



Properties and changes of materials

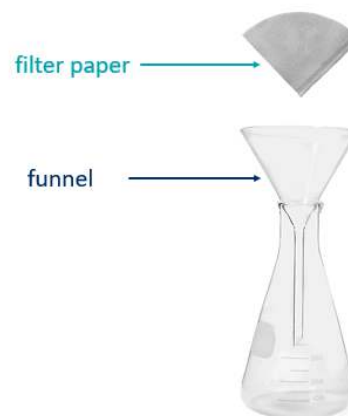
Scientific Terminology

Prior

- 1) Compare and group materials together, according to whether they are solids, liquids or gases.
- 2) Observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C) (double lesson)
- 3) Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.

Objectives

- 1) 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. (double lesson)**
- 2) Give reasons, based on evidence from comparative and fair tests, for the uses of everyday materials, including metals, wood and plastic
- 3) Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through **filtering, sieving and evaporating.**
- 4) **A)** Know that some materials will dissolve in liquid to form a **solution** and describe how to **recover** a substance from a **solution.**
b) Demonstrate that dissolving, mixing and changes of state are **reversible** changes.
- 5) Explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with **burning** and **the action of acid on bicarbonate of soda.**



Questions

- 1) How do you create a fair test?
- 2) What is an independent variable?
- 3) Plastic is a good heat insulator:
True/false
- 4) A heat insulator conducts electricity:
True/False
- 5) Name a substance that will dissolve in water.
- 6) Choose words to complete the sentences.

Solution, temperature, amount or stirring

When a soluble solid is dissolved in water it becomes a _____.
Increasing the _____ and _____ can increase the rate of dissolving.

dissolving - When a substance dissolves, it might look like it has disappeared. In fact, it has mixed with the water to make a transparent liquid called a solution.

durable - something can last for a long time without breaking or getting weaker.

evaporation - when a liquid turns into a gas. For example, water evaporates into steam.

Insoluble - a material that is insoluble does not dissolve in water.

Magnetism - is an invisible force or field that causes objects to attract or repel one another

opaque - a material that do not let light pass through them and you cannot see through it.

reversible - a change that can be reversed or undone, without creating new materials.

soluble - a substance can dissolve in a liquid

translucent - a material allows some light to pass through it, but not enough to see through it clearly.

transparent - light can pass through an object and you can see clearly through it

magnetism

sieving

evaporation

filtration

