

Name _____ Period _____

College Prep Chemistry of the Earth

Assignment 6F – Double Molar Conversion Review

20 Points

For the following chemical reactions, complete the chart and perform the following conversions

Chemical Equation	$\text{Cu}_2(\text{CO}_3)_3 + \text{Ag}_3\text{PO}_4 \rightarrow \text{CuPO}_4 + \text{Ag}_2\text{CO}_3$						
Molar Ratio	mol $\text{Cu}_2(\text{CO}_3)_3$	=	mol Ag_3PO_4	=	mol CuPO_4	=	mol Ag_2CO_3

Copper(III)Carbonate [$\text{Cu}_2(\text{CO}_3)_3$]		
Element	#	Molar Mass
Copper (Cu)		
Carbon (C)		
Oxygen (O)		
Copper(III)Carbonate [$\text{Cu}_2(\text{CO}_3)_3$]		

Copper(III)Phosphate [CuPO_4]		
Element	#	Molar Mass
Copper (Cu)		
Phosphorous (P)		
Oxygen (O)		
Copper(III)Phosphate [CuPO_4]		

Convert 374.28g $\text{Cu}_2(\text{CO}_3)_3$ to mol $\text{Cu}_2(\text{CO}_3)_3$	
mol $\text{Cu}_2(\text{CO}_3)_3$	

Convert ____ mol $\text{Cu}_2(\text{CO}_3)_3$ to mol Ag_2CO_3	
mol Ag_2CO_3	

Convert 2.17mol Ag_3PO_4 to mol CuPO_4	
mol CuPO_4	

Convert ____ mol CuPO_4 to mass CuPO_4	
Mass CuPO_4	

Convert 84.29L CuPO_4 to mol CuPO_4	
mol CuPO_4	

Convert ____ mol CuPO_4 to mol Ag_3PO_4	
mol Ag_3PO_4	

Chemical Equation	$2V_2O_3 + 3Cl_2 \rightarrow 2VCl_3 + 3O_2$						
Molar Ratio	mol V_2O_3	=	mol Cl_2	=	mol VCl_3	=	mol O_2

Convert 52.84L Cl_2 to mol Cl_2		Convert ____ mol Cl_2 to mol VCl_3	
mol Cl_2		mol VCl_3	

Convert 4.28mol V_2O_3 to mol Cl_2		Convert ____ mol Cl_2 to volume Cl_2	
mol Cl_2		volume Cl_2	

Chemical Equation	$H_2SO_4 + Cu(OH)_3 \rightarrow Cu_2(SO_4)_3 + HOH$						
Molar Ratio	mol H_2SO_4	=	mol $Cu(OH)_3$	=	mol $Cu_2(SO_4)_3$	=	mol HOH
Molar Mass	Molar Mass $H_2SO_4 = 98.09g/mol$			Molar Mass $Cu_2(SO_4)_3 = 415.31g/mol$			

Convert 5.28mol H_2SO_4 to mol HOH		Convert ____ mol HOH to volume HOH	
mol HOH		volume HOH	

Convert 734.29g $Cu_2(SO_4)_3$ to mol $Cu_2(SO_4)_3$		Convert ____ mol $Cu_2(SO_4)_3$ to mol HOH	
mol $Cu_2(SO_4)_3$		volume HOH	