

**PROJECT WORK-1**  
**CHEMICAL REACTIONS AND EQUATIONS**

Write the word equations for each of the following chemical reactions:

- When dissolved beryllium chloride reacts with dissolved silver nitrate in water, aqueous beryllium nitrate and silver chloride powder are made.
- When dissolved sodium hydroxide reacts with sulfuric acid ( $\text{H}_2\text{SO}_4$ ), aqueous sodium sulfate, water, and heat are formed.
- When fluorine gas is put into contact with calcium metal at high temperatures, calcium fluoride powder is created in an exothermic reaction.
- When sodium metal reacts with iron (II) chloride, iron metal and sodium chloride are formed.

Observe the following equations and indicate the type of reaction taking place:

- $3\text{NaBr} + \text{H}_3\text{PO}_4 \rightarrow \text{Na}_3\text{PO}_4 + 3 \text{HBr}$  Type of reaction: \_\_\_\_\_
- $3\text{Mg} + \text{Fe}_2\text{O}_3 \rightarrow 2 \text{Fe} + 3 \text{MgO}$  Type of reaction: \_\_\_\_\_
- $\text{C}_2\text{H}_4 + 3\text{O}_2 \rightarrow 2 \text{CO}_2 + 2 \text{H}_2\text{O}$  Type of reaction: \_\_\_\_\_
- $2 \text{PbSO}_4 \rightarrow 2\text{PbSO}_3 + \text{O}_2$  Type of reaction: \_\_\_\_\_
- $2\text{NH}_3 + 3\text{I}_2 \rightarrow \text{N}_2\text{I}_6 + 3\text{H}_2$  Type of reaction: \_\_\_\_\_
- $\text{H}_2\text{O} + \text{SO}_3 \rightarrow \text{H}_2\text{SO}_4$  Type of reaction: \_\_\_\_\_

Balance the following equations:

- \_\_\_  $\text{NaNO}_3$  + \_\_\_  $\text{PbO} \rightarrow$  \_\_\_  $\text{Pb}(\text{NO}_3)_2$  + \_\_\_  $\text{Na}_2\text{O}$
- \_\_\_  $\text{AgI} +$  \_\_\_  $\text{Fe}_2(\text{CO}_3)_3 \rightarrow$  \_\_\_  $\text{FeI}_3$  + \_\_\_  $\text{Ag}_2\text{CO}_3$
- \_\_\_  $\text{C}_2\text{H}_4\text{O}_2 +$  \_\_\_  $\text{O}_2 \rightarrow$  \_\_\_  $\text{CO}_2$  + \_\_\_  $\text{H}_2\text{O}$
- \_\_\_  $\text{ZnSO}_4 +$  \_\_\_  $\text{Li}_2\text{CO}_3 \rightarrow$  \_\_\_  $\text{ZnCO}_3$  + \_\_\_  $\text{Li}_2\text{SO}_4$
- \_\_\_  $\text{V}_2\text{O}_5 +$  \_\_\_  $\text{CaS} \rightarrow$  \_\_\_  $\text{CaO} +$  \_\_\_  $\text{V}_2\text{S}_5$
- \_\_\_  $\text{Mn}(\text{NO}_2)_2 +$  \_\_\_  $\text{BeCl}_2 \rightarrow$  \_\_\_  $\text{Be}(\text{NO}_2)_2$  + \_\_\_  $\text{MnCl}_2$
- \_\_\_  $\text{AgBr} +$  \_\_\_  $\text{GaPO}_4 \rightarrow$  \_\_\_  $\text{Ag}_3\text{PO}_4$  + \_\_\_  $\text{GaBr}_3$
- \_\_\_  $\text{H}_2\text{SO}_4 +$  \_\_\_  $\text{B}(\text{OH})_3 \rightarrow$  \_\_\_  $\text{B}_2(\text{SO}_4)_3$  + \_\_\_  $\text{H}_2\text{O}$
- \_\_\_  $\text{S}_8 +$  \_\_\_  $\text{O}_2 \rightarrow$  \_\_\_  $\text{SO}_2$
- \_\_\_  $\text{Fe} +$  \_\_\_  $\text{AgNO}_3 \rightarrow$  \_\_\_  $\text{Fe}(\text{NO}_3)_2$  + \_\_\_  $\text{Ag}$