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## SCH 3U Balancing Quiz

Write balanced chemical equation for each word description.

1. single replacement between aluminum and silver carbonate

$$2A1 + 3Ag_2CO_3 \rightarrow Al_2(CO_3)_3 + 6Ag$$

2. double displacement that  $\underline{\textbf{results}}$  in calcium phosphate and potassium bromide

$$3CaBr_2 + 2K_3PO_4 \rightarrow Ca_3(PO_4)_2 + 6KBr$$

3. decomposition of sodium carbonate produces a gas and an ionic compound  $\ensuremath{\mathsf{S}}$ 

$$Na_2CO_3$$
  $\rightarrow$   $Na_2O$  +  $CO_2$ 

4. synthesis of ammonium nitrate from its elements

$$2N_2 + 4H_2 + 3O_2 \rightarrow 2NH_4NO_3$$

5. combustion of hexane  $(C_6H_{14})$ 

$$2C_6H_{14} + 19O_2 \rightarrow 12CO_2 + 14H_2O$$

6. double displacement between osmium (VI) carbonate and potassium phosphite

$$Os(CO_3)_3 + 2K_3PO_3 \rightarrow Os(PO_3)_2 + 3K_2CO_3$$

7. combustion of decane  $(C_{10}H_{22})$ 

$$2C_{10}H_{22} + 31O_2 \rightarrow 20CO_2 + 22H_2O$$

8. single replacement between chromium (III) oxide and chlorine

$$2Cr_2O_3 + 6Cl_2 \rightarrow 4CrCl_3 + 3O_2$$

9. decomposition of gallium hydroxide to form a common molecule and an ionic compound composed of only two elements

$$2Ga(OH)_3 \rightarrow Ga_2O_3 + 3H_2O$$
 (2GaOH  $\rightarrow Ga_2O + H_2O$ )

10. synthesis of calcium hydroxide from two starting materials

$$CaO + H_2O \rightarrow Ca(OH)_2$$

11. Bonus

$$Cu + HNO_3 \Rightarrow Cu(NO_3)_2 + NO_2 + H_2O$$