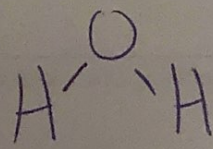


Key:

Chapter 5: SI session 02/23/21

1. Define the following terms:

Term	Definition	Example
Chemical formulas	representations of chem. compounds	NaCl
Empirical formula	Gives the simplest whole-# ratio of atoms of each element in a compound.	H <sub>2</sub> O
Molecular Formula	Gives the actual number of atoms of each element in a compound	H <sub>6</sub> O <sub>3</sub>
Structural Formula	Uses lines + symbols to represent bonds + show how atoms in a molecule are connected	
Atomic Elements	elements that exist in nature w/ single atoms as their	Ne

base units

Diatomic Elements	2 atoms of the element bonded together as their base unit	$O_2$
Cations	Pos. charged ions, usually Metals	$Ca^+$
Anions	Neg. charged particles, usually non-metals	$H^-$ <del>W<sup>-</sup></del>
Ionic compounds	Contain 1 or more cations Paired w/ 1 or more anions	$CaCl_2$
Molecular compounds	Compounds formed from 2 or more nonmetals	$IH$

Type I cations	Metal ions w/ invariant Charge	Always has Only 1 Charge
Type II Cations	Metal ions w/ variable Charge	Cu

2. What are the 7 diatomic elements?

- a.  $N_2$
- b.  $O_2$
- c.  $F_2$
- d.  $Cl_2$
- e.  $Br_2$
- f.  $I_2$
- g.  $H_2$

3. What is the stock system, and what is it used for?

uses roman numerals

when naming to designate  
Charge.

4. What are the rules for naming an type I ionic compound?

Name cation first,  
Followed by  
anion

5. What are the rules for naming a type II ionic compound?

Name cation, followed by roman numeral indicating charge, then anion.

Charges must cancel

Naming ionic compounds practice:

1. Name the following compound:  $\text{FeCl}_2$

Iron(II) chloride

2. Write down the formula for the following compound: Calcium sulfide

$\text{CaS}$

3. Name the following compound:  $\text{Cr}_2\text{O}_3$

Chromium(III) oxide

4. Write down the formula for the following compound: Manganese (IV) Fluoride

$\text{MnF}_4$