Year 5 – Properties and changes

'Milk and sugar please!' What are the chemical processes behind making a cup of tea?

Prior learning

In Year 4, you grouped solids, liquids and gases and observed changes to materials at different temperatures. You also identified the role of evaporation and condensation in the water cycle.

Future learning

In secondary school, you will learn more about the particle theory and the effect of heating and cooling different substances.

In this unit you will:

- 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
- 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
- Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic
- 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

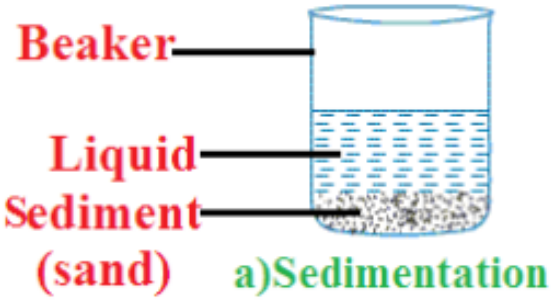
Key Scientists: Archimedes

Archimedes was an ancient Greek inventor and mathematician. He found that all objects had a certain volume. Legend has it he solved this in the bath and famously shouted, 'Eureka!'

Science discipline: Chemistry

Chemistry is the study of the make-up of all things and how they behave. It's based on the study of matter, which is what makes up everything in the universe and on Earth.

Scientific diagram



Vocabulary:

- **Solubility:** The ability to dissolve into (become a part of) another substance.
- **Sediment:** The small pieces of land that break down are called sediment.
- **Filtering:** Used to separate an insoluble.
- **Sieving:** A seperating process that is used to remove particles of insoluble or undissolved material from a liquid, usually by using a barrier with small to medium-sized holes.