Name: Block: Date:

Multivalent Ionic Compounds

Warm up Vocabulary!

O_2	**Ne**	**Fe_3P_2**	**CO_2**	**CaF_2**	**H_2**
CrN	**Cl_2**	**H_20**	**$COCH_3$**	**BeO**	**MgS**

1) A molecule contains 2 or more atoms. Circle the chemicals above that are **Molecules**.

2) A compound contains 2 or more different elements (the same element twice does not count). Which of the chemicals above are Compounds? (list all)

3) Ionic compounds contain at least 1 metal and 1 non-metal. Which of the chemicals above are Ionic Compounds? (list all)

4) Show the formulas for the following multivalent metals:

Elements	Formula	Elements	Formulas
Fe^{+2} and Cl^{-1}		Nb^{+3} and Br^{-1}	
Fe^{+3} and Cl^{-1}		Cr^{+2} and N^{-3}	
Zr^{+4} and S^{-2}		Os^{+3} and O^{-2}	
Iron (III) and Phosphorus		Lead (IV) and Iodine	
Lead (II) and Iodine		Iridium (III) and Chlorine	
Cobalt (III) and Sulfur		Gold (I) and Oxygen	
Platinum (IV) and Selenium		Rhenium (VII) and Fluorine	
Americium (VI) and Oxygen		Palladium (IV) and Sulfur	
Nickel (II) and Tellurium		Mercury (II) and Nitrogen	

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5) Write the names for the following compounds. **Remember**, only multivalent metals require Roman Numerals. Something like potassium only has one possible charge, so no roman numerals are used.

(Hint: To determine the charge of a multivalent metal, start by looking at the non-metal, as all non-metals only have one charge).

Formula	Name	Formula	Name
$FeCl_2$		$FeCl_3$	
Cu_2O		CuO	
$MnBr_2$		CaF_2	
SnF_2		PtI_2	
Cu_3P		Au_2S_3	
Li_2O		MnO	
Sn_3As_2		Co_3N_2	
Hg_2O		$AlCl_3$	
VS_2		GeF_4	
PtO_2		$CdCl_2$	
UN_2		Ce_2Se_3	
YbO		Ti_3N_4	
U_3P_5		SmI_3	

Note: Manganese can have a charge of +7, it is just not listed on your copy of the periodic table.