# Holy Family Catholic Primary School Cronton

**Year 4:** Science Summer Term 3 | **Unit 1:** In A State | **Theme:** States of Matter

## What I should already know:

∗Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses;

∗Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.

∗ Why some materials are used for certain purposes because of their properties.

## Fact File

### Solids, Liquids and Gases

### What is a solid?

When materials hold their shape. Their particles are closely packed and form a regular pattern. Their shape is fixed and they will always take up the same amount of space. Examples: Ice, Wood, Glass, Diamond.

### What is a liquid?

When materials hold the shape of the containers they are in and so can change shape. Their particles are close together but can move over each other. Liquids can be poured. Examples: Water, Milk, washing-up liquid.

### What is a gas?

Gases can escape from open containers. They often cannot be seen. They have particles which can spread it and move in all directions. Examples: Steam, Hydrogen, Oxygen, Carbon Dioxide.

## What I will know by the end of the unit:

∗I can compare and group materials together, according to whether they are solids, liquids or gases;

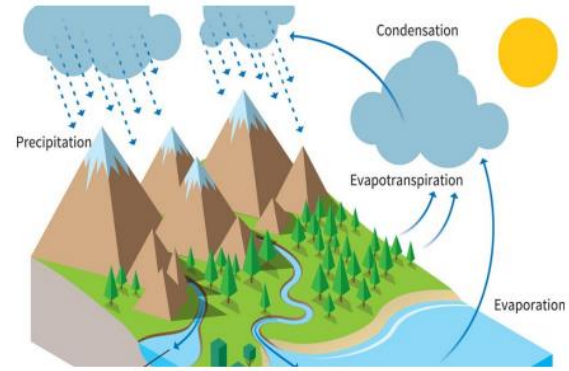
∗I can observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C);

∗I can identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.

## Key Scientist

**Dorothy Hodgkin** (1910- 1994) is the only British woman to have won the Noble Prize for Chemistry. It was for her work on the structure of substances e.g. penicillin

## The Water Cycle




## Vocabulary

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| **Condensation** | These are small drops of water which form when water vapour or steam touches a cold surface, such as a window. |
| **Evaporate** | Process of turning from liquid into gas; pass away in the form of vapour. |
| **Freeze** | If a liquid or a substance containing a liquid freezes, it becomes solid. |
| **Gases** | A form of matter that is neither liquid nor solid. A gas rapidly spreads out when it is warmed and contracts when it is cooled. |
| **Liquids** | In a form that flows easily. |
| **Matter** | Material, substance which physical objects are composed. |
| **Melt** | To change from a solid to a liquid state through heat or pressure. |
| **Precipitation** | Rain, snow, sleet, dew, etc, formed by condensation of water vapour in the atmosphere. |
| **Solids** | Having a firm shape or form that can be measured in length, width, and height; not like a liquid or a gas. |
| **Water Vapour** | Water in the gaseous state |

## Did You Know That?

Warming solid ice makes it melt into liquid water. Adding more heat makes it evaporate, at 100°C, into steam (a gas). When it is cooled it condenses back into liquid water. If it is cooled to 0°C it freezes and forms solid ice.