

Science — Geology, Mixtures and Separation

Compare and group materials together according to whether they are solids, liquids or gases.

Observe how some materials change state when exposed to heat or cold.

Know that some materials will dissolve in liquid to form a solution and how to recover a substance from a solution.

Using knowledge of solids, liquids and gases to decide how mixtures might be separated.

Demonstrate that dissolving, mixing and changes of state are reversible changes.

Explain how some changes result in the formation of new materials and that this kind of change is not usually reversible.

Compare and group together different types of rock.

Describe how fossils are formed.

Recognise that soils are made from rocks and organic matter.

Key words:

- Mixture
- Separation
- Emulsion
- Homogeneous
- Heterogeneous
- Reversible change
- Irreversible change

Key words:

- Exothermic reaction
- Endothermic reaction
- Lithosphere (Crust)
- Asthenosphere (Mantle)
- Outer (Liquid) Core
- Inner (Solid) Core

Atoms: All matter is made up of particles too small for the eye to see, called atoms.

Atoms are made up of even tinier particles: protons, neutrons, electrons.

The concept of electrical charge: Positive charge (+): proton, Negative charge (-): electron

Elements: Elements are the basic kinds of matter, of which there are a little more than one hundred. There are many different kinds of atoms, but an element has only one kind of atom.

Properties of matter

Mass: the amount of matter in an object, similar to weight

Volume: the amount of space a thing fills Density: how much matter is packed into the space an object fills

Vacuum: the absence of matter

Solutions: A solution is formed when a substance (the solute) is dissolved in another substance (the solvent)

Concentration and saturation (as demonstrated through simple experiments with crystallisation)