Name _____ Period _____

College Prep Chemistry of the Earth

Assignment 4I – Comparing Combination and Decomposition Reactions 20 Points

For the following reactions, label each reaction based on its type
[*combination, decomposition, ionization*]

Reaction	$H_2O(l) \rightarrow H^+(aq) + O^{2-}(aq)$
Type	

Reaction	$H_2O(l) \rightarrow H_2(g) + O_2(g)$
Type	

Reaction	$Cu^{3+}(aq) + Cl^{1-}(aq) \rightarrow CuCl_3(s)$
Type	

Reaction	$H_2(g) + Cl_2(g) \rightarrow HCl(g)$
Type	

For the following reactions, write the products of each reaction following the template provided. Show work for ionic compound

Combination Reaction

Reaction	$Ca + PO_4^{3-} \rightarrow$		
A + B → AB			
A		B	

Formula	A	B
Ion Charge		
Cross Method		
AB		

Combination Reaction

Reaction	$NH_4^{1+} + F_2 \rightarrow$		
A + B → AB			
A		B	

Formula	A	B
Ion Charge		
Cross Method		
AB		

Decomposition Reaction

Reaction	$N_2O_3 \rightarrow$		
AB → A + B			
AB			
A		B	

Ionization Reaction [SO_4^{2-}]

Reaction	$H_2SO_4 \rightarrow$		
AB → A + B			
AB			
A		B	

Combination Reaction

Reaction	$Fe^{3+} + C_2H_3O_2^{1-}$ →		
A	+	B	→ AB
A		B	

Formula	A	B
Ion Charge		
Cross Method		
AB		

Combination Reaction

Reaction	$H_3O^{1+} + Cr_2O_7^{2-}$ →		
A	+	B	→ AB
A		B	

Formula	A	B
Ion Charge		
Cross Method		
AB		

Decomposition Reaction

Reaction	C_3P_4 →		
AB	→	A	+ B
AB			
A		B	

Ionization Reaction [$CO_3 = -2$]

Reaction	$Al_2(CO_3)_3$ →		
AB	→	A	+ B
AB			
A		B	