

Name:

Period:

Date:

Naming & Formula Writing for Type 1 Ionic Compounds

What is a Type 1 Compound?

- These compounds are binary, in that they are made up of two types of elements.
- It is made up of a metal from columns 1, 2 or 13 and a nonmetal.
- These metals have only one charge or oxidation state.
- Group 1 metals have a +1 charge.
- Group 2 metals have a +2 charge.
- Group 13 metals have a +3 charge.

Steps for naming:

- Write the name of the metal.
- Write the root of the nonmetal and add the -ide suffix.

Examples of Naming:

- NaCl sodium chloride
- Al_2S_3 aluminum sulfide

Correctly name the following compounds.

1. NaBr Sodium bromide
2. Li_2O Lithium oxide
3. NaCl Sodium chloride (SALT)
4. KI Potassium iodide
5. CaS Calcium sulfide
6. MgO Magnesium oxide
7. CSF_6 Cesium hexafluoride
8. $AlCl_3$ Aluminum chloride (HALOGENIDE)
9. MgI_2 Magnesium iodide
10. Rb_2O Rubidium oxide
11. SrI_2 Strontium iodide
12. K_2S Potassium sulfide

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Steps for formula writing for Type one compounds:

- Write the symbol and oxidation state (or charge) for the metal.
- Write the symbol and oxidation state (or charge) for the nonmetal.
- If the two charges add up to zero, you are finished with writing the formula.
- If the two charges do not add up to zero, criss-cross the charges thus creating subscripts.

Examples of Formula Writing:

- calcium oxide $\text{Ca}^{2+}\text{O}^{2-}$ (+2 and -2 = zero) answer: CaO
- aluminum oxide $\text{Al}^{3+}\text{O}^{2-}$ (+3 and -2 \neq zero) ~~$\text{Al}^{3+}\text{O}^{2-}$~~ answer: Al_2O_3

Note: *Superscripts* stand for the oxidation number or charge on the ion to their left.

Subscripts tell how many of each type of element are in the compound.

Correctly write the formulas for the following compounds.

- 13. sodium iodide NaI
- 14. magnesium fluoride MgF_2
- 15. strontium chloride SrCl_2
- 16. aluminum sulfide Al_2S_3
- 17. lithium bromide LiBr
- 18. calcium nitride Ca_3N_2
- 19. barium oxide BaO