Metallic Bonding

Characteristics of metallic bonding

- Delocalized electrons – electrons that don't belong to a single atom or bond
  - Move freely within the metal's network of unoccupied orbitals
- Electron sea model – atoms of a metal are somewhat fixed in position in a crystal lattice, while outer electrons move freely through out the lattice forming a sea of electrons
- Metallic bond – attraction between delocalized electrons and metallic cations

Characteristics of metals

- Mobility of delocalized electrons causes metals to be excellent conductors
- Metallic cations and delocalized electrons slide past each other easily
- Metals can be changed in shape without causing the crystal to break
  - Metals are malleable and ductile