



# Properties and Changes of Materials

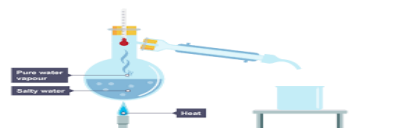
Year 5  
Spring Term



## Key Learning

- Compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets.
- Recognise 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



- Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.
- Take measurements using a range of scientific equipment with increasing accuracy and precision, taking repeat readings when appropriate.
- Record data and results or increasing complexity using scientific labelled diagrams, classification keys, tables, scatter graphs, bar and line graphs.

Properties	Properties are the characteristics that enable us to differentiate one material from another.
soluble	If something is able to <u>be dissolved</u> , especially in water, it is known to be soluble.
insoluble	If something is <u>incapable</u> of being dissolved, especially in water, it is known to be insoluble.
dissolve	To become or cause to become incorporated into a liquid, so as to form a solution.
solute	A substance that dissolves in another substance. For example, sugar is a solute when mixed with water.
solvent	A solvent is <b>any substance, usually liquid, which is capable of dissolving one or several substances, thus creating a solution.</b> One of the most common examples of solvents is water.
solution	A solution occurs when a solvent and a solute are mixed together. Eg. sugar and water.
conductor	A substance or material that allows electricity to flow through.
insulate	To cover and surround something with a material or substance, in order to stop heat, sound, or electricity from escaping or entering
filter	To pass (a liquid, gas, light, or sound) through a device to remove unwanted material.
distillation	The process of separating the components of a liquid mixture through selective evaporation and condensation.
solidifying	To make or become hard or solid. Eg. water to ice.
Desalination	The process of removing salts or other minerals and contaminants from seawater, brackish water, and wastewater

