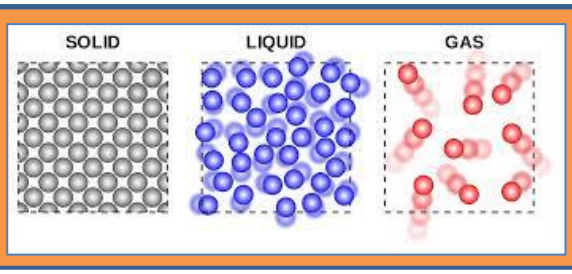
Materials and Change

Year 5



Key Scientific Knowledge

Changes can occur when different materials are mixed.

Some material changes can be reversed and some cannot.

Some materials (Solutes) will dissolve in liquid (Solvents) to form a solution.

When solutions are made from which solutes can be recovered, this is known as a reversible change.

Soluble materials dissolve in a solvent, insoluble materials do not.

Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating.

Mixtures of solids (of different particle size) can be separated by sieving.

Mixtures of solids and liquids can be separated by filtering if the solid is insoluble (undissolved).

Evaporation helps us separate soluble materials from solvents.

Changes to materials can happen at different rates due to different factors such as temperature.

Wider Curriculum Links

Year 4: Water, Water – States of Matter

Working Scientifically

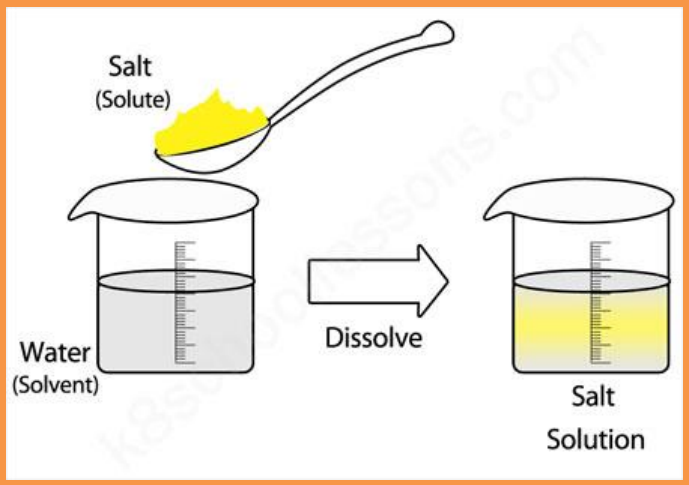
Observing changes of materials as a result of subjecting them to heat.

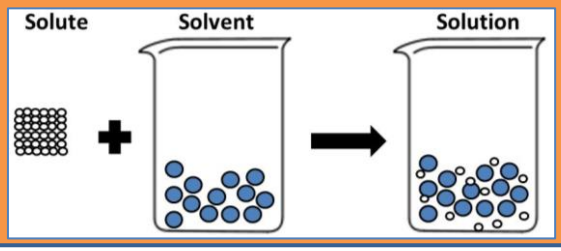
Categorising these changes as reversible or irreversible.

Carry out tests to answer questions regarding solubility such as 'How much of a solute can dissolve in different solvents' etc.

Conducting investigations to assess how different factors affect the rate of change to materials

Categorising material changes into reversible or irreversible.





Scientific Vocabulary

Molecule – a group of two or more atoms that make up the smallest possible amount of a substance.

Reversible – able to be changed back, so that the previous state or situation is restored.

Irreversible – not able to be changed back, so that the previous state or situation is restored.

Sieve – to separate solids from liquids or fine solids from coarser solids.

Filtration – separating solid particles from a liquid or a gas by passing it through filter paper.

Evaporate – the process of turning from a liquid into a gas.

Condense – the process of turning from a gas into a liquid.

Solution – a mixture of a solute and a solvent.

Solute - a substance that can be dissolved by a solvent to create a solution

Solvent – a substance (usually a liquid) capable of dissolving a solute to form a solution.

Saturated – a solution that contains the maximum amount of solute that it can dissolve.

Dissolve – to cause a solute to pass into a solvent forming a solution.