Year 4 – States of Matter

ALP Trust Science 2020

Language for Learning
Through the activities in this topic pupils should **understand and precisely use key scientific words - spelling these words correctly**. This includes - words with **different meanings** in scientific and everyday contexts (e.g. drag), words with **precise** scientific meanings (e.g. weight and mass) and words relating to **scientific enquiry** (e.g. variable).

Key Scientific Words

Key Word	Definition (Meaning)
Solid	A state of matter that stays the same shape whether it is in a container or not
Liquid	A state of matter which flows and can be poured
Gas	A state of matter that can escape an unsealed container
Property	How a substance behaves and 'what it is like.'
State of Matter	Different forms a substance can take. There are three states of matter – solid, liquid and gas
Temperature	A measure of how hot or cold a substance is
Celsius (°C)	A measurement of temperature where 0°C is the freezing point of water and 100°C is the boiling point of water
Research	The study of sources to find facts and make conclusions
Melt/Melting	The change of state from solid to liquid
Freeze/Freezing	The change of state from liquid to solid
Evaporate/ Evaporation	The change of state from liquid to gas
Condense/ Condensation	The change of state from gas to liquid
Water Cycle	The way that water is continually transferred from the surface of the Earth to the atmosphere

Key Concepts

There are three **states of matter**.

The states of matter are **solid**, **liquid** and **gas**.

We can **compare** and **group** substances together, according to whether they are solids, liquids or gases (For example, solids hold their shape; liquids form a pool not a pile and gases escape from an unsealed container)

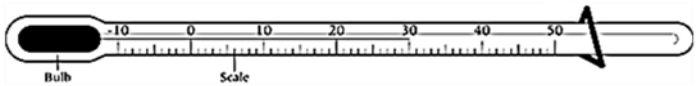
Solid	Liquid	Gas
Wood Metal Ice	Orange Juice Water	Air Water Vapour

Materials can **change** from one state to another.

When a **solid** changes state to become a **liquid** – we call this **melting**
When a **liquid** changes state to become a **gas** – we call this **evaporation**
When a **gas** changes state to become a **liquid** – we call this **condensation**
When a **liquid** changes state to become a **solid** – we call this **freezing**

We can **measure** the temperature at which these changes happen.

When we measure temperature - we use degrees **Celsius (°C)** as our unit of measurement. Using **Celsius (°C)** – ice melts at **0°C** and water boils at **100°C.**



We can research the temperature at which changes of state take place. For example, by using the **internet** or **books**.

The **water cycle** is the way that water is continually transferred between the surface of the **Earth** and the **atmosphere**. **Evaporation** and **condensation** play an important part in the water cycle - water evaporates from the surface of the Earth and condenses to form clouds. The water eventually falls back to Earth as rain.

The **warmer a liquid** is - the **more quickly** it evaporates. You can observe this on a sunny day – clothes on a washing line dry more quickly when the temperature is greater.