## Warm Up

$$2Al_{(s)} + 3H_{2}SO_{4(aq)} \longrightarrow 3H_{2(g)} + Al_{2}(SO_{4})_{3(aq)}$$

$$4NH_{3(g)} + 7O_{2(g)} \longrightarrow 6H_{2}O_{(g)} + 4NO_{2(g)}$$

$$2C_{8}H_{18(l)} + 25O_{2(g)} \longrightarrow 8H_{2}O_{(g)} + 8CO_{2(g)}$$

## **Check Homework - Worksheet**

(8) 
$$C_{4} \cdot 2H_{2}O + 2SO_{3} \rightarrow G_{5}O_{4} + 2H_{2}SO_{4}$$

$$4 \quad 4 \quad 8$$

$$12 \quad 12$$

## **Types of Chemical Reactions**

There are five types of chemical reactions:

- I. Formation/Combinationreactions occur when two substances (normally elements) react to form an ionic or molecular compound
- -when a metal and nonmetal react, the product will be the ionic compound formed by the most common ions.

$$\begin{array}{ccc} \text{Mg}^{\text{2+}} & \text{O}^{\text{2-}} \\ \text{Ex2Mg}_{(s)} & + \text{O}_{2(g)} & \rightarrow \text{2MgOs} \\ \text{metal} & \text{elements} \\ \text{reactants} & \text{compound} \\ \end{array}$$

II. A decomposition reaction is the result of an ionic or molecular compound breaking down into its elements. ⇒it is the reverse of a formation reaction

Ex. 
$$2H_2O_{(1)} \rightarrow 2H_2(g) + O_{2(g)}$$

compound elements products

Water  $\rightarrow$  hydrogen + oxygen

$$Cu^{2+} O^{2-}$$
Capper (11) oxide  $\longrightarrow$ 

K+ N<sup>3</sup>-
$$6K_{(s)} + N_{2(g)} \longrightarrow 2K_3N_{(s)}$$

$$Pb^{2+} O^{2-}$$

$$2Pb_{(s)} + O_{2(g)} \longrightarrow 2PbO_{(s)}$$

$$C_6H_{12}O_{6(s)} \longrightarrow (C_{(s)} + (H_{2(g)} + 3O_{2(g)})$$

## Homework

Worksheet