

Unit 5 LTI: Ionic Bonding Puzzle Activity

GOAL: I can propose a mechanism for writing names and formulas for ionic compounds.

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Data Table

Name: _____

Combining Ions	Number of cations	Number of anions	Total + charge	Total - charge	Formula	Name of compound
Aluminum & Chloride						
Sodium & Oxide						
Iron(II) & Sulfide						
Potassium & Sulfate						
Silver & Nitrate						
Copper(II) & Hydroxide						
Ammonium & Carbonate						
Copper(I) & Phosphate						
Magnesium & Bromide						
Calcium & Acetate						

Data Table continued

Name: _____

Combining Ions	Number of cations	Number of anions	Total + charge	Total - charge	Formula	Name of compound
Iron(III) & Oxide						
Copper(I) & Chromate						
Sodium & Bicarbonate						
Magnesium & Phosphate						
Potassium & Cyanide						
Aluminum & Sulfide						

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Post-Lab Questions

1. Examining the combining substances and formulas you wrote in your data table, develop a general procedure explaining how to write a formula for an ionic compound.
2. Using the procedure that you wrote in question #1, write the chemical formula for each of the following combining substances. (Hint: First look up the cation and the anion formulas from the Ion Formula Chart; then write the ionic formula.)

Combining Substances	Cation and Anion Formulas	Ionic Formula
a. lithium and dichromate		
b. strontium and bromate		
c. gallium and oxalate		
d. mercury(I) and chloride		
e. lead(II) and nitride		

3. Using the Ion Formula Chart, create three new ionic compounds that have not yet been used in this activity. List the names of the combining substances, the cation and anion formulas, and the ionic formula.

Combining Substances	Cation and Anion Formulas	Ionic Formula
a.		
b.		
c.		