

1. Identify the type of reaction each of the following belongs to.

In Class Activities

- $\text{AlCl}_3(\text{aq}) + \text{Na}_2\text{CO}_3(\text{aq}) \rightarrow \text{Al}_2(\text{CO}_3)_3(\text{s}) + \text{NaCl}(\text{aq})$
- $\text{Cl}_2 + \text{P} \rightarrow \text{PCl}_3$
- $\text{C}_8\text{H}_{18} + \text{O}_2 \rightarrow \text{CO}_2 + \text{H}_2\text{O}$
- $\text{Li}_2\text{S} + \text{Br}_2 \rightarrow 2\text{LiBr} + \text{S}$
- $\text{H}_2\text{CO}_3 \rightarrow \text{H}_2\text{O} + \text{CO}_2$

Outside of Class

- $\text{Ba}(\text{C}_2\text{H}_3\text{O}_2)_2(\text{aq}) + 2\text{HNO}_3(\text{aq}) \rightarrow \text{Ba}(\text{NO}_3)_2(\text{aq}) + 2\text{HC}_2\text{H}_3\text{O}_2(\text{aq})$
- $\text{H}_2\text{S}(\text{g}) \rightarrow \text{H}_2(\text{g}) + \text{S}(\text{s})$
- $\text{Pb} + 2\text{CuCl} \rightarrow \text{PbCl}_2 + \text{Cu}$
- $\text{CH}_2\text{CO}(\text{g}) + 2\text{O}_2(\text{g}) \rightarrow 2\text{CO}_2(\text{g}) + \text{H}_2\text{O}(\text{g})$
- $\text{HCl} + \text{NaOH} \rightarrow \text{NaCl} + \text{H}_2\text{O}$

2. Balance the Following Equations. Remember tricks for combustion, single and double replacement reactions.

- Write out and balance the following equation describing the following reaction:
Barium phosphate and ammonium chlorate are produced when ammonium phosphate reacts with barium chlorate.

b. Write out and balance the equation for the combustion of propane (C_3H_8)

c. Write out and balance the equation for the combustion of butane (C_4H_{10})

d. Write out and balance the equation for the combustion of ethanol (C_2H_5OH)

e. Write out and balance the equation describing the formation of calcium phosphate from the reaction of phosphoric acid and calcium hydroxide. Water is the other product.

***Do the following problems on your own time.**

- a. $\text{___Pb(NO}_3\text{)}_2\text{(aq) + ___KI(aq) \rightarrow ___PbI}_2\text{(s) + ___KNO}_3\text{(aq)}$
- b. $\text{___C}_8\text{H}_{18} + \text{___O}_2 \rightarrow \text{___CO}_2 + \text{___H}_2\text{O}$
- c. $\text{___AlCl}_3\text{(aq) + ___Na}_2\text{CO}_3\text{(aq) \rightarrow ___Al}_2\text{(CO}_3\text{)}_3\text{(s) + ___NaCl(aq)}$
- d. $\text{___P}_2\text{O}_5 + \text{___H}_2\text{O} \rightarrow \text{___H}_3\text{PO}_4$
- e. $\text{___Na}_3\text{PO}_4 + \text{___Ba(NO}_3\text{)}_2 \rightarrow \text{___Ba}_3\text{(PO}_4\text{)}_2 + \text{___NaNO}_3$
- f. $\text{___Al} + \text{___Fe(NO}_3\text{)}_2 \rightarrow \text{___Al(NO}_3\text{)}_3 + \text{___Fe}$
- g. $\text{___Al}_2\text{O}_3 + \text{___H}_2\text{SO}_4 \rightarrow \text{___Al}_2\text{(SO}_4\text{)}_3 + \text{___H}_2\text{O}$
- h. $\text{___H}_2\text{S} + \text{___SO}_2 \rightarrow \text{___S} + \text{___H}_2\text{O}$
- i. $\text{___C}_9\text{H}_{20} + \text{___O}_2 \rightarrow \text{___CO}_2 + \text{___H}_2\text{O}$
- j. Decomposition of ammonium carbonate into ammonia, carbon dioxide and water.
- k. Formation of Chlorine trifluoride from chlorine and fluorine
- l. Formation of Silicon dioxide and hydrochloric acid from silicon tetrachloride and water
- m. Copper reacts with silver nitrate to form copper(II)nitrate and silver.