

NAME:

HONORS CHEMISTRY

SECTION:

Chapter 5 Review Sheet

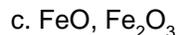
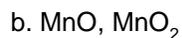
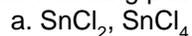
After studying chapter 5 (new textbook), you should be able to:

- Infer the charge on a monatomic ion using the periodic table.
- Classify compounds as either ionic or molecular.
- Define a polyatomic ion and memorize the names and formulas of common polyatomic ions.
- Determine the formula of an ionic compound formed between two given ions.
- Name an ionic compound (Type I, Type II, and ternary compounds) given its formula.
- Using prefixes, name a binary molecular compound (Type III) from its formula.
- Write the formula of a binary molecular compound given its name.
- Write the name of an acid from its formula; give the formula of an acid from its name

Problems for you to try:

1. Many chemical compounds have common names. Give the systematic names for each of the following
  - a. Lime, CaO
  - b. Chalcocite,  $\text{Cu}_2\text{S}$
  - c. Alumina,  $\text{Al}_2\text{O}_3$
  - d. Magnesia, MgO
  - e. Calcite,  $\text{CaCO}_3$
  - f. Sugar of lead,  $\text{Pb}(\text{C}_2\text{H}_3\text{O}_2)_2$
2. Name the following molecular compounds.
  - a.  $\text{SiO}_2$
  - b.  $\text{SO}_2$
  - c.  $\text{CF}_4$
  - d.  $\text{N}_2\text{O}_3$
3. Write the formulas for the following compounds.
  - a. iron (II) chlorate
  - b. dimercury (I) acetate
  - c. copper (II) phosphate
  - d. ammonium hydroxide
  - e. potassium hydrogen phosphate (used in nondairy creamers)
  - f. lithium sulfate (an antidepressant)
  - g. titanium (III) sulfate (used as a stain remover)
  - h. chromium (III) phosphate (a green pigment)
  - i. dinitrogen tetroxide
  - j. phosphorus trichloride
  - k. dinitrogen pentoxide

4. Name the following pairs of compounds.



5. Write formulas for the following pairs of compounds.

a. Iron (III) sulfide, iron (III) sulfite

b. sulfur dichloride, sulfur pentachloride

6. Complete the following table on acid nomenclature.

Acid Formula	Acid Name
	Nitric acid
$\text{HC}_2\text{H}_3\text{O}_2$	
$\text{H}_2\text{SO}_3$	
	Perchloric acid

7. The formulas  $\text{MgO}$  and  $\text{CO}$  look very similar. What is the name for each compound? Why do we name them differently?

8. What is the general formula for an ionic compound formed by elements in the following groups? Explain your reasoning and provide an example for each (name and formula)

a. group 1 with group 17

b. group 2 with group 17

c. group 1 with group 16

d. group 2 with group 16

9. Why do we call  $\text{Ba}(\text{NO}_3)_2$  barium nitrate but call  $\text{Fe}(\text{NO}_3)_2$  iron(II) nitrate?

10. What is the difference between sulfuric acid and hydrosulfuric acid?