

**Explaining Science**

Remember science words I have used before	Remember & use science words correctly	Begin to use complex words correctly
Begin to use science models to describe	Use science models to describe	Use science models to describe & begin to explain
Add science labels & information to diagrams	Annotate diagrams to help describe & explain	Begin to create & annotate my own diagrams

**Designing Experiments**

Predict cause & effect (science prediction)	Predict a trend (relationship prediction)	Use K&U to explain my relationship prediction
Identify cause & effect in an investigation	Plan a fair test by selecting variables	Plan a fair test & ensure other variables are kept same
Suggest a suitable data range for the	Suggest a data range & interval for the cause variable	Suggest a range, interval & sufficient readings are taken

**Key Knowledge**

- Groups materials as solids, liquids or gases. Know the features (criteria) that make them different.
- Can describe, *using the particle model*, how substances change from a gas, into a liquid, then into a solid (and back again) as they are heated or cooled.
- Temperature affects the speed (rate) of evaporation.
- Describe the water cycle (evaporation and condensation).

**Key Vocabulary**

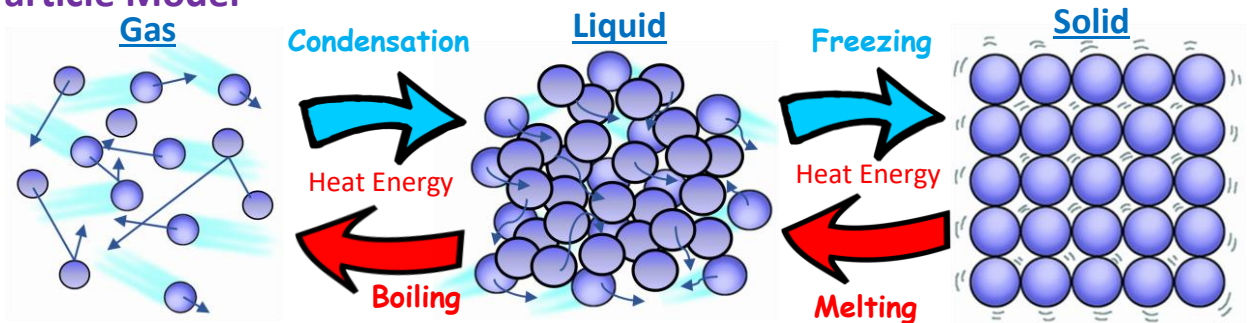
Material, substance, solid, liquid, gas, flow, compressed, volume, density, state, particle, energy, movement, collision, attraction, heat, temperature (°Celsius), ice, water, water vapour, melting, boiling, freezing, condensation, evaporation, speed (rate), melting point, boiling point, water cycle, run-off, rainfall (precipitation), **variable, cause, effect, prediction, comparative test, fair test, pattern, method, relationship, trend, data range, data interval.**

**Science Enquiry** Types of Enquiry you may use are:

- Researching
- Finding patterns
- Comparative and fair testing

In this topic you will also explore and classify solids, liquids and gases. You will investigate and measure changes in state.

**Particle Model**



Particles have lots of **energy** and move around quickly. They **collide** with each other (as they don't feel **attraction** between particles). They are **spaced out** and they fill the volume.

Particles have **less energy** and so move around less quickly. Their **attraction** weakly holds them together (move over each other as they still have lots of energy). They 'stick' to each other and are randomly packed.

Particles have **even less energy**. They are held so strongly (**strong attraction**) they can't move about (vibrate). They are closely packed in a regular pattern. They hold their shape.

**Big Picture Model**

