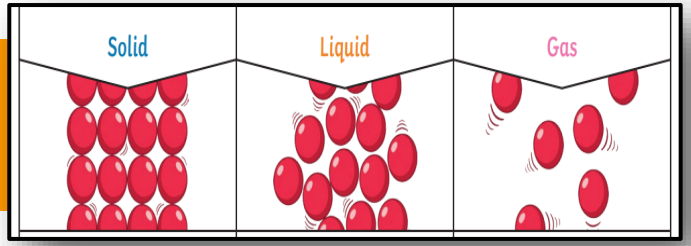
Year 4 - Spring 1 - Science Knowledge Organiser



What I already know...

This will be the first time that children have learnt about states of matter in science. It will build upon their knowledge of properties of materials and particles.

What I will learn...

Describe the properties of solids, liquids and gases.

Explain that melting and freezing are opposite processes that change the state of a material.

Identify the melting and freezing point of several different materials.

Explain that heating causes evaporation and cooling causes condensation.

Explain that evaporation and condensation are opposite processes that change the state of a material.

Explain that the higher the temperature, the quicker water evaporates.

Explain what happens to water at the different stages of the water cycle.

Make observations and conclusions.

Key Vocabulary	
states of matter	Materials can be one of three states: solids, liquids or gases. Some materials can change from one state to another and back again.
solids	These are materials that keep their shape unless a force is applied to them. They can be hard, soft or even squashy. Solids take up the same amount of space no matter what has happened to them.
liquids	Liquids take the shape of their container. They can change shape but do not change the amount of space they take up. They can flow or be poured.
gases	Gases can spread out to completely fill the container or room they are in. They do not have any fixed shape but they do have a mass.
water vapour	This is water that takes the form of a gas. When water is boiled, it evaporates into a water vapour.
melt	This is when a solid changes to a liquid.
freeze	Liquid turns to a solid during the freezing process.
evaporate	Turn a liquid into a gas.
condense	Turn a gas into a liquid.
precipitation	Liquid or solid particles that fall from a cloud as rain, sleet, hail or snow.

Making a difference at The Merton & beyond

Children will be working collaboratively to sort materials into solids, liquids and gases, explain that heating causes melting, and cooling causes freezing, identify the melting and freezing point of water, describe evaporation and condensation .

The learning will link with our English journey and class book 'Charlie & the Chocolate Factory', where children are learning the skills of instructional writing. They will write a set of instructions to create a chocolate lolly, which they will then make using their understanding of melting a solid to become a liquid and setting it to become a solid again linking with reversible and irreversible changes.

How to be a scientist:

Disciplinary Knowledge: skills I will learn...

- To ask relevant questions and use different types of scientific enquiries to answer them
- To set up simple practical enquiries, comparative and fair tests
- To make systematic and careful observations and take accurate measurements
- To gather, record, classify and present data in a variety of ways to help answer questions
- To record findings using simple scientific language, drawings etc.
- To use simple conclusions and make predictions.