



Materials and their properties

Science
Year 5
Summer Term

Overview

During this topic, we will be exploring the properties of different materials and understand the changes that happen when different materials are mixed or separated.

Reversible and Irreversible Changes



Knowledge & Understanding

In this unit, the pupils will be:

- compare and group together everyday materials on the basis of their properties
- 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
- give reasons for the particular uses of everyday materials
- demonstrate that dissolving, mixing and changes of state are reversible changes
- explain that some changes result in the formation of new materials

Enquiry Skills & Concepts

In this unit, the pupils will be:

- planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary
- taking measurements with increasing accuracy and precision, taking repeat readings when appropriate
- recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs
- using test results to make predictions to set up further comparative and fair tests
 - reporting and presenting findings from enquiries, including conclusions.
- identifying scientific evidence that has been used to support or refute ideas or arguments.

Home – School link project

During this topic pupils can choose to:

Topic Vocabulary

condensation - the act or process of changing from a gas to a liquid

conductor - a material that allows electricity, heat, sound or light to pass through

dissolve – when a solid or liquid mixes completely with liquid

evaporation - a process where liquids change to a gas or vapour usually by heating

filter – a device used to remove particles from liquids

insoluble – will not dissolve in a liquid
soluble – will dissolve in a liquid

insulator- a material that does not allow electricity, heat, sound or light to pass through

particle – a tiny portion of matter
solution - a specific type of mixture where one substance is dissolved into another

Working Scientifically

accuracy – how close a result comes to the true value

analyse – explore why something happened the way it did

comparative test – a test that compares one event to another and identify different outcomes

data – information collected for a specific purpose

evaluation – examining how your test could be improved / changed in the future

fair test – a test that controls all but one variable when attempting to answer a scientific question

prediction – to use prior knowledge to state the outcome before it has happened

variable – can change and not constant