CHM 1010

GAGE

Practice Sheet for Chemical Reactions

- 1. For each chemical equation below:
 - a complete if necessary
 - b) balance
 - c) classify the reaction type as combination (synthesis), decomposition (analysis), single replacement, double replacement or oxidation-reduction

$$O_3$$
 -----> O_2

$$Zn + HCl -----> ZnCl_2 + H_2$$

$$S_8$$
 + O_2 -----> SO_2

$$NH_3 + CuO \longrightarrow Cu + N_2 + H_2O$$

$$Na_2SO_4 + AlPO_4 ----->$$

$$N_2$$
 + H_2 -----> NH_3

$$Na_2CO_3$$
 -----> Na_2O + CO_2

$$Fe_2O_3$$
 + CO -----> Fe + CO_2

$$C_2H_6O$$
 + O_2 -----> CO_2 + H_2O

$$Li_2HPO_4 + Pb(NO_3)_2 ---->$$

$$C_4 H_{10} O_2 \quad + \ O_2 \quad -----> \quad C O_2 \quad + \ H_2 O$$

2. Write each of the following equations in word form or translate the equation from word form to symbolic form. Be sure each symbolic form is balanced.

aqueous barium nitrate reacts with aqueous sodium sulfate to form solid barium sulfate and aqueous sodium nitrate

$$H_2SO_4 + Al_2(CO_3)_3$$
 (aq) ------ $Al_2(SO_4)_3$ (aq) + CO_2 (g) + H_2O (l)

solid sodium metal reacts with water to form aqueous sodium hydroxide and hydrogen gas

3. Look at the boxes below. Box A represents the materials before reaction and Box B represents materials after the reaction has gone to completion. Write the balanced chemical equation for the reaction that has taken place.

