**Chapter 21 Study Guide**

**A. Label the products, reactants, and yield sign in the following reaction:**

P4 + 3 O2 🡪 2 P2O3

**B. Explain the law of conservation of mass.**

**C. In the following chemical reactions, circle the coefficients and draw a square around the subscripts**

2C3H9O + 5O2 🡪 6CO2 + 9H2

SeCl6 + O2 🡪 SeO2 + 3Cl2

**D. In the following compounds, determine how many of each element you have:**

H2SO4 4Li3N 2C6H12

**E. Balance the following equations:**

1. \_\_\_\_\_ NO2 🡪 \_\_\_\_\_\_ O2 + \_\_\_\_\_ N2

2. \_\_\_\_\_\_\_P4 + \_\_\_\_ O2 🡪 \_\_\_\_\_\_ P2O3

3. \_\_\_\_ Cu2O + \_\_\_\_ C  \_\_\_\_ Cu + \_\_\_\_ CO2

4. \_\_\_\_ H2O2  \_\_\_\_H2O + \_\_\_\_O2

5. \_\_\_\_ Al + \_\_\_\_Fe3N2  \_\_\_ AlN + \_\_\_\_ Fe

6. \_\_\_\_Ag2S  \_\_\_\_Ag + \_\_\_\_ S8

**F. Indicate which type of chemical reaction (synthesis, decomposition, single-displacement, or double-displacement) is being represented**

 Reaction Type:

1. P4 + 3 O2 🡪 2 P2O3 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. SeCl6 + O2 🡪 SeO2 + 3Cl2 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. 2 NO2 🡪 2 O2 + N2 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. 2Be + O2 🡪 2BeO \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. FeCl3 + Na2CO3  Fe2(CO3)3 + NaCl             \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**G. Define the following terms**

* Exergonic reactions:
* Endergonic reactions:
* Exothermic reactions:
* Endothermic reactions:
* Catalyst:
* Inhibitor: