Properties and changes of materials

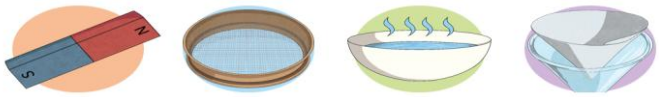
Prior

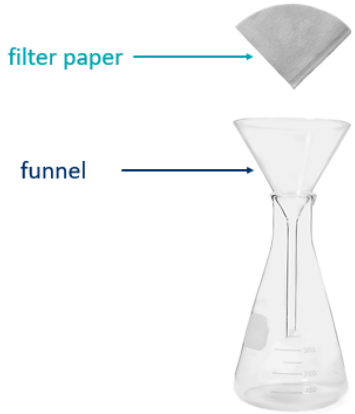
1)	Compare and group materials together, according to whether they are solids, liquids or gases.
2)	Observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C) (double lesson)
3)	Identify the part played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

magnetism | sieving | evaporation | filtration





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.

Scientific Terminology

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 i