Name : ._____

Date : -----

Balancing Chemical Equations Worksheet

Part A. Balance the following chemical equations.

1) _____ HCl + ____ CaCO₃
$$\rightarrow$$
 ____ CaCl₂ + ____ H₂O + ____ CO₂

2) _____
$$HNO_3 +$$
____ $NaHCO_3 \rightarrow$ ____ $NaNO_3 +$ ____ $H_2O +$ ___ CO_2

3) _____
$$H_2O +$$
____ $O_2 \rightarrow$ ____ H_2O

4) _____ NaBr + ____ CaF₂
$$\rightarrow$$
 ____ NaF + ____ CaBr₂

5) _____
$$H_2SO_4 +$$
 ____ $NaNO_2 \rightarrow$ ____ $HNO_2 +$ ____ Na_2SO_4

Part B. Write and balance the following chemical equations.

- 1) Lithium sulfate and water are formed when lithium hydroxide pellets are added to a sulfuric acid solution.
- 2) Magnesium reacts with sodium fluoride to produce magnesium fluoride and elemental sodium.
- 3) If a copper coil is placed into a solution of silver nitrate, silver crystals form, and copper (l) nitrate is generated.
- 4) Carbon dioxide and water vapor form when crystalline $C_6H_{12}O_6$ is burned in oxygen.
- 5) Calcium carbonate combines with hydrochloric acid to produce calcium chloride, water, and carbon dioxide gas.

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Balancing Chemical Equations Worksheet

Answers

1) $\underline{}$ HCl + $\underline{}$ CaCO₃ \rightarrow $\underline{}$ CaCl₂ + $\underline{}$ H₂O + $\underline{}$ CO₂

2)
$$1 \text{ HNO}_3 + 1 \text{ NaHCO}_3 \rightarrow 1 \text{ NaNO}_3 + 1 \text{ H}_2O + 1 \text{ CO}_2$$

3)
$$2 H_2O + 1 O_2 \rightarrow 2 H_2O$$

4)
$$_{2}$$
 NaBr + $_{1}$ CaF₂ \rightarrow $_{2}$ NaF + $_{1}$ CaBr₂

5)
$$1 H_2SO_4 + 2 NaNO_2 \rightarrow 2 HNO_2 + 1 Na_2SO_4$$

1) Lithium sulfate and water are formed when lithium hydroxide pellets are added to a sulfuric acid solution.

$$2 \text{ LiOH (s)} + \text{H}_2\text{SO}_4(\text{aq.}) \rightarrow \text{Li}_2\text{SO}_4 + 2 \text{ H}_2\text{O (l)}$$

2) Magnesium reacts with sodium fluoride to produce magnesium fluoride and elemental sodium.

$$Mg(s) + 2 NaF \rightarrow MgF_2 + 2 Na$$

3) If a copper coil is placed into a solution of silver nitrate, silver crystals form, and copper (l) nitrate is generated.

$$Cu(s) + AgNO_3(aq.) \rightarrow Ag(s) + CuNO_3(aq.)$$

4) Carbon dioxide and water vapor form when crystalline $C_6H_{12}O_6$ is burned in oxygen.

$$C_3H_{12}O_6(s) + 9O_2(g) \rightarrow 6CO_2(g) + 6H_2O(l)$$

5) Calcium carbonate combines with hydrochloric acid to produce calcium chloride, water, and carbon dioxide gas.

$$CaCO_3(s) + 2 HCl(aq.) \rightarrow CaCl_2(aq.) + CO_2(g)$$