Endpoints for Science

Year 4 – States of Matter

Through this topic, we will be learning about solids, liquids and gases and their properties. We will observe how they change state when they are heated and cooled.

What I know and can explain
Materials can be grouped according to whether they are solids, liquids or gases
Solids stay in one place and can be held. Some solids can be squashed, bent, twisted and stretched. Examples of solids include wood, metal, plastic and clay
Liquids move around (flow) easily and are difficult to hold. Liquids take the shape of the container in which they are held. Examples of liquids include water, juice and milk
Gases spread out to fill the available space and cannot be held. Air is a mixture of gases
Heating or cooling materials can bring about a change of state. This change of state can be reversible or irreversible.
Melting is the process of a solid changing into a liquid
Freezing is the process of a liquid changing into a solid
Evaporation is the process of a liquid changing into a gas
Condensation is the process of a gas changing into a liquid
Materials exist as solids, liquids or gases

Useful Vocabulary

Condense/condensation - When a gas is cooled and changes into a liquid

Evaporate/evaporation - When a liquid is heated and changes into a gas

Freeze/freezing - When a liquid is cooled and changes into a solid

Gas - A state of matter where the material has no fixed shape or volume. It fills the available space and can be compressed

Liquid - A state of matter where the material can be poured. It takes the shape of a container and cannot be compressed

Melt/melting - When a solid is heated and changes into a liquid

Particle - A single piece of matter that is too small to be seen

Reversible - Capable of being reversed so that the previous state is restored

Solid - A state where the material keeps its shape unless a force is applied. It has a definite volume and cannot be compressed

State of matter - Forms of matter, such as a solid, liquid or gas