

Name _____ Period _____

College Prep Chemistry of the Earth

Assignment 4E – Types of Reactions – Combination and Decomposition

20 Points

Answer the following questions

Define Combination Reaction	Define Decomposition Reaction
Combination Reaction General Form	Decomposition Reaction General Form
Define Diatomic Element	Define Chemical Reaction Ratio
Combo: $A + B \rightarrow AB$ Decomp: $AB \rightarrow A + B$	$\text{--- } A + \text{--- } B \rightarrow \text{--- } AB$ Ratio $\text{---} = 1$

For the following reactions, determine the reaction type, write the general form for the reaction, then identify A, B, and AB from each reaction.

$Ba + S \rightarrow BaS$				$2Al + 3Cl_2 \rightarrow 2AlCl_3$			
Reaction Type	Combo Rxn			Reaction Type			
General Form	$A + B \rightarrow AB$			General Form			
A	Ba	B	S	A		B	
AB	BaS	Ratio	1:1:1	AB		Ratio	

$3Cu^{2+} + 2PO_4^{3-} \rightarrow Cu_3(PO_4)_2$				$Pb^{4+} + O_2 \rightarrow PbO_2$			
Reaction Type	Combo Rxn.			Reaction Type			
General Form	$A + B \rightarrow AB$			General Form			
A	Cu^{2+}	B	PO_4^{3-}	A		B	
AB	$Cu_3(PO_4)_2$	Ratio	3:2:1	AB		Ratio	

$2\text{HF} \rightarrow \text{H}_2 + \text{F}_2$		$2\text{NH}_3 \rightarrow \text{N}_2 + 3\text{H}_2$	
Reaction Type		Reaction Type	Decomp. Rxn
General Form		General Form	$\text{AB} \rightarrow \text{A} + \text{B}$

A		B		A	N_2	B	H_2
AB		Ratio		AB	NH_3	Ratio	

$\text{CaCO}_3 \rightarrow \text{Ca}^{2+} + \text{CO}_3^{2-}$		$\text{Zn}_3\text{PO}_4 \rightarrow 3\text{Zn} + \text{PO}_4^{3-}$	
Reaction Type		Reaction Type	
General Form		General Form	

A		B		A		B	
AB		Ratio		AB		Ratio	