

Name _____ Period _____

CP Chemistry of the Earth

Assignment 4F – Ionic Bonding with Polyatomic Ions

20 Points

The following is a chart showing the group and valance electrons w/ Lewis Dot Structures

Group Number	1A 1	2A 2	1B – 10B	3A 13	4A 14	5A 15	6A 16	7A 17	8A 18
Valance Electrons (e ⁻)	1	2	2	3	4	5	6	7	8
Ion Charge	+1	+2	Var.	+3	+4	-3	-2	-1	0

Complete the following chart using the in class polyatomic ion chart, including name and charge

Poly Ion	Ion Name	Charge	Poly Ion	Ion Name	Charge
NO ₃ ¹⁻			SO ₄ ²⁻		
CN ¹⁻			CrO ₄ ²⁻		
BrO ₃ ¹⁻			PO ₄ ³⁻		
OH ¹⁻			NH ₄ ¹⁺		

*Complete the following table for the basic ionic compounds.*Ionic Compound = X_aY_b X = Metal, Y = Anion, a = Cation (+) Charge, b = Anion (-) Charge

Metal	+__	Anion	-__	# X	+__	+	# Y	-__	= 0	X	a	B	y
Mg		NO ₃ ¹⁻				+			= 0	Mg		NO ₃ ¹⁻	
Mn ³⁺		CN ¹⁻				+			= 0	Mn ³⁺		CN ¹⁻	
Ti ⁴⁺		BrO ₃ ¹⁻				+			= 0	Ti ⁴⁺		BrO ₃ ¹⁻	
Sr		OH ¹⁻				+			= 0	Sr		OH ¹⁻	
Na		SO ₄ ²⁻				+			= 0	Na		SO ₄ ²⁻	
Ag ¹⁺		CrO ₄ ²⁻				+			= 0	Ag ¹⁺		CrO ₄ ²⁻	
Al		PO ₄ ³⁻				+			= 0	Al		PO ₄ ³⁻	
NH ₄ ¹⁺		O				+			= 0	NH ₄ ¹⁺		O	