

CAIE IGCSE Chemistry

2.1 Elements, compounds and mixtures

Notes

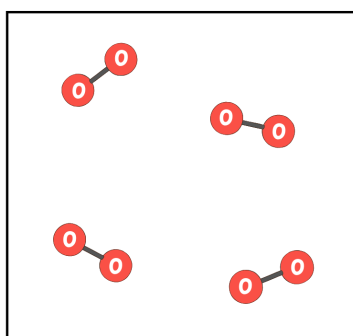
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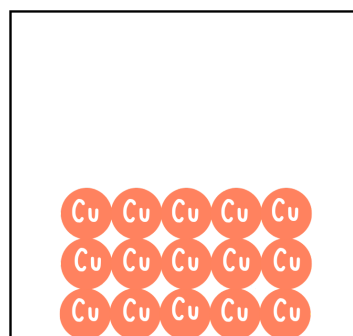
Describe the differences between elements, mixtures and compounds

- An element is a substance made from only one type of atom.
 - Elements are pure substances that cannot be broken down further
 - E.g. Oxygen (O_2), hydrogen (H_2), copper (Cu) are elements.
- Compound is a substance made from two or more elements that have reacted with each other and formed chemical bonds between atoms
 - A chemical reaction is needed to break apart the chemical bonds between elements in compounds
 - E.g. Water (H_2O), carbon dioxide (CO_2) and sodium chloride (NaCl) are compounds.
- A mixture is a substance made up of two or more elements or compounds, but are not chemically bonded together
 - Mixtures can be separated using separation techniques such as filtration, simple distillation and crystallisation
 - Chemical properties of each substance in the mixture are unchanged
 - E.g. Air (consisting of molecules such as nitrogen and oxygen) and saltwater are examples of mixtures.

ELEMENTS

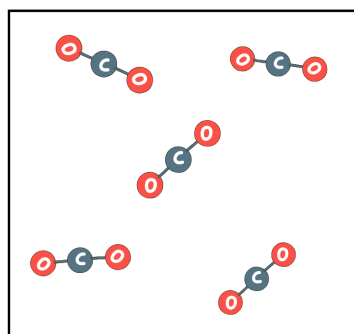


Oxygen, O_2

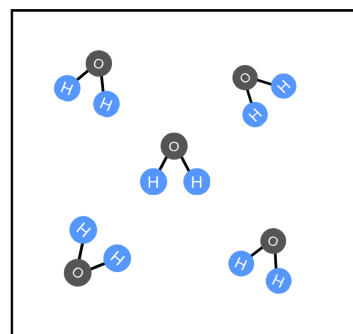


Copper, Cu

COMPOUNDS



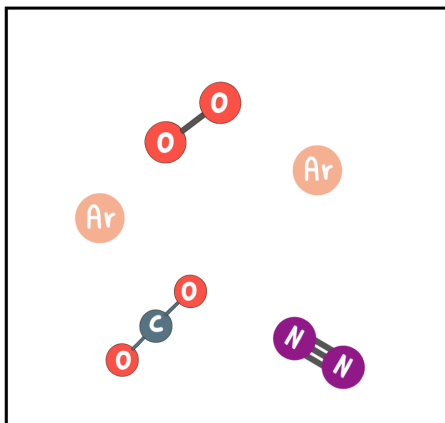
Carbon Dioxide, CO_2



Water, H_2O



MIXTURE



Air

