

## Review # 2 Assignment- Unit 2- Compounds

### Fill in the blank:

1. Ionic compounds consist of a positive metal ion and a negative nonmetal ion combined in a proportion such that their charges add up to zero.
2. An example of an ionic compound: NaCl CaCl<sub>2</sub>.
3. When the metals in Groups 1A, 2A and 3A lose electrons, they form : cation.
4. An example of a cation: Na<sup>+</sup>.
5. Nonmetals tend to gain electrons to form anions, so the charge of a non-metallic ion is negative.
6. An example of an anion: Cl<sup>-</sup>, O<sup>2-</sup>.
7. Metals that can have more than one charge are called: multivalent.
8. Ions that are composed of more than one atom are called: polyatomic.
9. Examples of a polyatomic ion: NO<sub>3</sub><sup>-</sup> CO<sub>3</sub><sup>2-</sup>.
10. A binary compound is composed of two elements and can be either ionic or molecular.
11. To name any binary ionic compound, place the cation name first, followed by the anion name.
12. To write the formula of a binary ionic compound, write the symbol of the cation and then the anion. Add whatever subscripts are needed to balance the charges.
13. For compounds with polyatomic ions, write the symbol of the cation followed by the formula for the polyatomic ion and balance the charges.
14. When naming molecular compounds, use the prefix in the name to tell you the subscript of each element in the formula. Then write the correct symbols for the two elements with the appropriate subscripts.
15. Give an example of an ionic hydrate: Na<sub>2</sub>CO<sub>3</sub> · 10 H<sub>2</sub>O
16. **For naming acids:**
  - a) When the name of the anion ends in ide, the acid name begins with the prefix hydro. The stem of the anion has the suffix ic followed by acid.  
Ex H<sub>2</sub>S (hydrosulfuric acid)
  - b) When the anion ends in ite, the acid name is the stem of the anion with the suffix ous followed by the word acid. H<sub>2</sub>SO<sub>3</sub> (sulfurous acid)
  - c) When the anion name ends in ate, the acid name is the stem of the anion with the suffix ic followed by the word acid. H<sub>2</sub>SO<sub>4</sub> (sulfuric acid)
17. Bases are named the same way as other binary ionic compound the name of the cation is followed by the name of the anion.

### Questions:

Name the following:

- a) NaI sodium iodide
- b) K<sub>2</sub>SO<sub>4</sub> potassium sulfate
- c) CuO copper (II) oxide
- d) HNO<sub>3</sub> nitric acid
- e) NaOH sodium hydroxide
- f) N<sub>2</sub>O<sub>3</sub> dinitrogen trioxide
- g) SO<sub>3</sub> sulfur trioxide

Write the formula for the following:

- a) potassium sulfide K<sub>2</sub>S
- b) lithium phosphate Li<sub>3</sub>PO<sub>4</sub>
- c) tin (II) chloride SnCl<sub>2</sub>
- d) phosphorous pentachloride PCl<sub>5</sub>
- e) lithium hydroxide LiOH
- f) hydrochloric acid HCl
- g) nitrous acid HNO<sub>2</sub>