



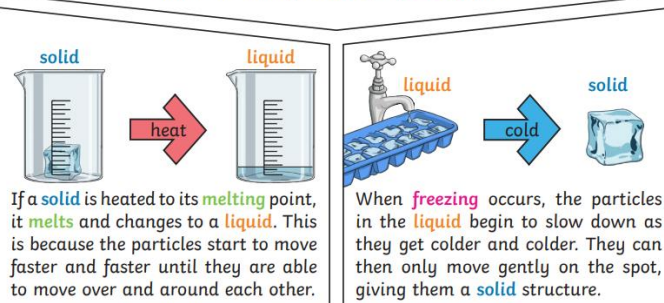
SCIENCE KNOWLEDGE ORGANISER – YEAR FOUR

STATES OF MATTER

FLASH BACKS TO REMEMBER

- Can you identify some objects and what they are made of? (Y1 - Everyday materials)
- Can you identify and name a variety of everyday materials? (Y1 - Everyday materials)
- Can you describe the simple physical properties of a variety of everyday materials? (Y1 - Everyday materials)
- How can you change the shape of some materials? (Y2 - Uses of everyday materials)

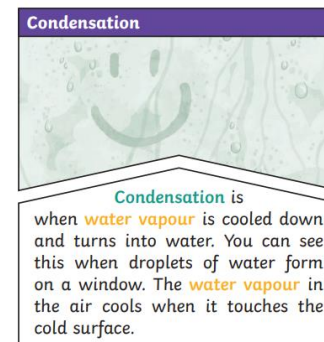
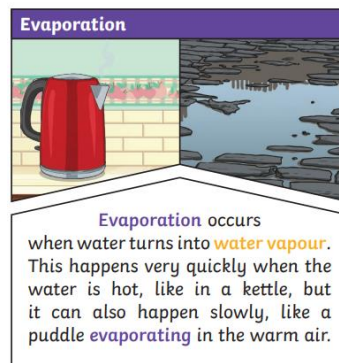
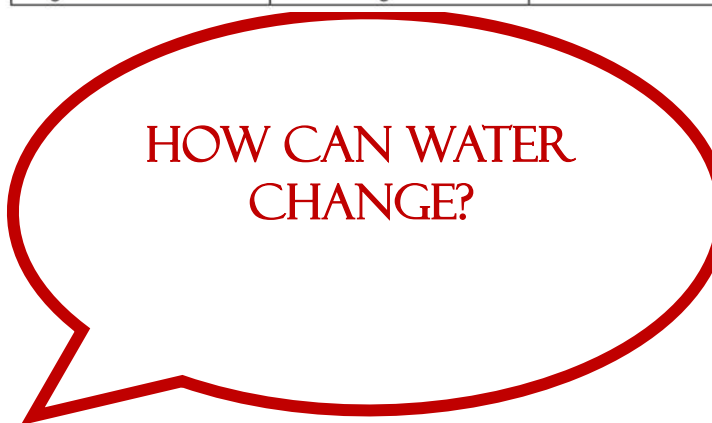
When water and other **liquids** reach a certain temperature, they change state into a **solid** or a **gas**. The temperatures that these changes happen at are called the boiling, **melting** or **freezing** point.



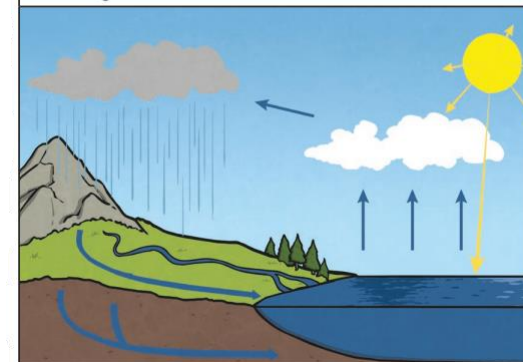
KEY QUESTIONS TO LEARN

- Can you describe the properties of solids, liquids or gas?
- Can you explain the use of some gases?
- Can you understand how heat can cause solids to change to liquids and vice versa?
- Can you identify the different states water can be in?
- Can you explain the effect of temperature on the process of evaporation.?
- Can you describe the different stages of the water cycle?

Key Knowledge		
There are three states of matter.		
Solid	Liquid	Gas
Particles in a solid are close together and cannot move. They can only vibrate.	Particles in a liquid are close together but can move around each other easily.	Particles in a gas are spread out and can move around very quickly in all directions.



Condensation and **evaporation** occur within the water cycle.



1. Water from lakes, puddles, rivers and seas is **evaporated** by the sun's heat, turning it into **water vapour**.
2. This **water vapour** rises, then cools down to form water droplets in clouds (**condensation**).
3. When the droplets get too heavy, they fall back to the earth as rain, sleet, hail or snow (**precipitation**).

KEY VOCABULARY

states of matter Materials can be one of three states: solids, liquids or gases. Some materials can change from one state to another and back again.

solids These are materials that keep their shape unless a force is applied to them. They can be hard, soft or even squashy. Solids take up the same amount of space no matter what has happened to them.

liquids Liquids take the shape of their container. They can change shape but do not change the amount of space they take up. They can flow or be poured.

gases Gases can spread out to completely fill the container or room they are in. They do not have any fixed shape but they do have a mass.

water vapour This is water that takes the form of a gas. When water is boiled, it evaporates into a water vapour.

melt This is when a solid changes to a liquid.

freeze Liquid turns to a solid during the freezing process.

evaporate Turn a liquid into a gas. **condense** Turn a gas into a liquid.

precipitation Liquid or solid particles that fall from a cloud as rain, sleet, hail or snow.