

Chemistry 1 Semester 2 Final Review

This semester we covered Chapters 5, 6, 7, 9, 13 – This includes the following topics: Nomenclature, Types of Chemical Reactions, Stoichiometry and Gases

You will be responsible for knowing and understanding any conceptual vocabulary from the above units.

1. What are the rules for naming ionic compounds? What are the rules for naming covalent molecules?

Name the following:

- a. BaH_2 b. SiO_2 c. HgCl_2 d. ZnS e. SeF_6 f. SnBr_4 g. P_2O_5

2. What are the rules for writing ionic formulas? What are the rules for writing covalent formulas?

Write formulas for the following:

- a. Disulfur dichloride b. Rubidium peroxide c. Aluminum oxide
d. Ammonium sulfate e. Vanadium (V) fluoride f. Boron Permanganate

3. What are the rules for naming acids?

Naming acids:

- a. H_2SO_4 b. $\text{HC}_2\text{H}_3\text{O}_2$ c. H_2SO_3

Writing formulas:

a. Nitrous acid

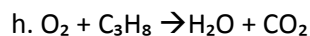
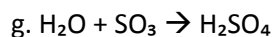
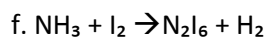
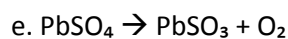
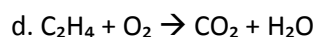
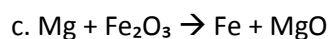
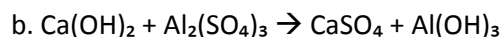
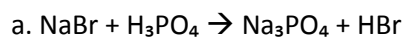
b. hydrochloric acid

c. phosphoric acid

4. Name the five major types of chemical reactions and the criteria for each type.

5. What are the factors the driving forces for a reaction to occur?

6. Identify the following types of reactions, then balance them:



7. Write an equation for the following reactions, then balance them.

A. Sodium combines with chlorine to produce sodium chloride.

B. When solid copper reacts with aqueous silver nitrate, the products are aqueous copper II nitrate and silver metal.

C. Solid iron III oxide and carbon monoxide gas produce iron metal and carbon dioxide gas.

D. Sulfuric acid and sodium hydroxide react to form sodium sulfate and water.

E. Vanadium II oxide with iron III oxide results in the formation of vanadium V oxide and iron II oxide.

8. Directions: Circle the element that is more reactive and would replace the other in a single replacement reaction. (1pt each)

1. aluminum, potassium
2. bromine, fluorine
3. iron, copper

9. Directions: Indicate which of the following compounds would form precipitates by writing (p) or (aq) to indicate solutions. (1pt each)

1. Calcium Nitrate _____
2. Iron (II) Chlorate _____
3. $Ba(CH_3COO)_2$ _____
4. $Zn_3(PO_4)_2$ _____

10. Solve the following stoichiometry problems:

Book pg. 261 # 14, 16 (could do more for extra practice if needed)

11. Limiting Reagent Problems :

Pg. 264 # 46 (could do more for extra practice if needed)

12. Percent yield:

Pg 265 # 64 (could do more for extra practice if needed)

12. Know the Gas Law Equations & How to solve problems with them