

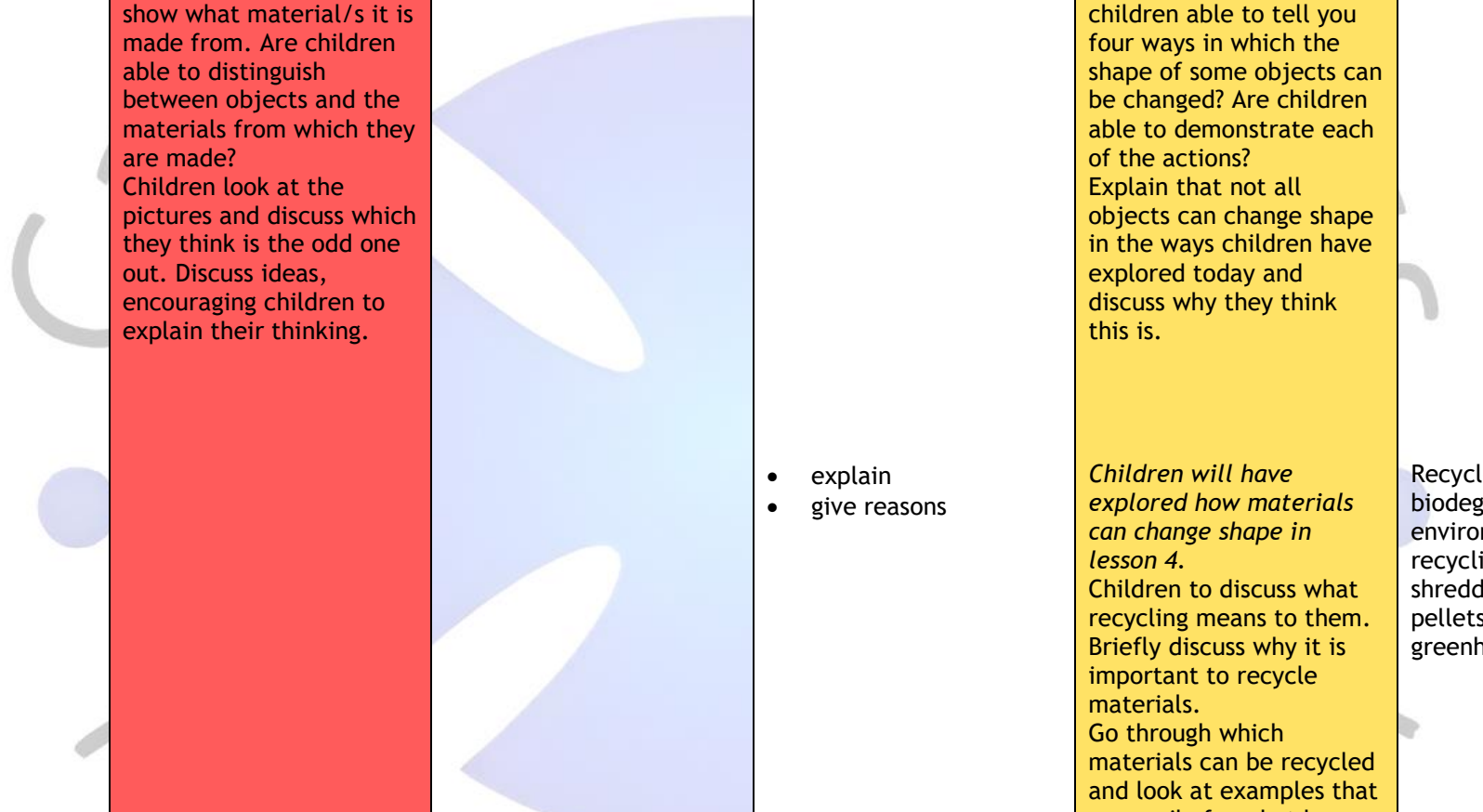
Year 1 NC - pupils should be taught to:	How we do this in Year 1	Year 1 Vocabulary	Year 2 NC - pupils should be taught to:	How we do this in Year 2	Year 2 Vocabulary
<p>Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock</p>	<p>Children explore the different materials (where possible, these are raw examples e.g. a plank of wood rather than a wooden chair). Ensure that children are suitably supervised when handling potentially more dangerous materials (e.g. glass, metal, wood and rock). Can children name any of the materials? Go through some of the names of different materials. Discuss what some of the materials may be used for (briefly, as this is the main focus for lesson 2). Match the words to the Materials. Give each pair a different material and children have to think of three adjectives to describe their material. Record these adjectives and keep safe for the lesson three.</p>	<p>Materials, wood, plastic, glass, metal, water, rock.</p>	<p>Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for different uses</p>	<p>Ask children which everyday materials they can remember learning about in Year 1. Record any materials, properties, keywords and concepts children already know. Can children identify and name everyday materials? Remind children of some everyday materials using photos and actual materials. Explain some materials are natural and are found in the world around us, such as wood and rock and others are man-made such as plastic and glass. Think Again... Look at some of the photos again, this time allowing children to discuss what some of the materials may be used for. Encourage children to look and/or move around the classroom to identify where different materials have been used to make familiar objects. Are children able to spot where everyday materials have been used to make familiar objects?</p>	<p>Identify, materials, wood, plastic, glass, metal, rock, brick, paper, cardboard, uses, used, properties, hard, soft, stretchy, stiff, shiny, dull, rough, smooth, bendy, not bendy, absorbent, not absorbent, waterproof, not waterproof, transparent, opaque.</p>
<p><u>How working scientifically can be met</u></p> <ul style="list-style-type: none"> match a material to its name 			<p><u>How working scientifically can be met</u></p> <ul style="list-style-type: none"> identify and explain give suggestions 		

			<ul style="list-style-type: none"> • identify and classify • gather and record data • record observations 	<p>Children to explain what 3 different materials can be used for? Same Material, Different Uses: Go through some of the uses children have identified. Discuss with the children that the same materials can be used for a number of different things, for example metal can be used for coins, keys, cars, cans and bridges.</p> <p><i>Children will have identified some uses of everyday materials in lesson 1.</i> *Arrange a short local area walk* Explain that today children will be going on a short local walk and doing their science learning outside. Go through rules. Explain that they will be looking out for everyday materials being used in different ways. Children go on a short local area walk. Can children explain what different materials can be used for?</p>	<p>Observations, record, classify, group, similar, safe, unusual.</p>
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			<ul style="list-style-type: none"> • identify and compare • explain difference 	<p>Encourage higher ability children to see if they can group similar uses together. Can children make observations? Are they able to record their observations?</p> <p>Grouping Uses: When back in the classroom, ask the children to feed back their observations. What different uses did they find? Is there any way we can group some similar uses together? Encourage children to think of materials which may be used for similar purposes, for example materials used for building. Are children able to group similar uses of materials together?</p> <p>Go through any unusual uses of materials they spotted and discuss why those materials might have been chosen for that purpose. Encourage children to be on the lookout for different uses of materials at home and out and about.</p> <p><i>Children will have identified a variety of</i></p>	<p>Compare, suitability, suitable, unsuitable,</p>
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				<p><i>everyday materials and identified their uses in lesson 1.</i></p> <p>Remind children of the properties of everyday materials (learned in Year 1). Quickly go through them to recap and check children's understanding of them. Encourage children to think of others and add them to the list. Discuss why children think objects are made out of particular materials, for example why are window panes made out of glass?</p> <p>Spoons: In their groups, children discuss which material spoons are made from (hopefully they will realise spoons are made from a variety of different materials). Are children able to explain why different materials can be used to make the same object?</p> <p>Introduce the word suitability and discuss using examples, encouraging them to ask questions and make suggestions.</p> <p>Comparing Suitability: Children to compare and explain which properties make some materials</p>	purpose.
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				<p>suitable or unsuitable for different purposes? Discuss which materials can be/are used to make coat hangers. Are children able to explain why different materials can be used to make the same object? Encourage children to discuss which material would be the most suitable in different situations. Can they identify which properties wood, plastic and metal have which make them a suitable material for coat hangers?</p>	
<p>Distinguish between an object and the material from which it is made</p>	<p>Object Challenge: What have all the objects got in common? Are children able to identify the materials the objects are made from? Ask groups to explain their reasoning. Explain that although some of the objects are made of more than one material (e.g. the magnifying glass), they all had one material in common. Material Challenge: Discuss the difference between actual objects and the materials they are made from. Ask children to identify the</p>	<p>Object, common, same.</p>	<p>Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching</p>	<p>Go through meaning of the words squashing, bending, twisting and stretching. Children think about how the shape of objects made from some materials can be changed e.g. squashing a cardboard box. Squashing, Bending, Twisting and Stretching: Go through the different ways in which materials can be manipulated. Encourage children to do each action with their hands. Are children able to demonstrate each of the actions?</p>	<p>Change, squashing, bending, twisting, stretching, squash, bend, twist, stretch.</p>
<p><u>How working scientifically can be met</u></p> <ul style="list-style-type: none"> • explain the difference • explain reasoning/thinking 			<p><u>How working scientifically can be met</u></p> <ul style="list-style-type: none"> • explain • record findings 		

	<p>objects in the pictures, as well as the materials they are made from. Identify an object and show what material/s it is made from. Are children able to distinguish between objects and the materials from which they are made? Children look at the pictures and discuss which they think is the odd one out. Discuss ideas, encouraging children to explain their thinking.</p>		<ul style="list-style-type: none"> • explain • give reasons 	<p>Explain how to try and change the shape of the objects on the tables and record findings. Are children able to tell you four ways in which the shape of some objects can be changed? Are children able to demonstrate each of the actions? Explain that not all objects can change shape in the ways children have explored today and discuss why they think this is.</p> <p><i>Children will have explored how materials can change shape in lesson 4.</i></p> <p>Children to discuss what recycling means to them. Briefly discuss why it is important to recycle materials. Go through which materials can be recycled and look at examples that are easily found at home and school. Can children tell you which materials can be recycled? How to Recycle: Discuss your local area's recycling</p>	<p>Recycle, recycling, reuse, biodegradable, environment, landfill site, recycling depot, shredded, melted, pellets, raw materials, greenhouse gases.</p>
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				<p>arrangements, for example 'Do you use coloured wheelie bins/bags/boxes? How do you dispose of garden materials/food?' Explain different areas in the country (local authorities) have a slightly different system but the goal is the same. Also discuss what your school does to recycle - do you have recycling bins? Do you have recycling monitors or eco monitors? Does recycling get discussed at your school council meetings? Are children able to explain how to recycle?</p> <p>Sort the items (cards) into the appropriate place. Discuss which items groups had put where, were there any which groups disagreed on? Explain what happens after the recycling has been collected.</p> <p>Children to show and explain the recycling process. Can the children explain how plastic materials are sorted and then changed into new products?</p> <p>Discuss what happens to</p>	
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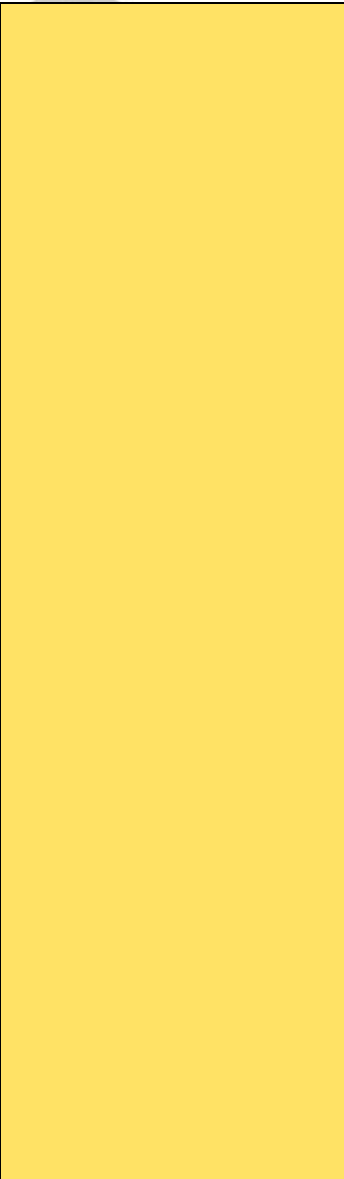
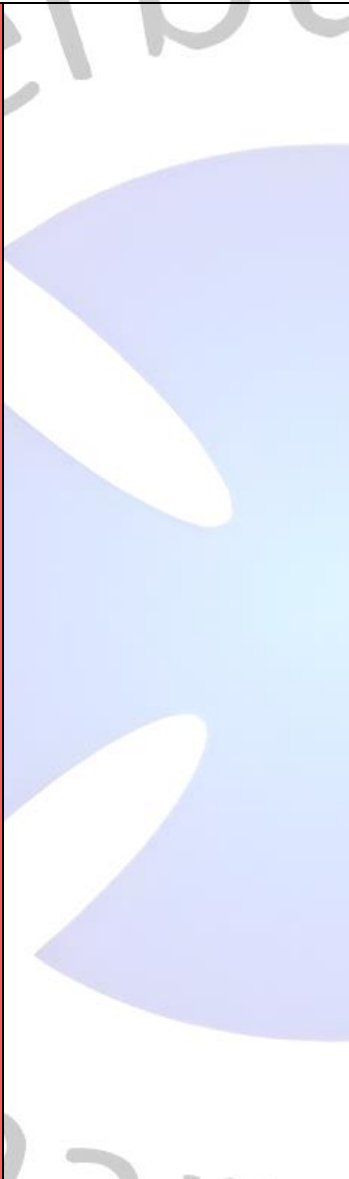
				rubbish that isn't recycled. Discuss why it is so important to recycle materials.	
Describe the simple physical properties of a variety of everyday materials	<i>Children will have handled and learned the names of everyday materials in lesson 1.</i>	Describe, properties, hard, soft, stretchy, stiff, shiny, dull, rough, smooth, bendy, not bendy, waterproof, not waterproof, absorbent, not absorbent, opaque, transparent.	Compare how things move on different surfaces	Inventor John McAdam: Give children information about him.	Invent, macadamisation, macadam road, patent, Parliament, compensated, royalties, knighthood, tar, tarmacadam, tarmac.
<p><u>How working scientifically can be met</u></p> <ul style="list-style-type: none"> describe the properties 	<p>Recap the keyword list which was compiled at the end of lesson one. Go through the words and explain what they mean. Explain these words are known as 'properties'. Let children explore a range of materials and objects made from different materials. Encourage children to describe what materials look like and how they feel. Describe the properties of the materials. Are children able to choose words which describe the materials? Feely Bag: Choose a child to describe a material from the feely bag to the class, just by touching it. Children work out which material is being described. Question children as to why they think/don't think it's a particular</p>		<p><u>How working scientifically can be met</u></p> <ul style="list-style-type: none"> explain impact 	<p>Explain the process of macadamisation and emphasise that this was a significant change in road building. Until then rural roads were often muddy, slippery and dangerous and urban roads were cobbled making them bumpy and uncomfortable to travel over. Read through further information about the inventor, explaining the meaning of words patent, Parliament, compensated and royalties. Explain how macadam roads were developed and how the use of tar was added to stabilise them. These roads then became known as tarmacadam roads and then tarmac. Children discuss where they think tarmac is used today. Are children able to explain how his invention has impacted on life today? Create fact file.</p>	

<ul style="list-style-type: none">• test materials to see how they behave• record findings	<p>material.</p> <p><i>Children will have looked at materials and described some of their properties in lesson 3.</i></p> <p>Recap properties of materials</p> <p>Discuss how some properties are easier to identify than others (e.g. it's easy to see if something is shiny or dull just by looking at it).</p> <p>Model how to test to see if something is waterproof, transparent or opaque or absorbent.</p> <p>Can children choose words which describe how materials behave?</p> <p>Property Testing: Children to test each material and record their findings.</p> <p>Explain that they are testing the properties of materials by looking at objects that are made from that material. Are children able to test materials to see how they behave?</p> <p>Property Testing Results: Discuss what children discovered. Which</p>	<p>Behave, test, record.</p>			
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<ul style="list-style-type: none">• observe closely• perform simple tests• use observations and ideas to suggest answers to questions	<p>materials were bendy, waterproof and absorbent? Which materials were transparent and opaque? How did you test them to find out? Discuss which materials the objects are made from. For example, Why are windows transparent? Which material are they made from?</p> <p><i>Children will have explored the properties of different materials in lessons 3 and 4.</i></p> <p>Introduce the children to Ted and his problem. Ask children to discuss how they could help Ted. Explain that we would like to make him an umbrella but we're not sure which material would be best to use. Show children the four different materials they will be testing (one of the materials should ideally be a type of plastic similar to an umbrella). Are children able to suggest sensible ways in which these materials</p>	<p>Investigation, prediction, predict, watch, test, record, sensible, results, decision.</p>			
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	<p>could be tested? Children carry out their investigation as a group and record their investigation individually. Are children watching carefully? Can children test the materials in a fair way? Results: Discuss which material children think would be best for Ted’s umbrella and why. Are children able to use their results to make a sensible decision? Then discuss why it wouldn’t be suitable to make an umbrella out of other materials (for example metal or glass). Look out for children who are able to explain why those materials would not be suitable.</p>				
<p>Compare and group together a variety of everyday materials on the basis of their simple physical properties</p>	<p><i>Children will have described the properties of everyday materials in lesson 3 and explored their properties in lessons 4 and 5.</i></p>	<p>Sort, group, compare.</p>			
<p><u>How working scientifically can be met</u></p> <ul style="list-style-type: none"> • sort objects by their properties 	<p>Children to sort each set of pictures into two groups. Sitting in a circle, children look at the different objects and pass them around. How could</p>				

we describe their properties?
Remind children of the different properties. How could we sort these objects?
Using sorting, model how to label each circle e.g. rough and smooth.
Ask children with a rough object to put it in the circle. Then ask children with a smooth object to put it in the other circle. Identify objects which are both rough and smooth. Where could we put them? Model how to overlap the circles to include any objects which have both properties.
Property Sort: Children to sort the objects. Are children able to sort and group objects with the same properties together? Can children explain how they have sorted their objects? Then challenge them to think of absorbent and not absorbent objects.
Material Sort: Children sort by the different materials they are made from (be aware of some pictures may fall into more than one category,



	for example the scissors could be grouped with metal and/or plastic). Then allow groups to share how they have sorted them and address any misconceptions.			
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