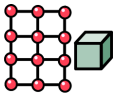
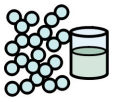
Topic: **States of Matter**	Year: 4	Strand: **Chemistry**

What should I already know?

Name and describe some materials **(Y1)**

Know why some materials are used for certain purposes because of their properties **(Y2)**

What will I know by the end of the unit?

What is a **particle?**	**Particles** are what materials are made from. They are so small that we cannot see them with our eyes. The **properties** of a substance depend on what its particles are like, how they move and how they are arranged
What is a **solid?** 	In the **solid** state, the material holds its shape. It cannot be poured. **Solids** have **vibrating particles** which are closely packed in and form a regular pattern. **Solids** always take up the same amount of space.
What is a **liquid?** 	In the **liquid** state, the material holds the shape of the container it is in. **Liquids** can change shape, depending on the container. **Liquids** have **particles** which are close together but random. **Liquid particles** can move over each other. **Liquids** can be poured.
What is a **gas?**	In the **gas** state, **particles** can escape from open containers. **Gases** have **particles** which are spread out and move in all directions.
What happens to the **particles** in water when it is **heated** or **cooled?**	When water (in its **liquid** form) is **heated**, the particles start to move faster and faster until they have enough energy to move about more freely. The water has **evaporated** into a **water vapour.** When water is **cooled**, the particles start to slow down until a solid structure (ice) is formed. The water has **frozen.** The **temperature** at which water turns to ice is called the **freezing point.** This happens at 0°C.

Vocabulary

condensation	small drops of water which form when **water vapour** or steam touches a cold **surface**, such as a window
cooling	lowering the **temperature** of something
evaporation	to turn from liquid into gas; pass away in the form of **vapour**.
freezing	If a **liquid** or a substance containing a **liquid freezes**, it becomes **solid** because of low **temperatures**
freezing point	The **freezing point** of a particular substance is the **temperature** at which it **freezes**. The **freezing point** of water is 0°C.
gas	a **gas** rapidly spreads out when it is warmed and contracts when it is **cooled**.
heating	raising the **temperature** of something
liquid	a form that flows easily and is neither a **solid** nor a **gas**.
melting	to change from a **solid** to a **liquid** state through heat or pressure
melting point	the **melting point** of a particular substance is the **temperature** at which it **melts**.
particles	a tiny amount or small piece
precipitation	rain, snow, sleet, dew, etc, formed by **condensation** of **water vapour** in the atmosphere
process	a series of actions used to produce something or reach a goal.
properties	the ways in which an object behaves
solid	having a firm shape or form that can be measured in length, width, and height; not like a **liquid** or a **gas**
temperature	a measure of how hot or cold something is
vibrations	when something **vibrates,** it shakes with repeated small, quick movements
water cycle	the **process** by which water on the earth **evaporates**, then **condenses** in the atmosphere, and then returns to earth in the form of **precipitation**.
water vapour	water in the **gaseous** state (due to **evaporation** at a **temperature** below the boiling point