

# Marvellous Mixtures Knowledge Organiser

## Key Vocabulary

<b>solids</b>	One of the three states of matter. <b>Solid</b> particles are very close together, meaning <b>solids</b> , such as wood and glass, hold their shape.
<b>liquids</b>	This state of matter can flow and take the shape of the container because the particles are more loosely packed than solids and can move around each other. Examples of <b>liquids</b> include water and milk.
<b>gases</b>	One of the three states of matter. <b>Gas</b> particles are further apart than <b>solid</b> or <b>liquid</b> particles and they are free to move around. Examples of <b>gases</b> are oxygen and helium.
<b>melting</b>	The process of heating a <b>solid</b> until it changes into a <b>liquid</b> .
<b>freezing</b>	When a <b>liquid</b> cools and turns into a <b>solid</b> .
<b>evaporating</b>	When a <b>liquid</b> turns into a <b>gas</b> or vapour.
<b>condensing</b>	When a <b>gas</b> , such as water vapour, cools and turns into a <b>liquid</b> .

## chromatography

A scientific technique used to separate and find out which chemicals are in a mixture. This could be drugs or poisons.

## DNA

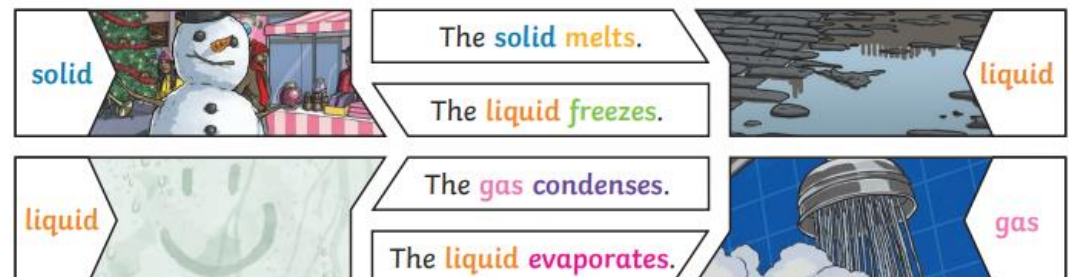
**DNA** is the material that carries all the genetic information about how a living thing looks and functions.

## Crime Scene Investigation

Crime Scene Investigators search for and analyse evidence left behind at crime scenes. CSI technicians carry out scientific tests on the evidence they find in order to link it to a suspect or prove a suspect didn't commit a crime. Technicians use skills from **chemistry**, **biology**, physics and **geology**. **Chromatography**, fingerprints and **DNA** are also an important part of a technician's job.



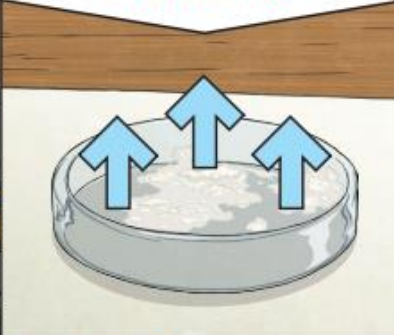


## Changes of State



## Key Knowledge

Reversible changes, such as mixing and dissolving **solids** and **liquids** together, can be reversed by:

Sieving	Filtering	Evaporating
		
Smaller <b>materials</b> are able to fall through the holes in the sieve, separating them from larger particles.	The <b>solid</b> particles will get caught in the filter paper but the <b>liquid</b> will be able to get through.	The <b>liquid</b> changes into a <b>gas</b> , leaving the <b>solid</b> particles behind.

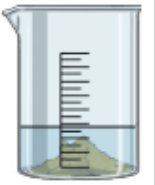
### Dissolving

A solution is made when **solid** particles are mixed with **liquid** particles. **Materials** that will dissolve are known as soluble. **Materials** that won't dissolve are known as insoluble. A suspension is when the particles don't dissolve.

Sugar is a soluble **material**.



Sand is an insoluble **material**.



Irreversible changes often result in a new product being made from the old **materials** (reactants). For example, burning wood produces ash. Mixing vinegar and milk produces casein plastic.

