

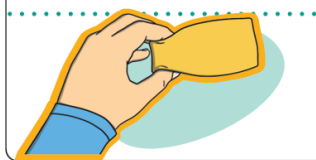


Knowledge Organiser	Subject: Science	Topic: Exploring Everyday Materials	Year: 2
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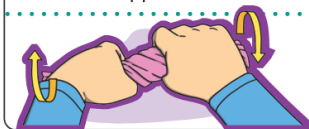
<u>Key Knowledge</u> All objects are made of one or more materials that are chosen specifically because they have suitable properties for the task. For example, a water bottle is made of plastic because it is transparent allowing you to see the drink inside and waterproof so that it holds the water. 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. <u>Common misconceptions</u> • Only fabrics are materials. • 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.			<u>Key Learning</u> • Can name an object, say what material it is made from, identify its properties and make a link between the properties and a particular use. • Can label a picture or diagram of an object made from different materials. • For a given object can identify what properties a suitable material needs to have. • Whilst changing the shape of an object, can describe the action used. • Can use the words flexible and/or stretchy to describe materials that can be changed in shape and stiff and/or rigid for those that cannot. • Can recognise that a material may come in different forms which have different properties. <u>Disciplinary Skills</u> • 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.
Key Concepts			Why are different materials suited to different purposes?
Identifying Materials and Their Properties Children will learn that all objects are made from materials chosen for their specific properties. They will be able to name objects, identify the materials they are made from, and explain why those materials are suitable for their purpose. For example, a water bottle is made of plastic because it is waterproof and transparent.	Classifying and Testing Materials Through simple tests and classification activities, children will explore the properties of different materials. They will compare the properties of materials to decide which is most suitable for a given object. They will also recognize that materials can exist in different forms, affecting their properties and uses.	Changing the Shape of Materials Children will investigate how some materials can change shape by bending, stretching, squashing, or twisting. They will describe these actions using appropriate vocabulary, such as flexible or stretchy for materials that can be reshaped and stiff or rigid for those that cannot. They will also understand that how a material is processed (e.g., its thickness) can influence its flexibility.	

Key Vocabulary	
Material	A material is what something is made of, such as wood or plastic.
Suitability	Suitability means having the right properties for a certain use.
Properties	The properties of a material tell us what it is like and how it behaves, such as whether it is soft, rough or transparent.
Recycle	To recycle means to change waste (rubbish) into a material that can be used again.
Strong	Strong materials do not change shape or break easily.
Flexible	Flexible materials can bend easily without breaking.

Squash an object by pressing on it.



Twist an object by holding both ends and twisting your hands in opposite directions.



Bend an object by trying to bring both ends towards each other.



Stretch an object by holding both ends and pulling your hands apart slowly and gently.



Some materials are used for more than one thing. For example, metal is used to make all of these things.



Different materials can be used to make the same thing. For example, spoons can be made of different materials.



The properties of a **material** affect their **suitability**, making them either suitable or unsuitable for particular uses.

Linking Thinking Across Our Learning Journey						
Early Years	Year One	Year Two	Year Three	Year Four	Year Five	Year Six
	Everyday Materials 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.	Exploring Everyday Materials			Properties and Changes of Materials 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. Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic.	