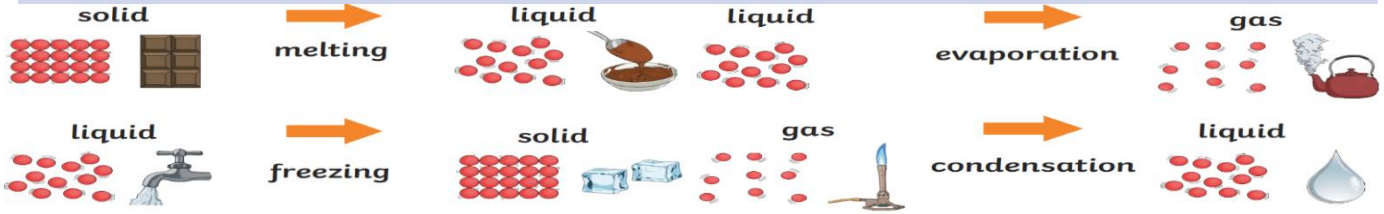
St Bernadette's Catholic Primary School - Eucalyptus Class
States of Matter

Gospel Value – Stewardship

What I should know-Distinguish between an object and the material from which it is made. (Y1 - Everyday materials) • Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock. (Y1 - Everyday materials) • Describe the simple physical properties of a variety of everyday materials. (Y1 - Everyday materials) • Compare and group together a variety of everyday materials on the basis of their simple physical properties. (Y1 - Everyday materials) • Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. (Y2 - Uses of everyday materials) • Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. (Y2 - Uses of everyday materials)

Key Knowledge

- A solid keeps its shape and has a fixed volume. Granular and powdery solids like sand can be confused with liquids because they can be poured, but when poured they form a heap and they do not keep a level surface when tipped. Each individual grain demonstrates the properties of a solid.
- A liquid has a fixed volume but changes in shape to fit the container. A liquid can be poured and keeps a level, horizontal surface.
- A gas fills all available space; it has no fixed shape or volume.
- Melting is a state change from solid to liquid.
- Freezing is a state change from liquid to solid. The freezing point of water is 0oC.
- Condensation is the change back from a gas to a liquid caused by cooling.
- Boiling is a change of state from liquid to gas that happens when a liquid is heated to a specific temperature and bubbles of the gas can be seen in the liquid. Water boils when it is heated to 100oC.
- Evaporation is the same state change as boiling (liquid to gas), but it happens slowly at lower temperatures and only at the surface of the liquid. Evaporation happens more quickly if the temperature is higher, the liquid is spread out or it is windy.
- Water at the surface of seas, rivers etc. evaporates into water vapour (a gas). This rises, cools and condenses back into a liquid forming clouds. When too much water has condensed, the water droplets in the cloud get too heavy and fall back down as rain, snow, sleet etc. and drain back into rivers etc. This is known as precipitation. This is the water cycle.



Key Vocabulary

Solid – a material where the particles are tightly packed together and do not move very much (only vibrate) because they have little energy.
Liquid – the particles have more energy in a liquid and this enable them to slide around and move past each other.
Gas – the particles in a gas have more energy than liquids and therefore move freely.
Changing state – turning a solid into a liquid or liquid to gas and vice versa.
Melt - make or become liquefied by heat.
Freeze – turn or be turned into ice or another solid as a result of extreme cold.
Melting point – the temperature at which a given solid will melt.
Boiling point – the temperature at which a liquid boils and turns to vapour.
Water cycle – the cycle of processes by which earth's water circulates.
Evaporation – the process of turning from liquid into vapour.
Condensation – the conversion of a vapour or gas to a liquid.