

Elements, mixtures and compounds

▼ Mixture

- definition: A mixture consists of different types of atoms that are not chemically bonded.
- Characteristic
 - particles in a mixture can all be separated out quite easily
 - No chemical bonds exist
 - properties of the mixture are just a mixture of the properties of the separated parts

▼ Compound:

- definition: In a compound the particles are held together by strong forces called chemical bonds. A chemical reaction will have taken place
- Characteristic
 - particles in a compound are very difficult to separate
 - the properties of a compound are very different to the properties of its original elements

▼ techniques for separating mixtures

- Filtration
 - separate an insoluble solid in a liquid
 - equipment: beaker, filter paper, flask, filter funnel
- Simple distillation
 - simple distillation
 - depends upon the different boiling points in a mixture.
 - used to separate a soluble solid and a liquid

- round bottom flask, condenser
- Chemical distillation
- Fractional distillation
 - e.g. crude oil
 - two liquids that have different boiling points
 - separate mixture such as ethanol and water
 - measure gas temperature
- Crystallisation
 - is used to separate a soluble solid from a liquid when you want to collect the solid
- Paper chromatography
 - is used to separate and identify mixtures that are or can be, coloured

Matter

mixture

- homogeneous
 - uniform composition and property
- heterogeneous
 - non-uniform

pure substance

- elementary
- compound
 - ionic compound

- covalent compound