

CHAPTER 2 TEST REVIEW - ANSWER KEY

1. a) neutralization
- b) synthesis
- c) synthesis
- d) decomposition
- e) neutralization
- f) double replacement
- g) single replacement
- h) single replacement
- i) double replacement
- j) combustion

2. a) $2\text{Al} + 3\text{F}_2 \rightarrow 2\text{AlF}_3$ synthesis
- b) $4\text{K} + \text{O}_2 \rightarrow 2\text{K}_2\text{O}$ synthesis
- c) $2\text{C}_2\text{H}_6 + 7\text{O}_2 \rightarrow 4\text{CO}_2 + 6\text{H}_2\text{O}$ combustion
- d) $\text{C}_6\text{H}_{12}\text{O}_4 + 7\text{O}_2 \rightarrow 6\text{CO}_2 + 6\text{H}_2\text{O}$ combustion
- e) $2\text{Rb}_2\text{O} \rightarrow 4\text{Rb} + \text{O}_2$ decomposition
- f) $\text{SrF}_2 \rightarrow \text{Sr} + \text{F}_2$ decomposition
- g) $\text{BaCl}_2 + \text{Pb}(\text{NO}_3)_2 \rightarrow \text{PbCl}_2 + \text{Ba}(\text{NO}_3)_2$ double replacement
- h) $2\text{AgNO}_3 + \text{K}_2\text{Cr}_2\text{O}_7 \rightarrow 2\text{KNO}_3 + \text{Ag}_2\text{Cr}_2\text{O}_7$ double replacement
- i) $\text{Br}_2 + 2\text{NiI}_3 \rightarrow 2\text{NiBr}_3 + \text{I}_2$ single replacement
- j) $3\text{Cl}_2 + \text{Mg}_3\text{N}_2 \rightarrow 3\text{MgCl}_2 + \text{N}_2$ single replacement
- k) $2\text{HCl} + \text{Mo}(\text{OH})_2 \rightarrow 2\text{H}_2\text{O} + \text{MoCl}_2$ neutralization
- l) $\text{Sn}(\text{OH})_2 + 2\text{HClO}_3 \rightarrow 2\text{H}_2\text{O} + \text{Sn}(\text{ClO}_3)_2$ neutralization
- m) $2\text{Al} + 3\text{CuI}_2 \rightarrow 3\text{Cu} + 2\text{AlI}_3$ single replacement
- n) $\text{Mg} + \text{FeF}_2 \rightarrow \text{MgF}_2 + \text{Fe}$ single replacement

- 3.
- decomposition
 - synthesis
 - neutralization
 - single replacement
 - combustion
 - double replacement or neutralization
 - single replacement or combustion

- 4.
- Concentration
 - Surface area
 - temperature
 - catalyst
 - concentration (more gas being released)
 - catalyst
 - Surface area
 - Concentration

- 5.
- $4 \text{Li} + \text{O}_2 \rightarrow 2 \text{Li}_2\text{O}$ synthesis
 - $3 \text{Mg} + 2 \text{AlCl}_3 \rightarrow 3 \text{MgCl}_2 + 2 \text{Al}$ single replacement
 - $2 \text{C}_4\text{H}_{10} + 13 \text{O}_2 \rightarrow 8 \text{CO}_2 + 10 \text{H}_2\text{O}$ combustion
 - $\text{HCl} + \text{LiOH} \rightarrow \text{LiCl} + \text{H}_2\text{O}$ neutralization
 - $2 \text{Al}_2\text{O}_3 \rightarrow 4 \text{Al} + 3 \text{O}_2$ decomposition
 - $4 \text{Sn} + 3 \text{Au}(\text{NO}_3)_3 \rightarrow 4 \text{Sn}(\text{NO}_3)_4 + 3 \text{Au}$ single replacement
 - $2 \text{Ba}(\text{OH})_2 + \text{PbBr}_4 \rightarrow \text{Pb}(\text{OH})_4 + 2 \text{BaBr}_2$ double replacement
 - $\text{C}_3\text{H}_8\text{O}_3 + 5 \text{O}_2 \rightarrow 3 \text{CO}_2 + 4 \text{H}_2\text{O}$ combustion
 - $\text{N}_2 + 2 \text{O}_2 \rightarrow 2 \text{NO}_2$ synthesis

6. If you are dealing with a gas, you cannot increase the surface area any more than it already is. In order to increase reactions using gases, you can either add heat, increase concentration, or expose it to a catalyst.

7. Surface area = most important
Temperature = 2nd most important
Concentration = Least important