

Cambridge (CIE) A Level Chemistry



Your notes

Metallic Bonding

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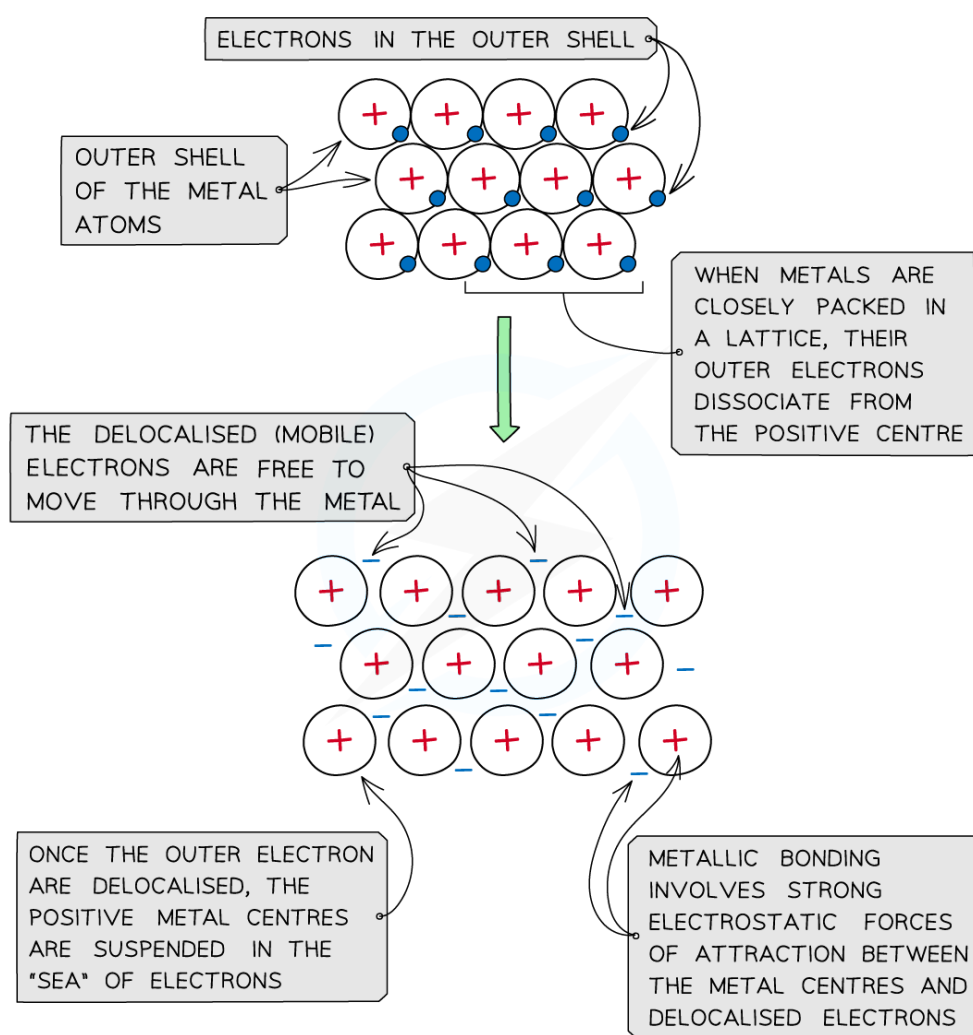
* Metallic Bonding



Defining Metallic Bonding

- Metal atoms are arranged in a regular, tightly packed lattice structure.
- When the metal atoms are packed together, the electrons in their outer shells **delocalise**.
 - This means that the electrons are no longer associated with any single atom.
- This process results in a lattice of positive metal ions surrounded by a mobile 'sea' of delocalised electrons.

Metallic bonding diagram



The layers positive metal cations are suspended in a 'sea' of delocalised electrons

- Metallic bonding is the strong electrostatic force of attraction between the positive metal ions and the surrounding delocalised electrons.

- This strong attraction:
 - Holds the ions firmly in place.
 - Counteracts the repulsion between the positive ions.
 - Maintains the stability of the metal structure.



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