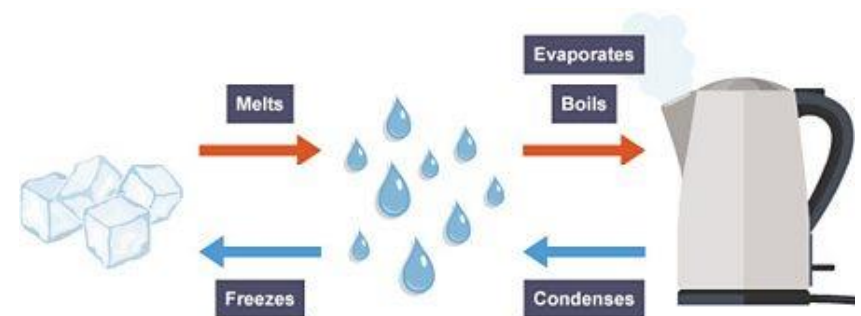
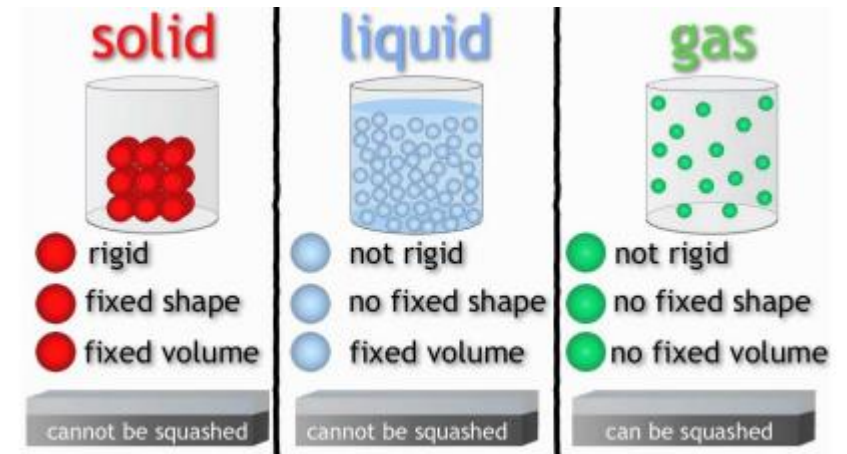


Science Knowledge Organiser Y3/4 – States of Matter



Key Vocabulary	
Pouring solid	A solid that can be poured like a liquid
Volume	The amount of space a solid, liquid or gas takes up
flow	To move easily in one direction
Freezing	the state change when a liquid turns to a solid
Melting	the state change when a solid turns to a liquid
Boiling	the state change when a liquid turns to a gas as it is heated. Boiling produces visible bubbles
Condensation	the state change where gas turns to a liquid
evaporation	the state change when a liquid turns to a gas
thermometer	a piece of equipment used to measure temperature
the water cycle	the natural recycling and movement of water on planet Earth
precipitation	liquid or frozen water that falls back to Earth from the atmosphere. This can be in the form of rain, hail, sleet or snow
atmosphere	the layer of gases that surrounds the Earth
global warming	the gradual increase in the temperature of the Earth
water vapour	the gaseous state of water
independent variable	(what will change) – the temperature of the different locations.
dependent variable	(what will be measured) – the time it takes for the water to evaporate.
controlled variable	(what is kept the same) – the volume of water in the containers, the size of containers, the initial temperature of the water in all the containers.
observations	the method of closely watching something before writing any results and a conclusion
data	facts and numerical information collected
conclusion	what has been found during an investigation based on experimental measurements and observations



Science Knowledge Organiser Y3/4 – States of Matter



The Water Cycle

- A large amount of planet Earth is covered in water.
- Water is in constant movement through a process called the water cycle. As the water moves it can be in different states of matter.
- Evaporation is one stage of the water cycle. Evaporation is where a liquid changes state to a gas.
- Condensation is when a gas changes state to a liquid.

Key knowledge

- Solids have a defined shape and volume. A solid material will keep its shape if it is transferred from one container to another.
- Liquids have no fixed shape and will take on the shape of the container they are transferred into. The volume will remain the same.
- Gases have no fixed shape and no fixed volume. They will spread out and fill any available space.
- Some solids, such as sand, salt, flour and rice, can be poured but they are still classified as solid materials.
- Liquids maintain the same volume if transferred to different containers.
- Some liquids, like water, flow easily while other liquids, like treacle, do not flow as easily.
- Some materials can change states between solids, liquids and gases.
- Water can be a solid (ice), liquid (water) or a gas (water vapour).
- When heat is applied to ice, it melts and turns to water.
- When water is heated it turns into a gas. Water has a boiling point of 100°C .
- To change water vapour (gas) back to water (liquid) it needs to be cooled down as it returns to its liquid state.
- To change water to ice, it needs to be frozen. Water freezes at 0°C .

