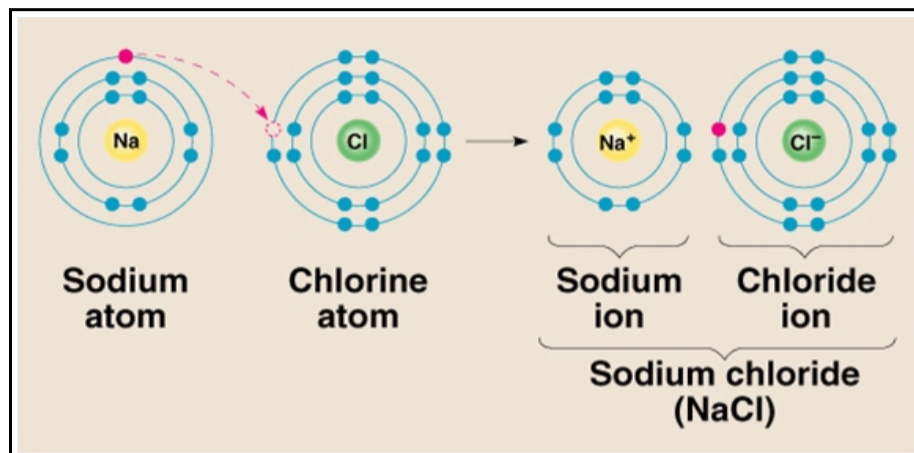


**Science 9**  
Unit 2: Chemical Reactions  
Worksheet 14: Ionic Bond



**Ionic Bonding** results from the “transfer” of electrons from a metal to a nonmetal.



**RULES FOR NAMING- IONIC COMPOUNDS :**

**1. Common names of Ionic compounds**

- (i) Sodium Chloride (NaCl)
- (ii) Calcium Carbonate (CaCO<sub>3</sub>)
- (iii) Sodium Hydroxide (NaOH)

**2. Rules For Naming Binary Ionic Compounds**

- i) Name the cation (+) by writing the full name of the metal
- ii) Name the anion (-) by shortening the name of the atom and add the ide ending

Examples:

LiBr	Lithium Bromide
AlCl <sub>3</sub>	Aluminum Chloride
Rb <sub>2</sub> S	Rubidium sulfide
Mg <sub>3</sub> N <sub>2</sub>	Magnesium Nitride

Note: Do Not use prefixes - they are for molecular compounds (two non-metals. Ionic compounds are writing as empirical formulas (lowest ratio)

## PART A: MULTIPLE CHOICE

- A chemical bond formed by exchange of electrons is called
  - an ionic bond.
  - a magnetic bond.
  - a hydrate bond.
  - a covalent bond.
- The name of the compound with the formula KCl is
  - Chloride Potassium
  - Potassium Chlorate
  - Potassium Chloride
  - Chlorate Potassium
- Ionic bonds are generally formed between:
  - two metals.
  - a metal and a nonmetal.
  - two nonmetals.
  - all are correct
- An ionic bond is a bond that forms between
  - ions with opposite charges
  - atoms with neutral charges
  - one atom's nucleus and another atom's electrons
  - the electrons of two different atoms
- In the process of ionic bonding
  - Both atoms gain electrons
  - One atom gains one or more electrons and the other loses the same number
  - Atoms switch protons
  - Both atoms lose electrons
- Which pair of elements is most likely to form an ionic compound with each other?
  - calcium, sodium
  - oxygen, fluorine
  - sulfur, carbon
  - nitrogen, hydrogen
- Which of the following compounds would you expect to be ionic?
  - SF<sub>6</sub>
  - H<sub>2</sub>O
  - CO<sub>2</sub>
  - CaO
- Which of the following compounds would you expect to be ionic?
  - H<sub>2</sub>O
  - CO<sub>2</sub>
  - SrCl<sub>2</sub>
  - SO<sub>2</sub>

9. Of the choices below, which one is not an ionic compound?

- (A)  $\text{PCl}_5$
- (B)  $\text{CrCl}_6$
- (C)  $\text{NaC}$
- (D)  $\text{PbCl}_2$

10. What is the correct name for the compound  $\text{Na}_2\text{O}$ ?

- (A) disodium oxide
- (B) disodium monoxide
- (C) sodium oxide
- (D) sodium monoxide

**PART B: WRITTEN RESPONSE**

1. List two features of an ionic bond

**[2]**

(I) \_\_\_\_\_

(II) \_\_\_\_\_

2. Name the following ionic compounds:

a)  $\text{NaBr}$  \_\_\_\_\_

b)  $\text{NaCl}$  \_\_\_\_\_

c)  $\text{CaO}$  \_\_\_\_\_

d)  $\text{Li}_2\text{S}$  \_\_\_\_\_

e)  $\text{ZnI}_2$  \_\_\_\_\_

f)  $\text{AgS}_2$  \_\_\_\_\_

g)  $\text{SrCl}_2$  \_\_\_\_\_

h)  $\text{RbF}$  \_\_\_\_\_

i)  $\text{BeO}$  \_\_\_\_\_