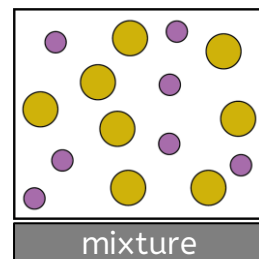
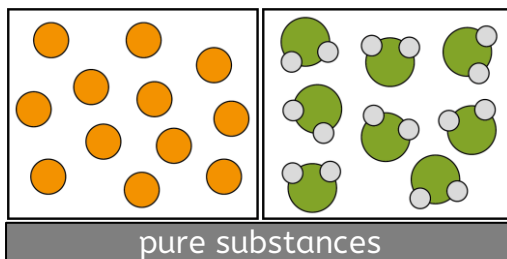


Separating Mixtures

Mixtures and pure substances

A **pure substance** is one that contains only one substance.

A **mixture** contains two or more substances that can be separated.

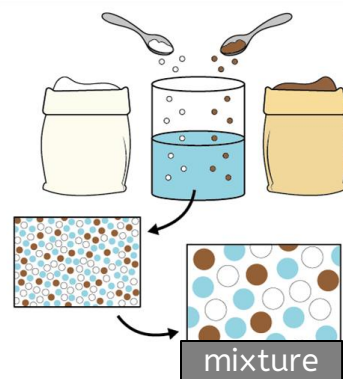


Solutions

Some materials (**solutes**) can be **dissolved** in other materials (a **solvent**). The **mixture** created is called a **solution**.

When no more solute can dissolve in the solution, it is a **saturated** solution.

If a solid does not dissolve in a solvent, it is **insoluble**.



Reversible and irreversible changes

An **irreversible change** is a change that **cannot be undone**, like burning candles or shredding paper.

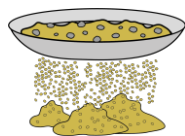
A **reversible change** is a change that **can be undone**, like dissolving sugar in water.

We can separate the solution and get the sugar and water back.

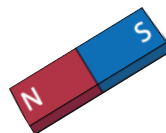
Separating mixtures

There are many techniques that we can use to separate mixtures.

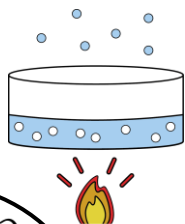
The technique used depends on what you are trying to separate.



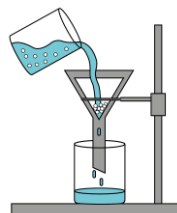
Use a **sieve** to separate different sized solids, or a large insoluble solid and liquid.



Use a **magnet** to separate magnetic and non-magnetic materials.



Evaporation can separate a soluble substance from the solvent, like sugar and water.



Use **filtration equipment** to separate small insoluble solids

from liquids.