

3 Structure and Bonding I

1. Ionic bonds are formed by the transfer of electrons between atoms to produce cations and anions
2. A metal atom will lose its outer shell electrons [to gain a full outer shell].
3. A non-metal will gain electrons to complete its outer shell.
4. A cation is a positively charged ion [formed when metal atoms lose electrons]
5. An anion is a negatively charged ion [formed when non-metal atoms gain electrons]
6. An ionic compound has a lattice structure consisting of a regular arrangement of ions held together by strong electrostatic forces (ionic bonds) between oppositely-charged ions.
7. A lattice is a regular three-dimensional arrangement of particles
8. Ionic compounds have high melting points and boiling points, as there are many strong forces of attraction between oppositely charged ions that need a lot of energy to break.
9. Ionic compounds
 - a. conduct electricity when in solution or as a liquid as the ions are free to move
 - b. do not conduct electricity as a solid as the ions are in fixed positions.