# States of Matter

Year 3/4 | Alston Primary School

## Key Vocabulary

| Word | Definition | 🟢/🔴 |
|---|---|---|
| Boiling Point | The temperature at which a liquid becomes a gas. | |
| Change of State | When a material changes from one state to another, for example: liquid -> gas // gas -> liquid // solid -> liquid // liquid -> solid | |
| Condensation | The process of a gas cooling and changing into a liquid. | |
| Cooling | Lowering the temperature of something. | |
| Energy | The ability 'to do work'. | |
| Evaporation | The process of a liquid heating and changing into a gas. | |
| Freezing | The process of a liquid cooling and changing into a solid. | |
| Freezing Point | The temperature at which a liquid becomes a solid. | |
| Gasses | No fixed shape and expand to fill a container- particles move far apart. | |
| Heating | Raising the temperature of something. | |
| Liquids | Flow easily but have constant volume and close particles that move around. | |
| Melting | The process of a solid heating and changing into a liquid. | |
| Melting Point | The temperature at which a solid becomes a liquid. | |
| Mixture | Something that is joined or mixed together but can be separated again | |
| Particle | A tiny amount of something. You can't see them with your eyes! | |
| Precipitation | When water vapour condenses in the atmosphere, e.g. rain, snow, hail | |
| Solids | Firm or stable in shape with particles that are very close together. | |
| States of Matter | The 3 main forms which matter can exist in: 1) solid, 2) liquid or 3) gas. | |
| Temperature | How hot or cold something is. Measured in degrees Celsius (°C). | |
| The Water Cycle | The never-ending process of water moving around the Earth: 1) the Sun evaporates water into water vapour; 2) the water vapour cools down and condenses into liquid water in the atmosphere; 3) the liquid water becomes denser and falls from in the form of rain, snow, sleet or hail (precipitation); 4) water collects and the cycle starts again. | |

## Working Scientifically

- Asking relevant questions and using different types of scientific enquiries to answer them.
- Making systematic and careful observations.
- Gathering, recording, classifying and presenting data in various ways to answer questions.
- Recording findings and predictions.
- Using results to draw simple conclusions, make new predictions and raise further questions.
- Setting up simple practical enquiries, comparative and fair tests.

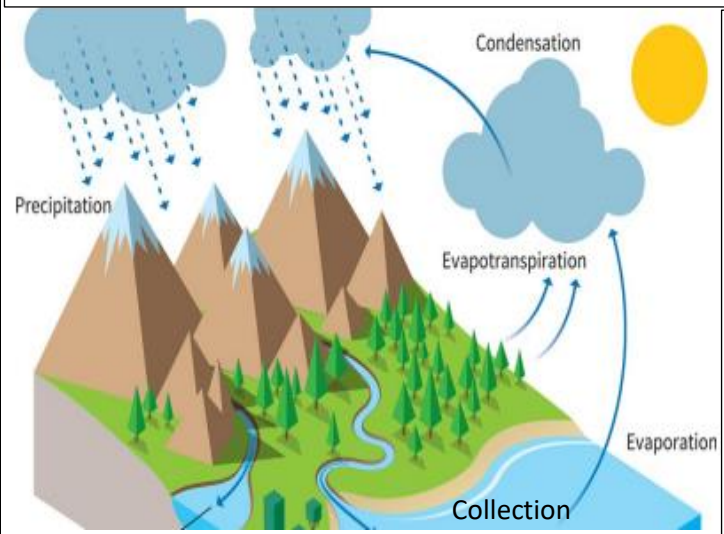
## Previous Knowledge

In Year 1, you learnt to:

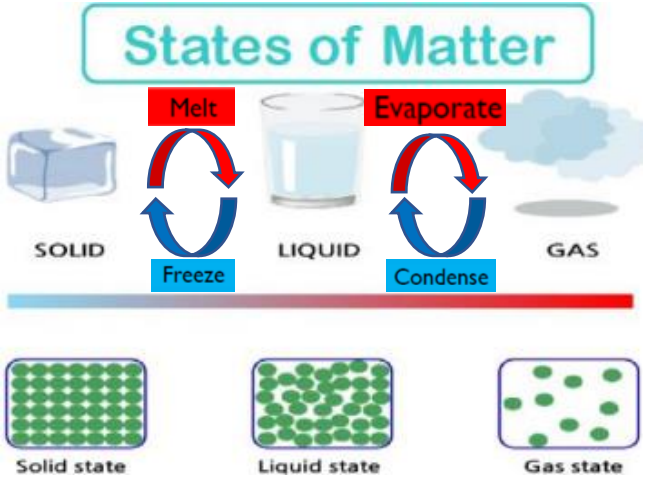
- Distinguish an object from its material.
- Identify various everyday materials and describe their physical properties.

In Year 2, you learnt to:

- Compare the suitability of everyday materials for particular uses.
- Find out how the shapes of some solid objects can be changed.




Water **evaporates** at **100°C** and **freezes** at **0°C**




## Key Questions

- What are solids, liquids and gasses?
- Do these 'States of Matter' behave differently or the same to each other?
- Can we see gasses?
- How can we prove they exist?
- What temperature does water freeze?
- What temperature does water boil?
- What temperature does water change into a gas?
- What is process of condensation?
- What happens to condensation when its temperature increases?
- How does the Water Cycle work and why does it matter to us?
- When have you seen the Water Cycle in action?