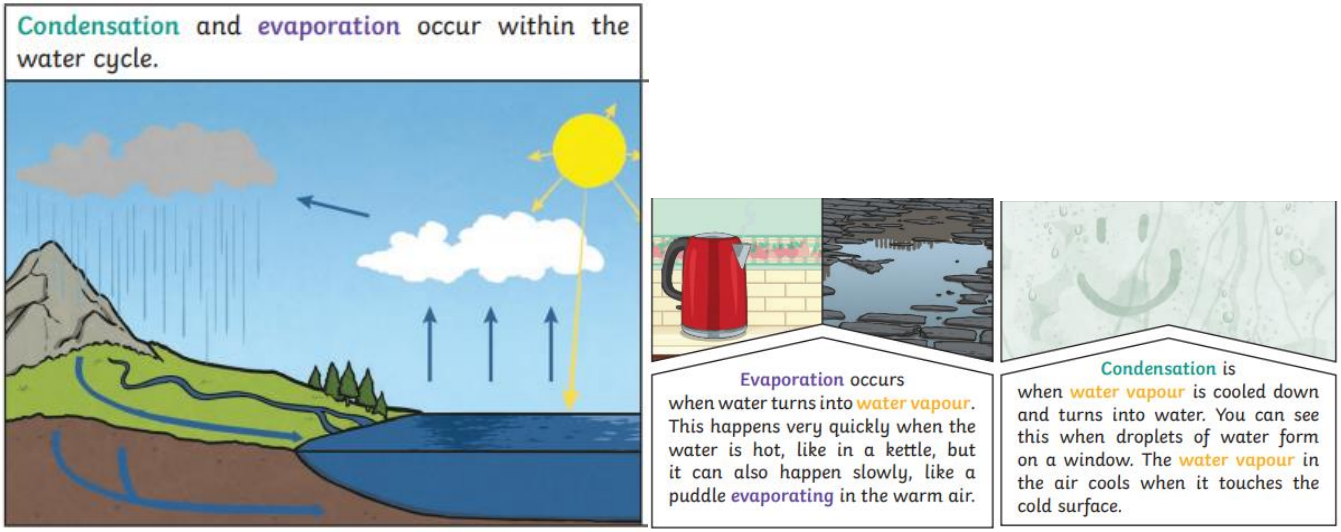
States of Matter

Science KNOWLEDGE ORGANISER

Substantive Knowledge

- Materials can be divided into solids, liquids and gases.
- A solid keeps its shape and has a fixed volume.
- A liquid has a fixed volume but changes in shape to fit the container.
- A gas fills all available space; it has no fixed shape or volume.
- Heating causes solids to **melt** into liquids.
- Heating causes liquids to **evaporate** into gases.
- Cooling causes gases to condense into liquids.
- Cooling causes liquids to **freeze** into solids.
- Each material has its own **temperature** at which they change state.
- The freezing point of water is 0◦C.
- Liquid water becomes **water vapour** at 100◦C.
- The water cycle stages: 1. Water **evaporates**. 2. **water vapour** condenses into clouds. 3. Water falls as rain (**precipitation**). 4. Water **evaporates** again…



Key Vocabulary	
water vapour	- water in a gaseous form.
melt	- the physical process that occurs when a solid changes into a liquid after heat is applied to it.
freeze	– the physical process that occurs when a liquid changes into a solid after it is cooled.
evaporation	- the process by which a liquid turn into a gas. condensation - the process by which a gas turns back into a liquid.
temperature	the measure of the warmth or coldness of an object or material.
precipitation	water vapour or moisture that falls from the clouds in the form of rain, sleet, snow or hail.
substance	the material, or matter, of which something is made.
particle	small bits of matter that make up everything in the universe.