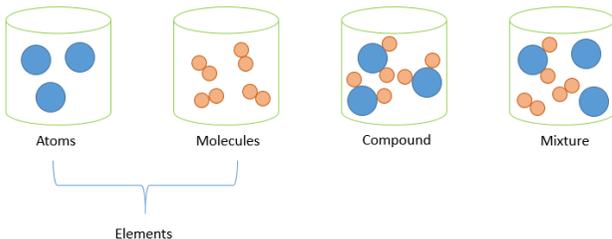


S1 Periodic Table & Compounds - Knowledge Organiser

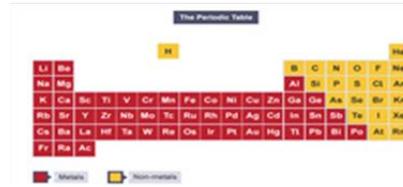


Key Word	Definition
Element	Substances made from the same type of atom.
Atom	Tiny particles that make up everything.
Molecule	When two or more atoms are joined together.
Compound	A substance made from two or more elements joined together.
Mixture	Substance when two or more different substances are together but not joined and so can be separated.
Properties	Chemical or physical features of the substance.
Symbol	Shortened way of writing an element name.
Periodic Table	A chart showing all the elements.
Groups	Lists of elements in vertical columns in the Periodic table.
Chromatography	Separates dissolved liquids or solids.
Filtration	Separates liquid from an insoluble solid.



Elements

Elements are substances made from the same type of atom. Elements are shown in a chart called the Periodic Table. Elements each have their own symbol.



Elements can be divided into two groups: **metals** and **non-metals**. Elements on the left of the zig-zag line are metals and on the right are non-metals.

Groups are vertical columns in the Periodic Table. Some groups have names like **alkali metals**, **transition metals**, **halogens** and **noble gases**. Elements in the same group have similar chemical properties. e.g. Group 1 - sodium, lithium and potassium all react violently with water.

Properties & Uses of Elements

Property	Metals	Non-metals
Appearance	shiny	dull
Conductivity of electricity	good	poor
Conductivity of heat	good	poor
Can it be shaped?	yes	no

The uses of metals are related to their properties, e.g.

- silver is used in jewellery because it is shiny and can be shaped.
- copper is used in wires because it is a good conductor of electricity.
- aluminium is used to make cooking pots because it is a good conductor of heat.

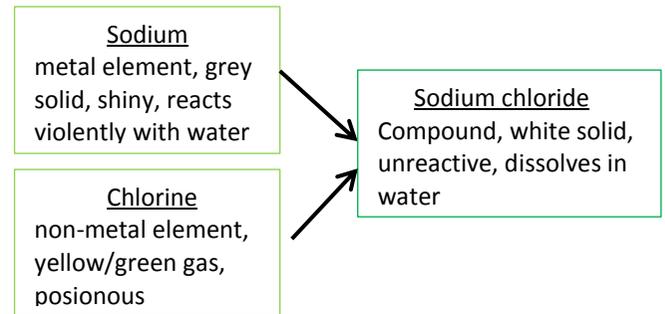
Metals can be identified by their **flame colours**.



Compounds

Compounds are substances which are made up of two or more different elements **joined together**. Examples of common compounds are: **water**, **salt**, **sugar** and **carbon dioxide**.

The properties of compounds are usually different to the properties of the elements which make the compounds up, e.g.,



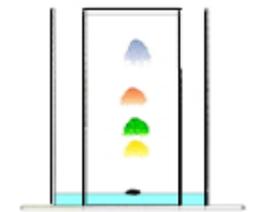
The elements present in a compound are shown in the name. e.g., iron sulphide. Compounds ending in -ide contain two elements only so iron and sulphur.

Mixtures

A mixture is formed when two or more different substances come together **without joining**. Examples of common mixtures are: **air** and **sea water**. Two common techniques for separating mixtures are:



Filtration



Chromatography

Further Reading

<https://www.bbc.co.uk/bitesize/guides/zt2hqv4/revision/1>

<https://www.youtube.com/watch?v=DZ6Ap8Zyb9w>

