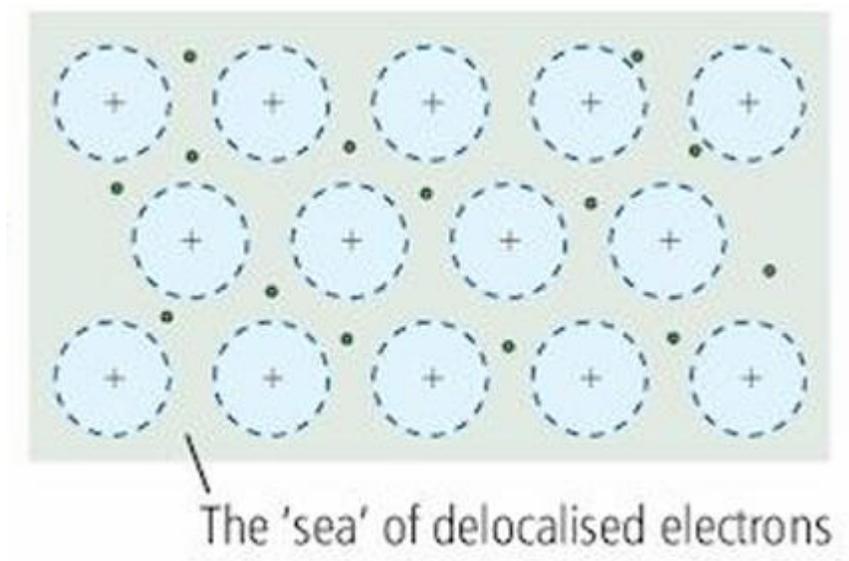


Metals

Prepared by Soofia Anwer

Metallic Bonding: The lattice of positive ions surrounded by sea of delocalised electrons. There is a strong electrostatic force of attraction between positive ions and electrons.



Physical properties which all metals carry:

Good conductor of electricity

Malleable (They can be hammered in to different shapes)

Shiny

Ductile (Drawn in to wire)

Difference in physical properties of group 1 and transition metals:

Group 1 metals

Group 1 metals have low melting point.

Group 1 metals have low density

Transition metals

Transition metals have high melting point.

Transition metals have high density.

Why metals are malleable and ductile?

The atoms are arranged in layers. When force is applied these layers can slide over each other.

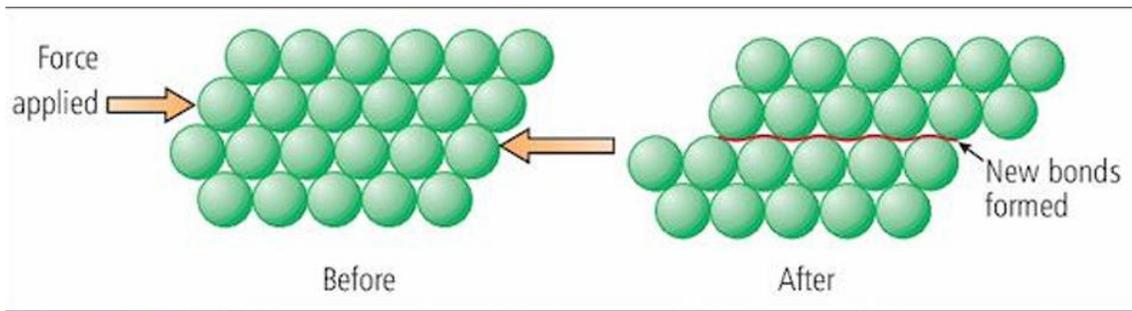
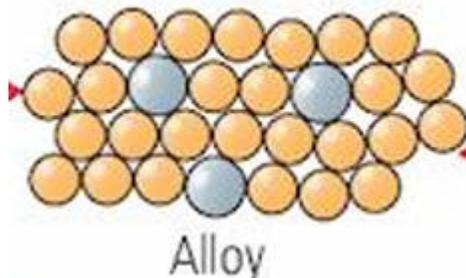


Figure 3.6.3 When a force is applied to a metal the layers slide but soon form new bonds

Alloys: A mixture of two or more metals or a metal with non metal is called an alloy



Brass : Copper + Zinc

Steel: Iron + carbon

Stainless steel: Iron + carbon + Nickel + Chromium (Use in cutlery+ Surjical instruments)

Why alloys are more harder and stronger than the actual metal?

The atoms of the different elements have different sizes so because of them layers can not slide easily when force is applied.