Chemical Bonding

Introduction:

Bond – The sharing or transferring of electrons to form compounds/molecules (2 or more atoms)

Which atoms do not form bonds and why?

Group 18 Noble Gases (stable w/ 8 valence electrons)

Why do atoms form bonds?

trying to fill outer shell to get to "happy 8"

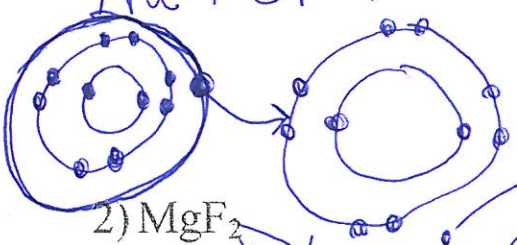
Ionic Bonds:

- Formed when at atom(s) gives up 1 or more electrons and another atom(s) takes one or more electrons.
- Occurs between a positive + ion (metals) and negative ion (nonmetals) b/c opposites charges attract.
- Always occurs between a metal and non metal.
- The result of the bond is a neutral compound (charges cancel out).

Ionic Bonds:

1) NaCl

$Na + Cl \rightarrow Na^{+1} Cl^{-1}$



*Sodium gives 1 electron to Chlorine; Sodium become more + & Chlorine becomes more − (negative)

2) MgF_2

$Mg + F + F \rightarrow Mg^{+2} F^{-1} F^{-1}$

* Magnesium give 2 electrons away to each Flourine

3) KBr

$K + Br \rightarrow K^{+1} Br^{-1}$

* Potassium gives one electron to Bromine

4) $MgCl_2$

$Mg + Cl + Cl \rightarrow$

* Magnesium gives away 2 electrons; 1 to each chlorine.

5) KCl

$K + Cl \rightarrow K^{+1} Cl^{-1}$

*Potassium gives one electron to Chlorine