

## States of matter

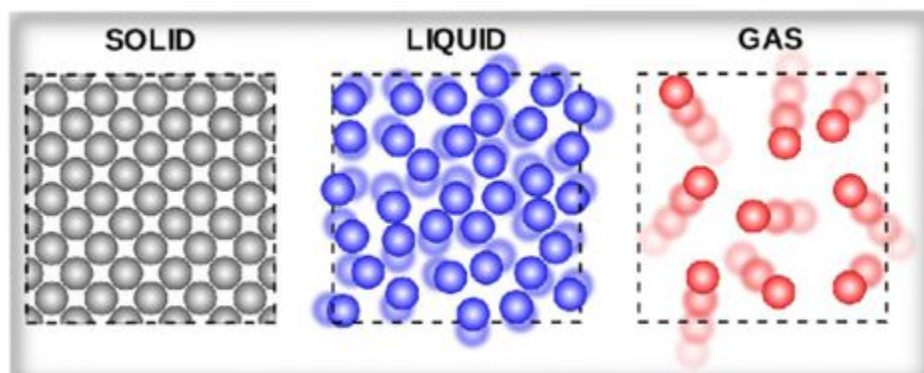
Solid: has a definite shape and a definite volume.

Liquid: has a definite volume but no shape of its own.

fluid: "a substance that flows"

Gases: have neither definite shape nor definite volume. They can change volume very easily.

Solid	Liquid	Gas
the particles are closely packed	the particles can move around one another freely	The particles can spread apart or be squeezed.



## Changes of state

At its melting point, the particles of a solid substance are vibrating so fast that they break free from their fixed positions.

At its freezing temperature, the particles of a liquid are moving so slowly that they begin to form regular patterns.

Vaporization takes place when the particles in a liquid gain enough energy to form a gas.

*Evaporation*: takes place only on the surface of a liquid

*Boiling*: occurs when a liquid changes to a gas below its surface as well as at the surface.

Condensation occurs when particles in a gas lose enough thermal energy to form a liquid.

Sublimation is when particles of a solid do not pass through the liquid state as they form a gas.

# Changes of State

