

S2 Chemistry Topic 1 – Action packed Chemistry

- Compounds have different properties than the elements they are made up of.
 - Sodium chloride is edible, sodium and chlorine are not.
 - Water doesn't burn; hydrogen and oxygen are very flammable.
- When two elements join together, the name ending of the second element changes to –ide.
- When three elements, one of which is oxygen, join together, the ending of the second element changes to –ite or -ate. Oxygen does not appear in the name of the compound.
- The symbols which make up a compound formula tell us which elements the compound is made up of.
- Atoms are made up of protons, neutrons and electrons. Protons have a positive charge and a mass of 1 amu and are found in the nucleus. Neutrons have no charge (neutral) and a mass of 1 amu and are found in the nucleus.

Electrons have a negative charge and almost no mass. They orbit the nucleus.

- Atoms do not have an electric charge and are said to be neutral because they have equal numbers of protons and electrons.
- The atomic number of an element tells you the number of protons which is the same as the number of electrons.
- The mass number of an element tells you the number of protons added to the number of neutrons.
- Isotopes are atoms of the same element with different mass numbers (because they have different numbers of neutrons).
- Nuclide notation: e.g. $^{37}_{17}\text{Cl}$. 37 = mass number, 17 = atomic number.
- The relative atomic mass (ram) of an element is the average mass of all the isotopes.
- An exothermic reaction gives out energy to the surroundings.
- An endothermic reaction takes in energy from the surroundings.
- There is never any overall change in mass when a chemical reaction takes place.