

NAME _____

Hour _____

Date _____

Chemical Reactions

Chapter 8

PART ONE



Practice C

Assessment

Objective 1: Write equations describing chemical reactions using appropriate symbols.

Directions: Write a *complete balanced* equation for each chemical reaction. Include all appropriate symbols to fully describe the reaction.

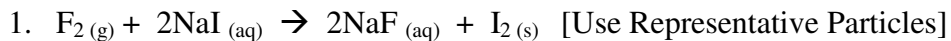
1. Solid magnesium hydrogen carbonate reacts with hydrochloric acid to produce aqueous magnesium chloride, water, and carbon dioxide gas.
2. When solid potassium is added to water, hydrogen gas and aqueous potassium hydroxide are produced.
3. Heating calcium chlorate, in the presence of the catalyst platinum metal, produces oxygen gas. Calcium chloride is left as a solid residue.
4. Bubbling bromine liquid through a solution of potassium iodide gives elemental iodine and a solution of potassium bromide.
5. Bubbles of hydrogen gas and aqueous iron (III) fluoride are produced when metallic iron is dropped into hydrofluoric acid.

Score Box:

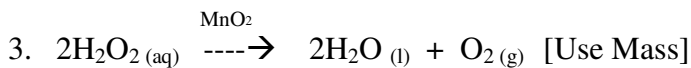
☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ 0

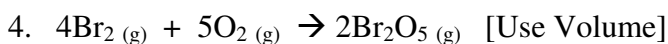
Objective 2: Write a sentence that completely describes a chemical reaction.

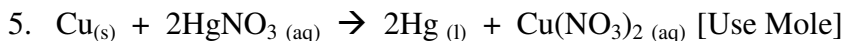
Directions: Write a sentence that completely describes each of the following chemical equations











Score Box:

☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ 0

Objective 3: Identify the pattern of a chemical reaction.

Directions: Identify the following reactions as a combination, decomposition, single-replacement, double-replacement, complete combustion, or an incomplete combustion.

1. _____ $3\text{Ag}_2\text{SO}_4 (\text{aq}) + 2\text{AlCl}_3 (\text{aq}) \rightarrow 6\text{AgCl} (\text{s}) + \text{Al}_2(\text{SO}_4)_3 (\text{aq})$
2. _____ $\text{C}_4\text{H}_8 (\text{g}) + 6\text{O}_2 (\text{g}) \rightarrow 4\text{CO}_2 (\text{g}) + 4\text{H}_2\text{O} (\text{l})$
3. _____ $\text{Zn} (\text{s}) + 2\text{AgNO}_3 (\text{aq}) \rightarrow \text{Zn}(\text{NO}_3)_2 (\text{aq}) + 2\text{Ag} (\text{s})$
4. _____ $2\text{KClO}_3 (\text{s}) \rightarrow 2\text{KCl} (\text{s}) + 3\text{O}_2 (\text{g})$
5. _____ $4\text{Fe} (\text{s}) + 3\text{O}_2 (\text{g}) \rightarrow 2\text{Fe}_2\text{O}_3 (\text{s})$

Score Box:

☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ 0

Objective 4: Distributed Practice

Directions: Answer the following questions correctly. Show all work, including units, for mole calculations.

1. Indicate what type of compound (ionic or molecular) for the following substances:
 - a. Iron (III) chloride _____
 - b. Dichlorine monofluoride _____
 - c. CO_3 _____
 - d. LiI _____
2. How many oxygen atoms are in 4 Liters of carbon dioxide gas?
3. What is the density of trichlorine tetraoxide gas at STP?
4. Indicate if the following are chemical or physical changes:
 - a. Adding tin metal to a dish and weighing _____
 - b. Dissolving sodium chloride into water _____
 - c. Forming a precipitate from two aqueous solutions _____
 - d. Oxidizing tin by use of nitric acid _____
5. Determine the molecular formula for a compound with the percent composition of 32.00% Carbon, 42.66% Oxygen, 18.67 % Nitrogen and 6.67% Hydrogen by mass. The molecular mass is 225 g/mol.

Score Box:

☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ 0