WLHS / Chemistry / Monson

Name_____
Date_____Per_____

Ionic Compounds Worksheet #1 – Formulas and Names

Write chemical formulas for the compounds in each box. The names are found by finding the intersection between the cations and anions. Example: The first box is the intersection between the "zinc" cation and the "chloride" anion, so you should write "$ZnCl_2$", as shown.

	Zinc, Zn^{2+}	***Aluminum, Al^{3+}***	***Sodium, Na^{+}***	***lead(IV), Pb^{4+}***
Chloride, Cl^-	$ZnCl_2$			
Nitrate, NO_3^-		$Al(NO_3)_3$		
Oxide, O^{2-}				PbO_2
Nitride, N^{3-}			Na_3N	
Sulfate, SO_4^{2-}		$Al_2(SO_4)_3$		
Phosphate, PO_4^{3-}	$Zn_3(PO_4)_2$			$Pb_3(PO_4)_4$

Write the formulas for the following ionic compounds:

1) copper(II) chloride:_____

2) lithium acetate:_____

3) iron(III) sulfide:_____

4) manganese(IV) nitride:_____

5) strontium oxide:_____

6) sodium sulfate:_____

7) lead(IV) phosphate:_____

8) tin(II) sulfite:_____

9) calcium fluoride:_____

10) ammonium nitrate:_____

11) aluminum nitrite:_____

12) chromium(III) hydroxide:_____

13) lithium cyanide:_____

14) magnesium bicarbonate:_____

Write the names of the following ionic compounds:
(*don't forget roman numerals for transition metals!)

1) $FeCl_3$:_____

2) Na_2CO_3:_____

3) Li_3PO_4:_____

4) Ca_3N_2:_____

5) Cs_2SO_4:_____

6) $AgNO_3$:_____

7) $Pb(C_2H_3O_2)_2$:_____

8) Rb_2O:_____

9) K_3PO_3:_____

10) Cu_2SO_3:_____

(see back)

Writing Formulas (Criss-Cross Method)

DIRECTIONS: Fill in the correct chemical formula & chemical name for each ionic compound formed from the pairs of ions shown. A few have been filled in as examples.

	Cl^-	CO_3^{2-}	OH^-	S^{2-}	PO_4^{3-}	N^{3-}
Na^+	**NaCl** sodium chloride					
NH_4^+				**$(NH_4)_2S$** ammonium sulfide		
Mg^{2+}					**$Mg_3(PO_4)_2$** magnesium phosphate	
Zn^{2+}						**Zn_3N_2** zinc nitride
Fe^{3+}		**$Fe_2(CO_3)_3$** iron (III) carbonate				
Al^{3+}						
Cr^{3+}			**$Cr(OH)_3$** chromium (III) hydroxide			
Fe^{2+}	**$FeCl_2$** iron (II) chloride					
Pb^{4+}					**$Pb_3(PO_4)_4$** Lead (IV) phosphate	