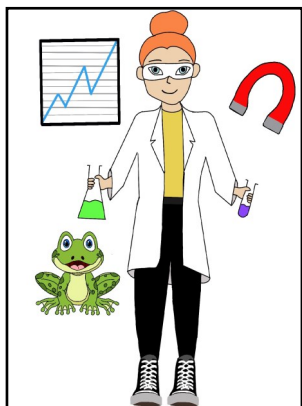


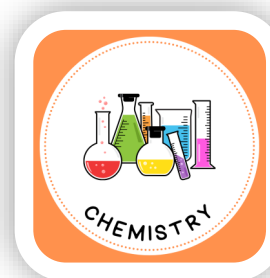


Knowledge Organiser					
Year Group:	4	Subject:	Science– States of matter	Term:	Autumn 2

Enquiry Question
What are states of matter?

Substantive Knowledge (key facts)
• All matter exists in three states: solids, liquids, and gases. • Solids hold their shape, are rigid and have a fixed volume. • Liquids do not hold their shape, have a fixed volume but aren't rigid and can be poured. • Gases do not hold their shape, are not rigid and do not have a fixed volume. • States of matter can change, depending upon the temperature of the matter. • There are four changing states: freezing, melting, evaporation and condensation. • Changing states of matter plays an important part in the water cycle: ⇒ Evaporation- Energy from the sun heats up the surface of the Earth. This causes the temperature in rivers, lakes, and oceans to rise, and the water rises into the air as water vapour. ⇒ Condensation - As the water vapour rises, it cools in the higher air and turns back into liquid condensation. This creates clouds.

Concept



What should I already know?

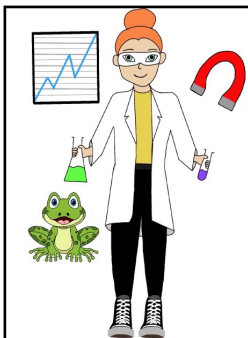
- Why some materials are used for certain purposes because of their properties.
- The water cycle, and the processes of evaporation, condensation and precipitation.

Scientific skills I am practising

- I can gather, record, classify and present information in a variety of different ways to help me answer questions.
- I can identify differences, similarities or changes related to simple scientific ideas and processes.
- I can record findings and present data using simple scientific language, explanations, diagrams, pictures, keys, bar charts and tables.

Sequence of learning

1)	Compare and group materials together, according to whether they are solids, liquids or gases.
2)	Investigate gases and explain their properties.
3)	Understand that materials change state when they are heated or cooled and to describe this process
4)	Make systematic, careful and accurate observations and measurements and report on findings from enquiries
5)	Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.



Knowledge Organiser

Year Group:

4

Subject:

Science– States of matter

Term:

Autumn 2

Key vocabulary

Tier 2

Degrees Celsius— a unit commonly used to measure temperature.

Thermometer— a device that measures temperature.

Tier 3

Water cycle—cycle that involves the continuous movement of water on, above and below the surface of the Earth.

Transpiration—Water inside of plants is transferred from the plant to the atmosphere as water vapor through numerous individual leaf openings.

Precipitation— any liquid or frozen water that forms in the atmosphere and falls back to the earth.

Condensation—the change of the state of matter from the gas phase into the liquid phase.

Evaporation— the change of the state of matter from the liquid phase into the gas phase.