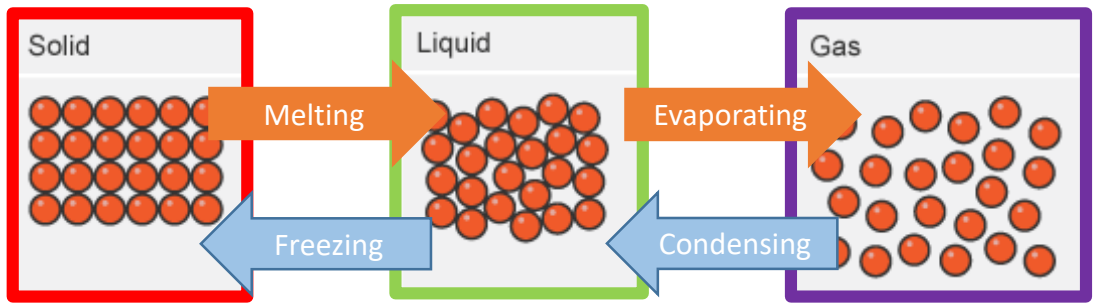
Chemistry: Particle Model

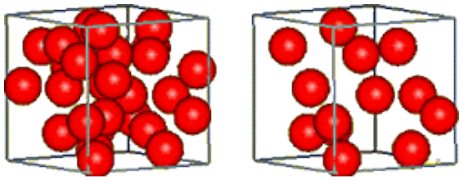
Key word	Definition
States of matter	The three forms a substance can be in – solid, liquid and gas.
Compress	To squash (particles get closer together).
Melting point	The temperature a solid melts or a liquid freezes at.
Boiling point	The temperature a liquid boils or a gas condenses at.
Pure	Contains only one substance.
Impure	Contains a mixture of substances.
Density	How many particles of a substance (mass) are in a given volume (space).
Gas Pressure	Force caused by air particles colliding (hitting into) with a surface



When a substance gets **hotter** the particles have **more energy** so get **further apart**.

When a substance gets **colder** the particles have **less energy** so get **closer together**.

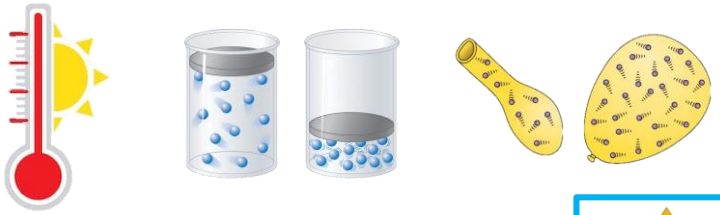
	Solid	Liquid	Gas
Fixed Shape?	YES	NO	NO
Compress?	NO	NO	YES
Flow?	NO	YES	YES

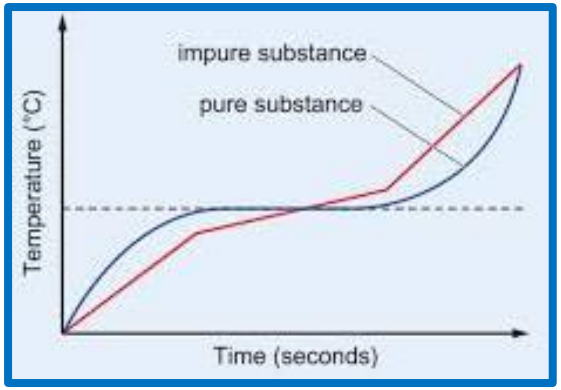


More dense **Less dense**

The more particles in a space, the more **dense** the object is. This is because there is more mass for the same size volume.

Factors that **increase pressure**:
- Higher temperature (more energy)
- Lower volume (closer together)
- Higher number of particles (closer together)





If a substance is **impure**, it doesn't all boil/melt at the same temperature. If it is **pure**, it does.

Density = Mass ÷ Volume