Name Key Unit 7: Rxns and Stoich I Can Statements Period____

____1. I can balance a chemical equation showing conservation of mass using the lowest whole number coefficients.	Balance the following chemical equation using the lowest whole number coefficients. 14 10 2 (1 C_7H_{10} + 19 O_2 → 7 CO_2 + 5 H_2O) 2 9.5 19 ← Final Answer 2 + 19 → 14 + 10 1 $Al_2(SO_4)_3$ + 3 $Ca(OH)_2$ ----> 2 $Al(OH)_3$ + 3 $CaSO_4$
____2. Given a list of chemical reactions, I can classify them as being a synthesis reaction, decomposition reaction, single replacement reaction, or double replacement reaction.	Classify the following reactions as synthesis, decomposition, single replacement, or double replacement. A) $Mg + 2AgNO_3 \rightarrow Mg(NO_3)_2 + 2Ag$ SR B) $2Mg + O_2 \rightarrow 2MgO$ S C) $MgCO_3 \rightarrow MgO + CO_2$ D D) $MgCl_2 + 2AgNO_3 \rightarrow 2AgCl + Mg(NO_3)_2$ DR
____3. Given reactants and the typed of reaction, I can determine the products of a reaction	**Single Replacement: Include PHASE** $K + Zn(NO_3)_2 \rightarrow KNO_3(aq) + Zn(s)$ $Li + Mg(OH)_2 \rightarrow LiOH(aq) + Mg(s)$ **Double Replacement : Include PHASE** $NaOH + PbNO_3 \rightarrow NaNO_3(aq) +$ **Pb(OH)2 (s)** **Synthesis: Include PHASE** $H_2 + Br_2 \rightarrow HBr(aq)$ **Decomposition: Include PHASE** $NO \rightarrow N_2(g) + O_2(g)$ **Combustion: Include PHASE** $C_2H_2 + O_2 \rightarrow CO_2 + H_2O$

___4 Given a compound, I can use Table F to determine its solubility	PbI_2 S $CoCl_3$ aq $BaSO_4$ S NaCl aq AgOH S Li_3PO_4 (aq)

____5. Given a balanced equation, I can state the mole ratios between any of the reactants and/or products.	Given the following balanced equation, state the mole ratios between the requested substances. $C_3H_8(g) + 5O_2(g) \longrightarrow 3CO_2(g) + 4H_2O(l)$ The mole ratio between C_3H_8 and O_2 is 1 C_3H_8: 5 O_2. The mole ratio between C_3H_8 and CO_2 is 1 C_3H_8: 3 CO_2. The mole ratio between C_3H_8 and H_2O is 1 C_3H_8: 4 H_2O. The mole ratio between CO_2 and O_2 is 3 CO_2: 5 O_2. The mole ratio between H_2O and CO_2 is 4 H_2O : 3 CO_2.
____6. I can define stoichiometry.	**Definition:** Stoichiometry: Mole ratio BTW elements and compounds in a rxn
____7 Given the number of moles of one of the reactants or products, I can determine the number of moles of another reactant or product that is needed to completely use up the given reactant/product.	Using the equation from question #5, determine how many moles of O_2 are needed to completely react with 7.0 moles of C_3H_8. $7\,mol\,C_3H_8 \cdot \frac{5\ O_2}{1\ C_3H_8} = 35\ mol\ O_2$ Using the equation from question #5, determine how many moles of CO_2 are produced when 7.0 moles of C_3H_8 completely react. $7\,mol\,C_3H_8 \cdot \frac{3\ CO_2}{1\ C_3H_8} = 21\ mol\ CO_2$