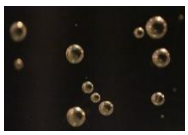
Coley Primary School – Knowledge Organiser

SUBJECT FOCUS: Chemistry	Science: States of Matter	YEAR 4	TERM 1

WHAT? – Key Knowledge

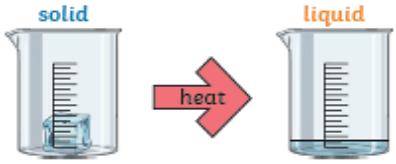
Materials can be grouped into 3 groups.

Solids		Solids keeps their shape. They do not flow, but some like salt or sand can be poured.
Liquids		Liquids flow and can be poured. They take the shape of the container they are in.
Gases		Gases are often invisible. Gases spread out to fill up the whole volume of the container.

Changing State

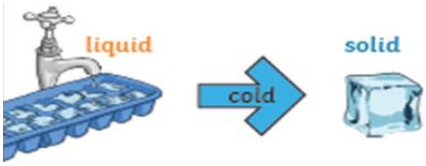
Some materials change state when they are heated or cooled, some of these changes can be reversed.

Melting



If a solid is heated to its melting point, its melts and changes to a liquid. For example ice melting to water.

Freezing



When freezing a liquid turns into a solid. For example freezing water to make ice cubes.

Condensing



When a gas is cooled it condenses into a liquid. For example water vapour (steam) from a kettle touching a cold window.

Evaporating



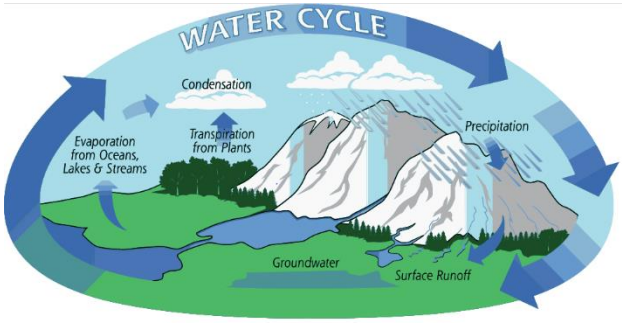
When water is heated it evaporates. For example puddles drying out on a hot day, washing drying.

WHAT? – Key Vocabulary

State of matter	Material can be one of three states: **solids**, **liquid** or **gases.**
Water vapour	This is water that takes the form of a gas. When water is boiled, it evaporates into water vapour.
Temperature	The warmth or coolness of a substance.
Boil	When a liquid bubbles and becomes a gas.
Volume	The amount of space inside a container
Evaporate	Water changing from a liquid into a gas (water vapour)
Condense	Water vapour changing from a gas to a liquid.
Freeze	When a liquid is cooled and it becomes a solid.
Melt	When a solid is heated and turns into a liquid.

Diagrams and Symbols

The water cycle is the journey water takes as it moves from the land to the sky and back again.



It follows a cycle of evaporation, condensaton, preciptation and collection.

1. Water evaporates into the air.
2. Water vapour condenses into clouds.
3. Water falls as rain – preciptation.
4. Water returns to the sea – collection.

Possible experiences: *Curious minds…*

Sort materials into solids, liquids and gases.

Experiment to find where does water evaporate fastest around the school and why?

Experiment with fizzy water and raisins to be able to observe a gas moving.

Identify different materials that melt, freeze and boil.

Melt chocolate. Watch and record how chocolate might change on a sunny day and what happens when it is cooled again.

Learn about the water cycle.

Find out at what temperatures different materials change shape.

Resource
Solids, liquids and Gas (Essential Physical Science),by Louise Spilsbury and Richard Spilsbury

I wonder…

Can I group and classify materials according to their state?

Do I know the different states of matter and can I explain how to change them from one to another?

Can I explain what happens to the state of materials when they are heated and cooled?

Working Scientifically Challenge:

Can I make careful observations?
Can I plan and set up a simple test?
Can I plan to make a test fair?
Can I use scientific language and vocabulary?
Can I talk about what I have found out from a test and does it make me think of more questions?