Year 3/4 Science: States of Matter

Subject Specific Skills

- set up simple practical enquiries, comparative and fair tests
- gather, record, classify and present data in a variety of ways to help answer questions
- record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables
- report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.

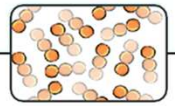
Prior Learning

Children will have learnt to compare and group materials on the basis of their simple properties. They will have explored how to change the shape of solids by bending, twisting, squashing and stretching.

Key Vocabulary

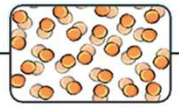
change - to make different
collection - when water flows back into rivers, streams and lakes and gets carried back to sea
condensation - when water vapour cools and turns back into water
evaporation - when water is heated and turns into water vapour
freeze - when something is put at a very low temperature **gas** - a state of matter that has no defined shape or volume **heat** - when something is put at a hot temperature
liquid - a state of matter that flows freely but keeps the same volume
precipitation - when water falls from the clouds in the sky
property - a characteristic
solid - a state of matter that is firm and stable
temperature - how hot or cold something is
thermometer - an instrument used for measuring temperature

Gas



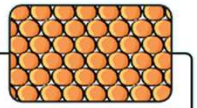
- Gases are **often invisible**.
- Gases do not keep their shape or always take up the same amount of space. They **spread out** and change their shape and volume to fill up whatever container they are in.
- Gases can be **squashed**.

Liquid



- Liquids can flow or be **poured** easily. They are not easy to hold.
- Liquids **change their shape** depending on the container they are in.
- Even when liquids change their shape, they always take up the **same amount of space**. Their volume stays the same.

Solid



- Solids stay in one place and you can hold them in your hand.
- Solids **keep their shape**. They **do not flow** like liquids.
- Solids always take up the **same amount of space**. They **do not spread** out like gases.
- Solids can be **cut** or **shaped**.

Materials can **change** from one state of matter to another when **heated** or **cooled**.