

NAME: _____

Date: _____

Lesson 5 Forming Compounds (Nelson p.178)

3 Ways Elements Become Stable

1. **Metals LOSE electrons** to non-metals, to form **positive ions**.
 - **METALS** usually have **less than 4 electrons** in their **outer orbit** → easily to lose than gain
2. **Non-metals GAIN electrons** from metals, to form **negative ions**.
 - **NON-METALS** usually have **more than 4 electrons** in their **outer orbit** → easily to gain than lose
3. **Non-metals SHARE electrons** (non-metal + non-metal)

Compounds:

- are formed from _____ in the Periodic Table.
- can be _____ or _____.

1. Ionic Compounds

- Made up of a _____ and a _____
- Metals _____ electrons to the non-metals; Non-metals _____ electrons from metals
- **Example:** Sodium (Na) loses electron to Chlorine (Cl) to form sodium chloride (NaCl).

2. Molecular Compounds

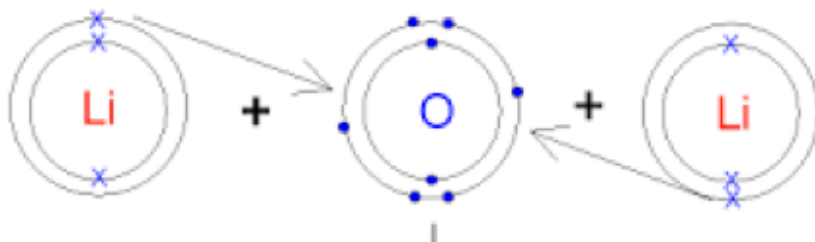
- Made up of _____ electrons
- **Example:** Carbon (C) and oxygen (O) share electrons to form carbon dioxide (CO₂).

Ionic or Molecular?

Compound	Metal / Non-metal	Metal / Non-metal	Type of Compound
CaCl ₂	Ca –	Cl –	
N ₂ S ₃	N –	S –	
K ₂ S	K –	S –	
CF ₄	C –	F –	
NaCl	Na –	Cl –	
Al ₂ O ₃	Al –	O –	
NCl ₃	N –	Cl –	
CO ₂	C –	O –	
PF ₅	P –	F –	
LiBr	Li –	Br –	

How Ionic Compounds Form

1. Lithium and Oxygen



Lithium (metal) loses electrons
Oxygen (non-metal)

2. Magnesium and Chlorine

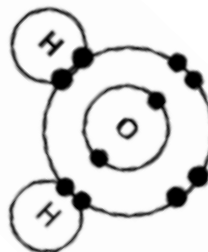


Magnesium (metal) loses electrons to Chlorine (non-metal)

How Molecular Compounds Form

1. Water (hydrogen and oxygen)

Hydrogen (non-metal) and Oxygen (non-metal) share electrons



2. Carbon dioxide (carbon and oxygen)

Carbon (non-metal) and Oxygen (non-metal) share electrons

