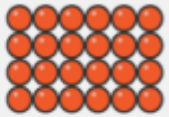
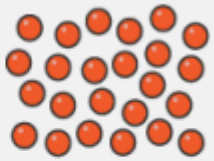
Knowledge Organiser: UKS2 Science—Materials

States Of Matter

State	Solid	Liquid	Gas
Diagram			
Arrangement of particles	Regular arrangement	Randomly arranged	Randomly arranged
Movement of particles	Vibrate about a fixed position	Move around each other	Move quickly in all directions
Closeness of particles	Very close	Close	Far apart

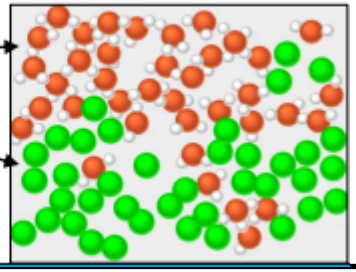
The Water Cycle

Water **evaporates** from the sea and lakes. It **condenses** in the clouds and falls as **precipitation** when it gets heavy. It then **collects** in lakes and the sea.

Dissolving

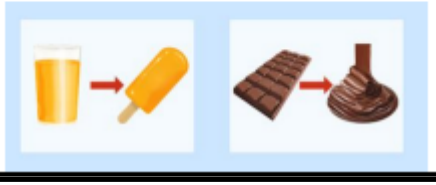
When the particles in a solid spread out in a liquid.
We call the liquid the **SOLVENT**
We call the solid the **SOLUTE**

We call the mixture of the solid and the liquid a **SOLUTION**.
A solid that will dissolve in a liquid is called **SOLUBLE**.
A solid that will not dissolve in a liquid is called **INSOLUBLE**.

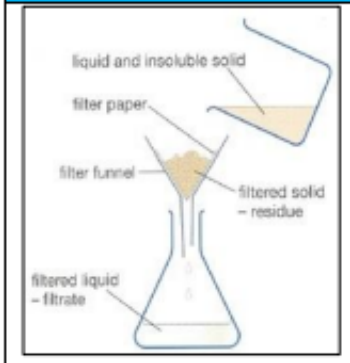


Reversible Changes

Some changes can be reversed and the material can be changes to its previous form. An example of this is water into ice – it can be melted and turn back to water again.



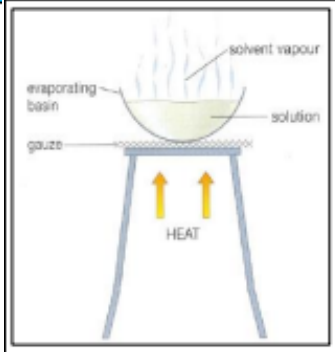
Filtration



Separates an insoluble solid from a liquid.

The solid pieces are too big to fit through the holes in the filter paper.

Evaporation

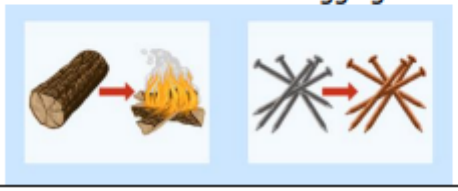


Separating a soluble solid from a liquid.

Crystallisation
Heat until almost all the water has evaporated. Leave for the remaining water to evaporate slowly to form crystals.

Irreversible Changes

Other changes are irreversible which means they can't be 'undone'. Examples of this are cooking, baking, frying and burning materials. An example would be that you can fry an egg but you can't return it to a raw egg again.



Knowledge Organiser: UKS2 Science—Materials

Vocabulary

Dissolve– When a solid is mixed with a liquid and the solid particles cannot be seen.

Soluble– A solid which is able to dissolve in a liquid.

Insoluble– A solid which is unable to dissolve in a given liquid.

Solution– A mixture of a liquid and a dissolved solid.

Reversible– A change which is able to turn or change back.

Irreversible– A change which is unable to turn or change back.

Filter– Passing a solution through a mesh to remove an insoluble solid from a liquid.

Water cycle– The movement of the water within the Earth and the atmosphere.

Solvent– A liquid which is able to dissolve other substances.

Solid-A material where the particles do not move or change shape.

Liquid– A material which has a fixed number of particles but flows to the shape of the container.

Gas– A material where the particles have no fixed shape or number. They expand to fill the container.

Global Goal:

Global Goal 6: Clean water and sanitation

By understanding the process of the water cycle and how to use the processes of evaporation, sieving and filtering, we are able to ensure all around the world have clean drinking water.