Holy Family Catholic Primary School Cronton

Year 5: Science Summer Term 3

Unit: 5 & 6 Marvellous mixtures +Materials All change!

Theme: Properties and Changes of materials.

What I should already know:

∗ A variety of everyday materials include wood, plastic, glass, metal, water and rock.

∗ The properties of a variety of everyday materials and how to compare and group them.

∗ How materials are suitably used based on their properties.

∗ Materials are solids, liquids and gases and some of these materials are magnetic.

∗ Shapes of solid objects can be changed by squashing, bending, twisting and stretching.

∗ Some materials change state when they are heated or cooled depending on the temperature at which this happens.

∗ The roles of melting, evaporation and condensation in the water cycle and how temperature has an impact on the rate of evaporation.

Focus scientist- Marie Curie (7 November 1867 – 4 July 1934)

In 1895 Marie and Pierre discovered that a metal called radium could kill **cancer cells**.

She was the first woman to become a **Professor** at the University of Paris. She was the first woman to win the important **Nobel Prize**. She won two in her lifetime. In World War One, she helped put **x-ray machines** in ambulances. This helped doctors see where bullets were in the body of a soldier.

What I will know by the end of the unit:

∗ I know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution.

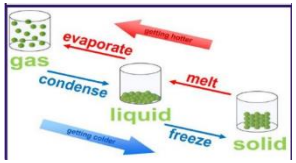
∗I can use my knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating.

∗I can demonstrate that dissolving, mixing and changes of state are reversible changes.

∗I can explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda.

Key Fact

What are non-reversible/irreversible changes?



An example of these is sodium bicarbonate, more commonly known as bicarbonate of soda. This will produce **carbon dioxide gas** if it is heated or mixed with weak acids.

Rusting is an example of a non-reversible change. Almost all metals rust or oxidise. When metals containing iron are exposed to the air, it combines with the oxygen and water to form a reddish colour solid called rust.

When materials **burn**, a chemical change takes place. For burning to happen, three things must be present: fuel, oxygen and heat.

Vocabulary

Condensation	Small drops of water which form when water vapour or steam touches a cold surface, such as a window.
Conductor	A material or substance that electricity or heat can pass through or travel along
Evaporation	When a liquid turns in to a gas e.g. water in to water vapour.
Filtering	A device used to remove dirt or other solids from liquids or gases. A filter can be made of paper, charcoal, or other material with tiny holes in it.
Freezing	When a liquid turns in to a solid e.g. water to ice.
Insulator	Something which does not conduct heat or electricity.
Irreversible changes	When it is impossible to change something back in to its original state
Melting	When a solid is turned in to a liquid e.g. ice to water.
Particle	A small piece or tiny amount of something.
Reversible changes	When you can change something back in to its original state.
Sieving	Removing unwanted items by putting it through a sieve.
Solution	When two or more substances are combined.
Transparent	This means you can see through the object.