

NAME _____

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**WRITING FORMULAS AND NOMENCLATURE
REPORT SHEET
EXPERIMENT 4**

WRITING FORMULAS - BINARY COMPOUNDS

Complete the following table by writing the correct formulas:

Cations	Anions							
	F ⁻¹	Cl ⁻¹	Br ⁻¹	I ⁻¹	O ⁻²	S ⁻²	N ⁻³	P ⁻³
H ⁺¹								
Li ⁺¹								
Na ⁺¹								
K ⁺¹								
Cs ⁺¹								
Be ⁺²								
Mg ⁺²								
Ca ⁺²								
Sr ⁺²								
Ba ⁺²								
Al ⁺³								
Fe ⁺²								
Fe ⁺³								
Pb ⁺⁴								
Cu ⁺¹								
Zn ⁺²								
Ag ⁺¹								

Write the formulas for the following cations and anions:

Cation	Anion	Formula
Calcium	Chlorine	
Sodium	Oxygen	
Potassium	Nitrogen	
Hydrogen	Sulfur	
Magnesium	Bromine	
Aluminum	Iodine	
Barium	Oxygen	
Calcium	Sulfur	
Sodium	Phosphorus	
Magnesium	Nitrogen	
Aluminum	Oxygen	
Iron +2	Chlorine	
Iron +3	Bromine	
Lead +2	Iodine	
Lead +4	Nitrogen	
Tin +2	Phosphorus	
Tin +4	Oxygen	
Copper +1	Sulfur	
Copper +2	Chlorine	
Strontium	Iodine	
Cesium	Oxygen	
Zinc	Nitrogen	
Silver	Sulfur	
Hydrogen	Chlorine	
Hydrogen	Oxygen	

TERNARY COMPOUNDS

Complete the following table by writing the balanced formulas:

Cations	Polyatomic anions			
	SO_4^{-2}	NO_3^{-1}	CO_3^{-2}	OH^{-1}
H^{+1}				
Li^{+1}				
Na^{+1}				
K^{+1}				
Cs^{+1}				
Be^{+2}				
Mg^{+2}				
Ca^{+2}				
Sr^{+2}				
Ba^{+2}				
Al^{+3}				
Fe^{+2}				
Fe^{+3}				
Pb^{+4}				
Cu^{+1}				
Zn^{+2}				
Ag^{+1}				

Complete the following table by writing the balanced formulas:

Cations	Polyatomic anions			
	PO_4^{-3}	ClO_3^{-1}	CN^{-1}	HCO_3^{-1}
H^{+1}				
Li^{+1}				
Na^{+1}				
K^{+1}				
Cs^{+1}				
Be^{+2}				
Mg^{+2}				
Ca^{+2}				
Sr^{+2}				
Ba^{+2}				
Al^{+3}				
Fe^{+2}				
Fe^{+3}				
Pb^{+4}				
Cu^{+1}				
Zn^{+2}				
Ag^{+1}				

Write the formulas for the following cations and anions:

Cation	Polyatomic ion	Formula
Hydrogen	Carbonate	
Hydrogen	Hydroxide	
Hydrogen	Sulfate	
Hydrogen	Phosphate	
Hydrogen	Nitrate	
Hydrogen	Acetate	
Hydrogen	Cyanide	
Hydrogen	Bicarbonate	
Magnesium	Carbonate	
Magnesium	Hydroxide	
Magnesium	Sulfate	
Magnesium	Phosphate	
Magnesium	Nitrate	
Magnesium	Acetate	
Magnesium	Cyanide	
Magnesium	Bicarbonate	
Potassium	Carbonate	
Potassium	Hydroxide	
Potassium	Sulfate	
Potassium	Phosphate	

Cation	Polyatomic ion	Formula
Potassium	Nitrate	
Potassium	Acetate	
Potassium	Cyanide	
Potassium	Bicarbonate	
Aluminum	Carbonate	
Aluminum	Hydroxide	
Aluminum	Sulfate	
Aluminum	Phosphate	
Aluminum	Nitrate	
Aluminum	Acetate	
Aluminum	Cyanide	
Aluminum	Bicarbonate	
Iron +3	Carbonate	
Iron +3	Hydroxide	
Iron +3	Sulfate	
Iron +3	Phosphate	
Iron +3	Nitrate	
Iron +3	Acetate	
Iron +3	Cyanide	
Iron +3	Bicarbonate	
Zinc	Carbonate	
Zinc	Hydroxide	

Cation	Polyatomic ion	Formula
Zinc	Sulfate	
Zinc	Phosphate	
Zinc	Nitrate	
Zinc	Acetate	
Zinc	Cyanide	
Zinc	Bicarbonate	
Lead +4	Carbonate	
Lead +4	Hydroxide	
Lead +4	Sulfate	
Lead +4	Phosphate	
Lead +4	Nitrate	
Lead +4	Acetate	
Lead +4	Cyanide	
Lead +4	Bicarbonate	
Lead +4	Carbonate	
Copper +1	Sulfate	
Iron +2	Phosphate	
Silver	Carbonate	

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**WRITING FORMULAS AND NOMENCLATURE
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NOMENCLATURE BINARY COMPOUNDS

Complete the following tables by **naming the compounds** that are a combination of the anions and the cations.

Cations	Anions			
	F^{-1}	Cl^{-1}	Br^{-1}	I^{-1}
Li^{+1}				
Na^{+1}				
K^{+1}				
Mg^{+2}				
Ca^{+2}				
Ba^{+2}				
Al^{+3}				
Zn^{+2}				

Complete the following tables by **naming the compounds** that are a combination of the anions and the cations (if the metal is variable, use Roman numerals).

Cations	Anions			
	N^{-3}	O^{-2}	S^{-2}	P^{-3}
Li^{+1}				
K^{+1}				
Mg^{+2}				
Al^{+3}				

Cations	Anions			
	N^{-3}	O^{-2}	S^{-2}	P^{-3}
Fe^{+2}				
Fe^{+3}				
Pb^{+4}				
Cu^{+1}				
Ag^{+1}				

Write the names of the following formulas (if the metal is variable, use Roman numerals)

Formula	
FeCl_2	
FeCl_3	
P_2O_5	
CuCl	
Al_2O_3	
SnCl_4	
H_2S	
Ba_3N_2	
PbCl_4	
Hg_2Cl_2	
MgCl_2	
Fe_2O_3	
S_2O_3	
Na_2S	

Cu ₂ O	
SnO ₂	
SO ₂	
SnO	
PbO ₂	
FeS	
Fe ₂ S ₃	
Cu ₂ S	
SnS ₂	
N ₂ O ₃	
SnS	
Cu ₃ N	
Sn ₃ N ₄	

NOMENCLATUR TERNARY COMPOUNDS

Complete the following tables by **naming** the compounds that are a combination of the anions and the cations (if the metal is variable, use both the Roman Numerals).

Cations	Polyatomic Anions			
	SO ₄ ⁻²	NO ₃ ⁻¹	CO ₃ ⁻²	OH ⁻¹
Li ⁺¹				
Mg ⁺²				
Ca ⁺²				
Al ⁺³				