Year 5

Reversible & Irreversible changes

Statutory Requirements:

- Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution.
- Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating.
- Demonstrate that dissolving, mixing and changes of state are reversible changes.
- 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.

Working Scientifically:

- Using test results to make predictions to set up further comparative and fair tests.
- Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.
- Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, and taking repeat readings when appropriate.
- Use relevant scientific language and illustrations to discuss, communicate and justify their scientific ideas (non-statutory).
- Identifying scientific evidence that has been used to support or refute ideas or arguments.

Key Learning Steps:

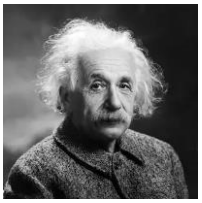
1. Dissolving
2. Separate materials - filtering and sieving
3. Solutions and evaporating
4. Reversible changes
5. Irreversible changes - burning
6. Irreversible changes - acid

Key Scientists:

Classic

Albert Einstein (1879-1955)

A German-born theoretical physicist who is widely held to be one of the greatest and most influential scientists of all time.



Classic

J. Robert Oppenheimer (1904-1967)

An American theoretical physicist who is often called the "father of the atomic bomb".

Vocabulary:

- dissolve
- soluble
- insoluble
- solution
- substance
- sieve
- filter paper
- mixture
- insoluble
- filtering
- funnel
- evaporation
- states of matter
- reversible change
- reverse
- chemical reaction
- irreversible change
- burning
- heating
- vinegar
- bicarbonate of soda