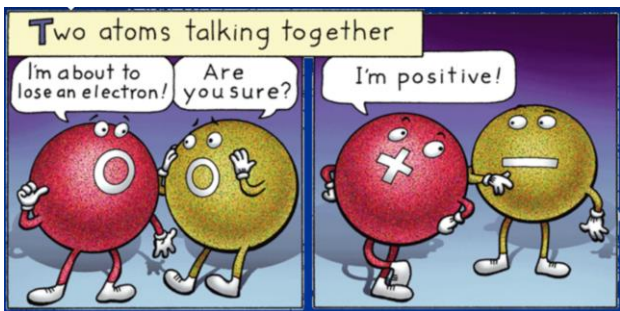


Chemistry: Ionic Bonding and Properties

Key word	Definition
ion	A charge particle formed when one or more electrons are lost or gained from an atom
Ionic bonding	A strong attraction between oppositely charged ions
Dot and cross diagram	Used to show what happens during ionic bonding. The electrons in one atom are represented by a dot and in the other atoms a cross.
Giant ionic lattice	A closely packed regular arrangement of particles held together by electrostatic forces of attraction
Electrostatic attraction	A force of attraction between opposite charges

Ionic Bonding
Metals and non-metals reacting together

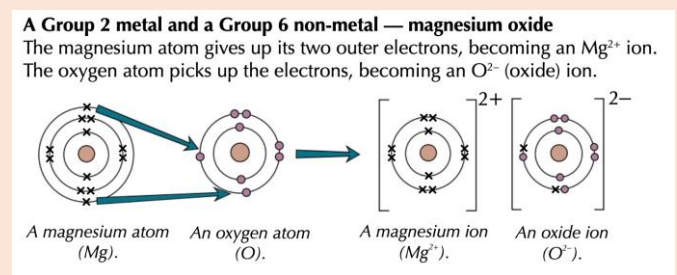
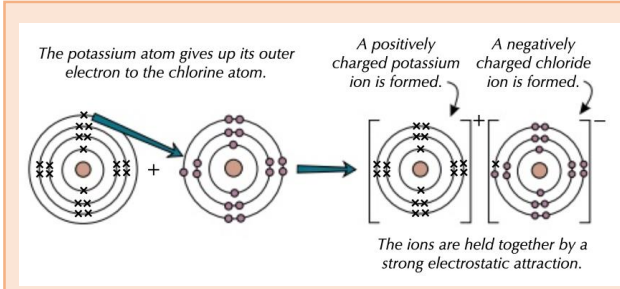
Non- Metals atoms **gain** electrons to form negatively charged ions.



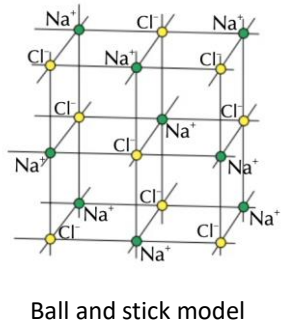
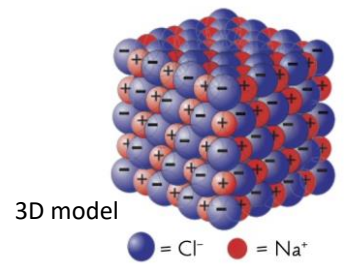
Metals atoms **lose** electrons to form positively charged ions.

The oppositely charged ions then are **strongly attracted** to each other by electrostatic forces.

Dot and Cross Diagrams



Ionic Compounds



- In ionic compounds the ions are arranged in a regular arrangement called a **giant ionic lattice**
- There are strong electrostatic forces of attraction between the oppositely charged ions.
- These are the ionic bonds.

Properties of Ionic compounds

- High melting and boiling points. **Why?** Lots of energy is needed to break all the strong ionic bonds.
- Solid ionic compounds **don't** conduct electricity. **Why?** Ions are held in place.
- Ionic compounds in solution or molten can conduct electricity. **Why?** Ions are **free** to move.

