

Writing Formulas for IONIC COMPOUNDS:

Step 1: Write symbols for the ions side by side, with the positive ion first.

Step 2: Criss- cross over the charge values to give subscripts and reduce if possible.

Step 3: Rewrite the formula without charges

* make sure the compound is neutral

** make sure you have the lowest possible ratio (REDUCE the formula)

Class example:

	Chemical formula	Chemical name
1. Na ⁺ O ⁻²		6. sodium sulfide
2. Ca ⁺² F ⁻		7. aluminum chloride
3. Al ⁺³ Se ⁻²		8. copper (II) bromide
4. Mg O		9. tin (IV) oxide
5. K P		

Writing Names for IONIC COMPOUNDS:

Step 1: Write the name of the metal (cation) first.

-If only one possible charge simply write the metals name.

-If multiple charges write the metals name with the charge in roman numerals.

Step 2: Write the anion but change the ending to -ide.

Ex. Chlorine becomes *chloride*

What about multivalent ions?

Finding the charge of a multivalent ion: Ionic compounds are neutral overall, so the total amount of positive will cancel out with the total amount of negative. The sum of the positive and negative will be zero!



Class Examples:



Ionic Nomenclature Homework

I. Complete the following IONIC problems by either giving the formula or name.

- | | |
|-----------------------------|--------------------------------|
| 1. lead (III) sulfide _____ | 5. Cs_2S _____ |
| 2. sodium phosphide _____ | 6. MnO _____ |
| 3. zinc phosphide _____ | 7. NaF _____ |
| 4. lead (II) oxide _____ | 8. NiCl_3 _____ |

II. In the first blank of each problem, identify the following either univalent (U) or multivalent (M) ion. Finally in the second blank give either the formula or name based on the problem type.

- | | |
|------------------------------------|---------------------------------------|
| ___ 9. cadmium arsenide _____ | ___ 18. Al_2S_3 _____ |
| ___ 10. cesium iodide _____ | ___ 19. CrO _____ |
| ___ 11. silver selenide _____ | ___ 20. Cd_3P_2 _____ |
| ___ 12. nickel (II) fluoride _____ | ___ 21. MnCl_5 _____ |
| ___ 13. copper (I) nitride _____ | ___ 22. CoCl_2 _____ |
| ___ 14. tin (IV) sulfide _____ | ___ 23. NiCl_2 _____ |
| ___ 15. zinc oxide _____ | ___ 24. CaF_2 _____ |
| ___ 16. cobalt (III) bromide _____ | ___ 25. Ag_2O _____ |
| ___ 17. magnesium phosphide _____ | ___ 26. Fe_2S_3 _____ |