



## Key Ideas & Vocabulary

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. 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.

**suitable**

Appropriate for a specific purpose.

**opaque**



Not letting light through.

**transparent**



Allowing light to pass through.

**translucent**



Allowing some light to pass through.

**flexible**



Able to bend easily without breaking.

**rigid**



Unable to be bent or reshaped.

**absorbent**



Able to soak up liquid easily.

**waterproof**



Keeps water and other liquids out.

## Knowledge I already have

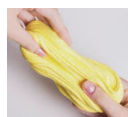
In year 1, I:

- Distinguished between an object and the material from which it is made.
- Identified and named a variety of everyday materials, including wood, plastic, glass, metal, water and rock.
- Described the simple physical properties of a variety of everyday materials.
- Compared and grouped together a variety of everyday materials on the basis of their simple physical properties.

## New Knowledge

By the end of this unit:

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



## Future Knowledge

- In year 3, I will compare and group together different kinds of rocks on the basis of their appearance and simple physical properties.
- In year 3, I will notice that some forces need contact between two objects, but magnetic forces can act at a distance.
- In year 5, I will 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.
- In year 5, I will give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic.

## Scientific Enquiry

Identifying and Classifying

- I will name materials and properties. I will classify materials into groups according to their properties. I might need to carry out simple tests or research to do this.
- Comparative and Fair Tests
- I will plan an enquiry to test the properties of materials for particular uses e.g. compare the stretchiness of fabrics to select the most appropriate for Elastigirl's costume, test materials for waterproofness to select the most appropriate for a rain hat.