Practice Table #1: Identify the group number and charge of the following elements

Element	Group #	Ion	Element	Group #	Ion
Li			F		
Mg			S		
Al			N		
Be			Br		
Na			P		

Practice Table #2: Writing Formulas of Regular Ionic Compounds

Metal	Non-metal	Formula	Name	Metal	Non-metal	Formula	Name
Na	Br			Al	Cl		
Mg	Br			Ga	O		
Al	Br			Ca	N		
Li	S			K	O		
Ca	S			Na	P		
Ga	S			Al	O		
K	N			Mg	S		
Be	N			Ga	P		
Al	N			Na	Cl		
Li	O			Ca	F		

Practice Table #3: Chemical Names and Formulas of Regular Ionic Compounds

Chemical Name	Metal Ion	Non-metal Ion	Chemical Formula
sodium fluoride			
gallium iodide			
calcium phosphide			
magnesium oxide			
potassium chloride			
beryllium sulfide			
barium nitride			
aluminum sulfide			
lithium phosphide			
potassium sulfide			
gallium oxide			
calcium fluoride			

Practice Table #4: Names and Formulas of Molecular Compounds

Chemical Name	Formula	Chemical Name	Formula
nitrogen monoxide			SCl_2
silicon dioxide			SO_2
sulfur trioxide			NO
carbon tetrachloride			SiS_2
diarsenic trioxide			PO_3
phosphorus pentabromide			PF_3
nitrogen dioxide			CBr_4
sulfur hexafluoride			NCl_3
selenium dioxide			SiO_3
dinitrogen tetroxide			PCl_3
sulfur dioxide			CS_2

Practice Table #5: Writing Formulas with Transition Metals

Compound Name	Metal Ion	Non-metal Ion	Formula
gold (I) chloride			
nickel (III) sulfide			
cobalt (II) oxide			
iron (III) phosphide			
mercury (IV) fluoride			
nickel (II) nitride			
gold (III) sulfide			
copper (I) oxide			

Practice Table #6: Naming Ionic Compounds with Transition Metals

Formula	Reverse Crossover or Use non metal charge to predict metal ion charge		Name
	Metal Ion	Non-Metal Ion	
CoS			
NiO			
HgI_4			
FeF_2			
Fe_2O_3			
$CuCl_2$			
HgF_2			
CoN			
NiP			
FeS			
Cu_2O_3			

Practice Table #7: Writing Formulas with Polyatomic Ions

Compound Name	Positive Ion	Negative Ion	Formula
sodium carbonate			
calcium nitrate			
manganese (V) sulfate			
aluminum hydrogen carbonate			
potassium phosphate			
beryllium hydroxide			
gold (I) hydrogen sulfate			
ammonium chloride			
nickel (II) phosphate			
mercury (I) sulfate			
ammonium carbonate			

Practice Table #8: Naming Compounds with Polyatomic Ions

FORMULA	NAME OF COMPOUND
$Fe(OH)_2$	
$CaCO_3$	
NH_4Cl	
$LiHCO_3$	
$Al(NO_3)_3$	
$Be_3(PO_4)_2$	
$Cu(HSO_4)_2$	
$(NH_4)_3N$	

Review: Naming Chemical Compounds

Element #1 (or ion and charge)	Element #2 (or ion and charge)	Type of Compound	Formula	Name
Be^{2+}	F^-	Ionic	BeF_2	beryllium fluoride
			NaCl	
				nickel (III) oxide
			Cl_2O	
Na^+	CO_3^{-2}			
			Na_3PO_4	
				calcium chloride
NH_4^+	F^-			
			NiS	
				calcium nitrate
				nitrogen trifluoride
				gold (III) iodide
			CoF_2	
K^+	HSO_4^-			
			KCl	
				copper (II) hydroxide
			$HgSO_4$	
			CO	
			Fe_2O_3	
				lead (IV) sulfate