

Particles in a **solid** are packed closely together.

The particles in a solid are fixed in a pattern so the shape and volume cannot be changed unless chopped, cut or chiseled.

The particles in a **liquid** are very close together, but they don't hold onto each other very strongly.

The particles in a liquid are always moving around each other, but with no pattern and changing places all the time.

The particles in **gases** are a long way away from each other and they bounce around hitting each other, which keeps them apart.

Gases flow easily and spread out to fill all available spaces.

### Core Vocabulary

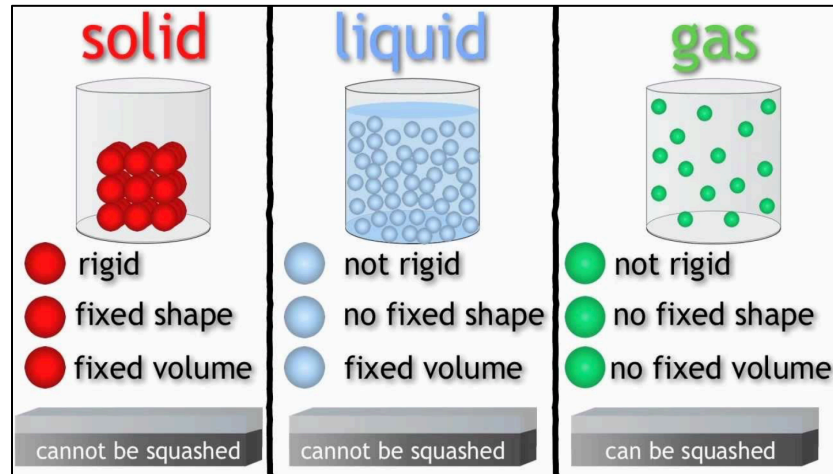
**Condensation** – When water vapour (gas) is cooled down, and it changes into water (liquid).

**Evaporation** – When water (liquid) is heated, and it changes to water vapour (gas).

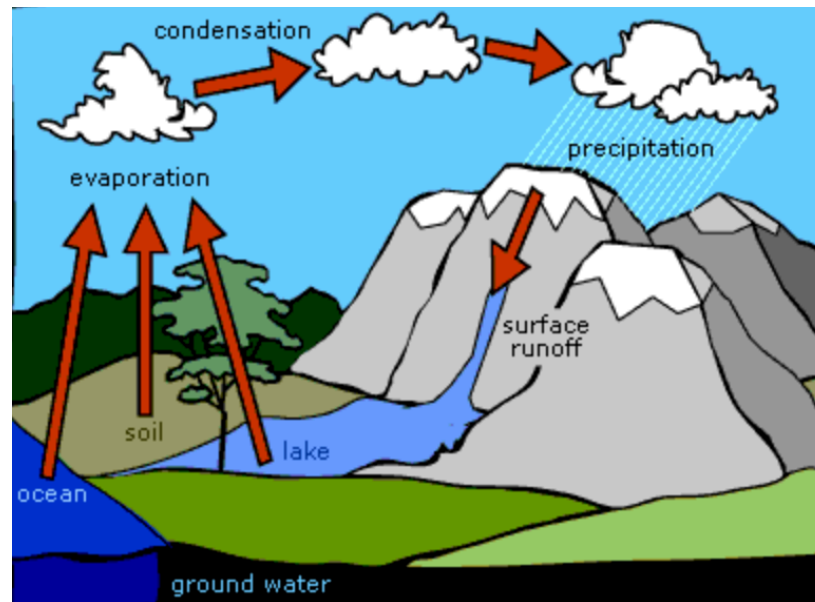
**Irreversible** - A change is called irreversible if it cannot be changed back again.

## YEAR 5 MATERIAL CHANGES

### SOLID, LIQUID, GAS



### THE WATER CYCLE



When heat is applied to a solid it changes to a liquid. This process is called **melting**.

When heat is applied to a liquid it changes to a gas. This process is called **evaporation**.

Changes in the state of water (by evaporation & condensation) are **reversible** changes.

**Density** is the amount of mass that can be contained in a volume unit.

The density of a substance tends to stay similar, regardless of whether it's a solid, liquid or gas.

**Viscosity** refers to a liquid's resistance to flow (the ease with which it can be poured).

A substance's viscosity is dependent on the amount of friction between its layers. More friction means more resistance, a slower flow, and a higher viscosity.

In general, the hotter a liquid is, the less viscous it becomes.