



Science Topic: Properties and Changes in Materials (Irreversible Changes)

Year: 5 Term: Summer 2

Key Knowledge/Content:

- Heating can sometimes cause materials to change permanently. When this happens, a new substance is made. These changes are not reversible.
- Indicators that something new has been made are: The properties of the material are different (colour, state, texture, hardness, smell, temperature)
- If it is not possible to get the material back easily it is likely that it is not there anymore and something new has been made (irreversible change)

Scientist Focus:

Ruth Benerito (Chemist and inventor)

The inventor of wrinkle-free cotton, who encountered

Links to:

Prior learning:

To look at reversible changes, identifying how the properties of the materials change.

Future learning:

To use different processes to change the state of materials.

Key vocabulary with definition:

Prior vocabulary:

- Magnetic- Pushes or pulls a metal material.
- Flexibility- The material to bend a material into shape.
- Transparency- Whether a material can be seen through.
- Permeability- A material that allows water or liquids to flow through.
- Property- Something about how a material feels, appears and is measured.
- Conductor- A material that lets electricity pass through.
- Insulator- A material that does not let heat or electricity pass through.
- Mixture- Where two materials are mixed.
- Solution- Two materials that are evenly mixed.
- Filter- Removing materials from a liquid.
- Sieving- Separating a mixture using a sieve.
- Evaporation- Heating something, usually water, under it is vapour.
- Reversible- Can be turned back.

New vocabulary:

- Irreversible- Cannot be turned back.

By the end of this unit

All children can: identify examples of irreversible changes and **know** that an irreversible change makes a new substance.

Most children can: explore different irreversible changes, using different experiments to **observe** the creation of new substances.

Some children can: observe the rate that an irreversible change happens and **understand** that irreversible changes can create new and useful materials.

Background understanding for teachers and parents:

This unit will continue to look at the properties and uses of different materials based on their permeability, transparency and flexibility. They will use experiments to observe irreversible changes.

Curriculum Driver (one):

Aspiration

Evidence outcome:

Understand that new materials are always been created, benefitting people and solving problems.