

### 1. Properties of Solids Liquids and Gases

**Solids** – do not change shape or size. Cannot be easily compressed (squashed)

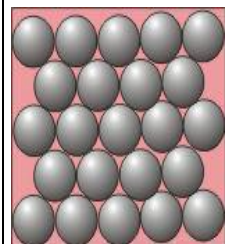
**Liquids** – Do not change size, but do change shape. Cannot be easily compressed (squashed)

**Gases** – Change shape and size. Can be easily compressed

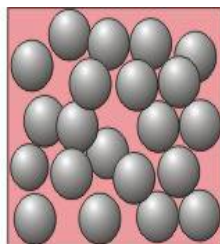
### 2. Particle Theory

A theory which explains how particles in solids, liquids and gases are arranged.

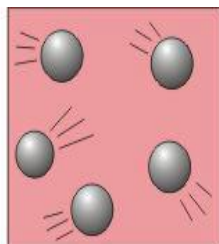
**Solids**



**Liquids**



**Gases**



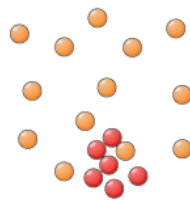
### 3. Arrangement and Movement of Particles

**Solids** - close together, vibrate, fixed positions, regular arrangement

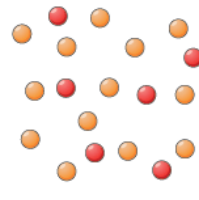
**Liquids** – Close together, move around, random arrangement

**Gases**- far apart, move fast (lots of energy), random arrangement

**4. Diffusion** – The movement of particles that allows them to spread out and mix with other particles



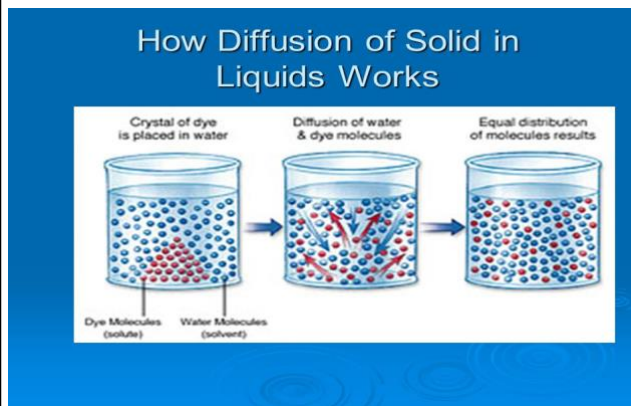
Before diffusion



After diffusion

### 5. Diffusion happens in:

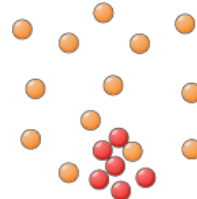
Liquids



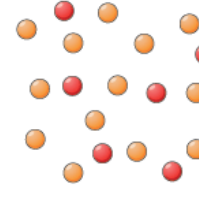
## Particle Nature of Matter Knowledge Organiser

### 6. Diffusion happens in:

Gases



Before diffusion



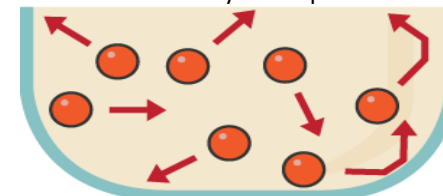
After diffusion

### 7. Diffusion does not happen in solids

Can you explain why?

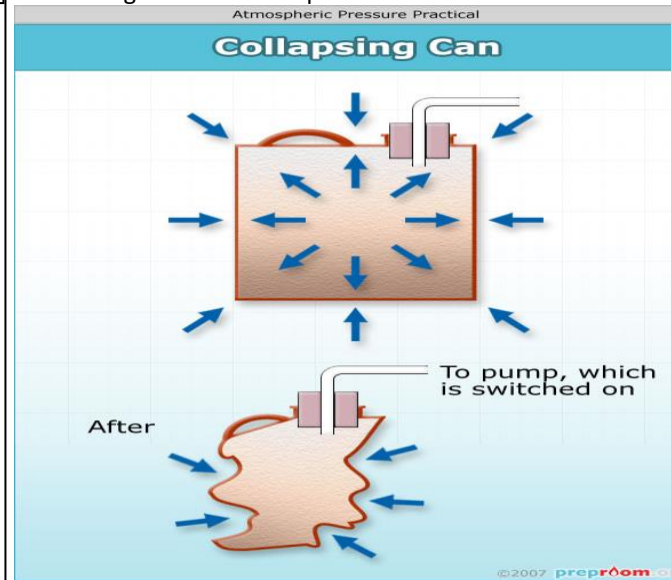
### 8. Pressure in Gases

The particles in a gas move quickly in all directions, but they do not get far before they bump into each other or the walls of their container. When gas particles hit the walls of their container they cause pressure.



### 9. Collapsing can experiment

When the air is sucked out of the can, the pressure on the outside is greater than the pressure on the inside.



### 10. Magdeburg Hemispheres

When the air is sucked out, the air pressure on the outside is greater than the pressure on the inside, so the hemispheres cannot be pulled apart.

