Chemical Word Equations Practice Name: _____

Write a chemical equation describing each of the following chemical reactions. Next, balance each equation. Finally, include the reaction type for each.

a. Solid calcium carbonate is heated and decomposes to solid calcium oxide and carbon dioxide gas.

b. Gaseous butane, C_4H_{10}, reacts with diatomic oxygen gas to yield gaseous carbon dioxide and water vapor.

c. Aqueous solutions of magnesium chloride and sodium hydroxide react to produce solid magnesium hydroxide and aqueous sodium chloride.

d. Water vapor reacts with sodium metal to produce solid sodium hydroxide and hydrogen gas.

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Answer a

$CaCO_3(s) \rightarrow CaO(s) + CO_2(g)$ (Decomposition)

Answer b

$2C_4H_{10}(g) + 13O_2(g) \rightarrow 8CO_2(g) + 10H_2O(g)$ (Combustion)

Answer c

$MgCl_2(aq) + 2NaOH(aq) \rightarrow Mg(OH)_2(s) + 2NaCl(aq)$ (Double Replacement)

Answer d

$2H_2O(g) + 2Na(s) \rightarrow 2NaOH(s) + H_2(g)$ (Single replacement)