properties for the task. For example, a water bottle is made of plastic because it may be transparent, allowing you to see inside the bottle and it is waterproof so that it holds the water. When choosing what to make an object from, the properties needed are compared with the properties of the possible materials, identified through simple tests and classifying activities. A material can be suitable for different purposes and an object can be made of different materials.

Objects made of some materials can be changed in shape by bending, stretching, squashing and twisting. For example, clay can be shaped by squashing, stretching, rolling, pressing etc This can be a property of the material or depend on how the material has been processed e.g. thickness.

Possible Evidence	Common Misconceptions
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| <ul style="list-style-type: none"> Children can name an object, say what material it is made from, identify its properties and make a link between the properties and the object's particular use. | <p>Some children may think:</p> <ul style="list-style-type: none"> Only fabrics are materials |
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| <ul style="list-style-type: none">• Children can label a picture of an object made from different materials.• Children can identify what properties a suitable material must have (from a given object)• Children can describe the action used whilst changing the shape of an object.• Children can use the words flexible and/or bendy to describe materials that can be changed in shape and use stiff and/or rigid for those that cannot.• Children can recognise that a material may come in different forms which have different properties. | <ul style="list-style-type: none">• Only building materials are materials• Only writing materials are materials• The word rock describes an object rather than a material• Solid is another word for hard |
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Significant People

John Dunlop (tyres)

CPD opportunity

<https://www.reachoutcpd.com/courses/lower-primary/everyday-materials/>

Useful Links

<https://www.bbc.co.uk/bitesize/topics/zrsgk7>

<https://app.discoveryeducation.co.uk/learn/channels/channel/c8ba662e-931d-4cb8-966a-8f9eb820ef8a>

Materials

Early learning goal	<ul style="list-style-type: none">• 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 changes.
Year 1	<ul style="list-style-type: none">• 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.
Year 2	<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.• Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.