Yr 7 Science C1.1

Section 1- The particle model

Materials are made of tiny particles.

In a **substance**, all the **particles** are the same, for example gold or oxygen.

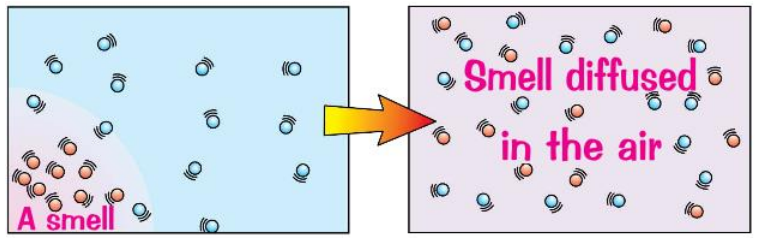
A **mixture** is made up of more than one substance, for example wood or milk.

The **properties** describe what a material looks like and how it behaves.

Section 4 - Diffusion

Diffusion is just particles spreading out.

Particles diffuse because they are moving.

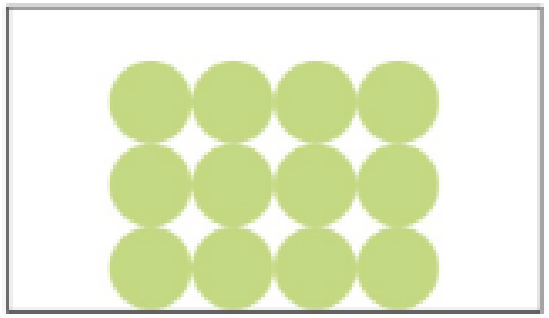


The **factors** that affect diffusion speed are:

- **Temperature**
- **Size** of particle
- **State** of matter

Section 2 - States of matter

In the solid state, particles do not move around. They vibrate on the spot. This explains why solids cannot flow.

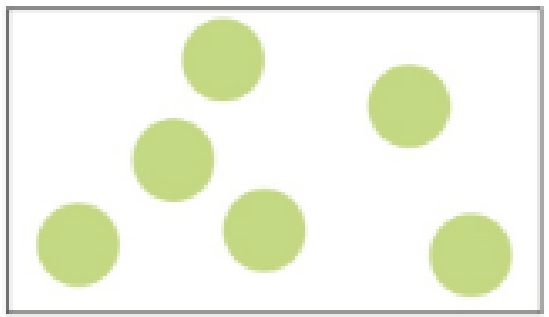


The particles of a substance in the solid state.

When a substance is in the liquid state, its particles touch their neighbours. This is why you cannot compress a liquid. The particles move from place to place, sliding over each other. This explains why liquids flow and why they have no fixed shape.

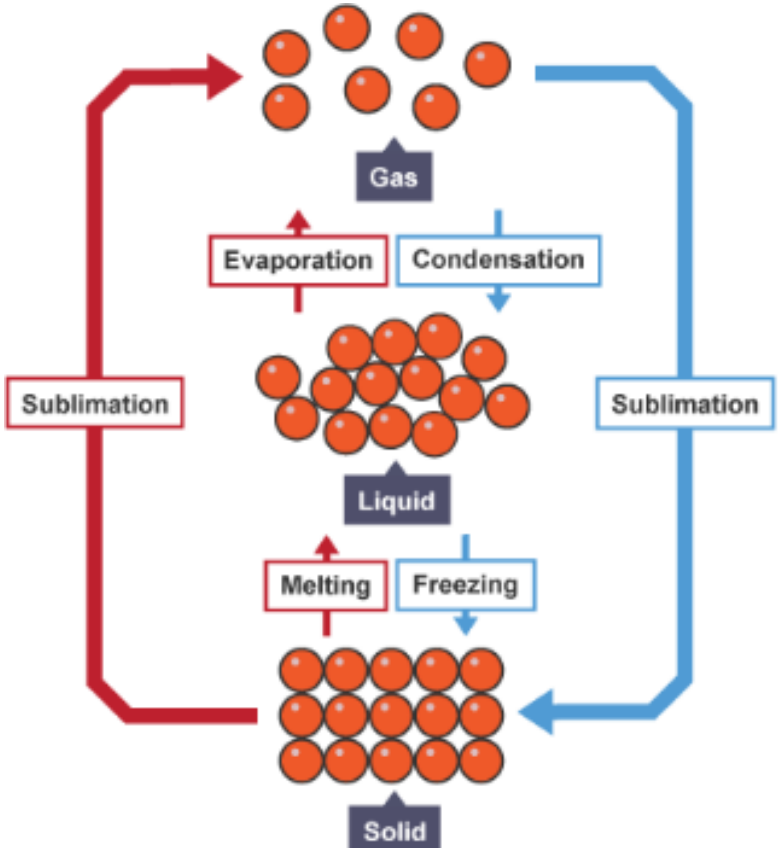
The particles of a substance in the liquid state.

In the gas state, particles spread out. So it is easy to compress a gas. The particles move throughout the whole container. This explains why gases flow.



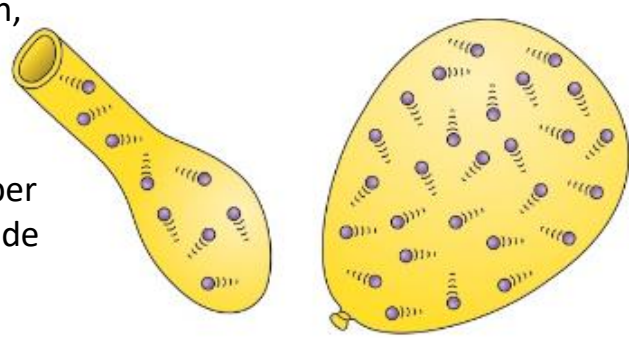
The particles of a substance in the gas state.

Section 3 - Changes of state



Section 5 - Gas pressure

Inside the balloon, the particles **collide** with each other and exert a **force** on the rubber the balloon is made from.



▲ The more particles you blow into a balloon, the bigger the balloc