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NOMENCLATURE WORKSHEET #1

Binary Ionic Compounds of Representative Metals

Binary- two elements only, this means no polyatomic ions on this page.
Representative metals- Group IA, IIA, IIIA, in other words, no transition metals. These are the easiest compounds to name. The Representative A Group I, II, and III metals always form $^{+}1$, $^{+}2$, and $^{+}3$ cations. Since there are only two elements in these compounds, the anions will be monatomic ions which end in **-IDE.**

Name the metal first, then the nonmetal next, changing the second element's name to end in –IDE

1. NaF Sodium fluoride
2. CaS calcium sulfide
3. Mg_3P_2 magnesium phosphide
4. Cs_3N cesium nitride
5. Li_2S lithium sulfide
6. SrO strontium oxide
7. $AlCl_3$ aluminum chloride
8. Al_2S_3 aluminum sulfide
9. Ca_3P_2 calcium phosphide
10. LiBr lithium bromide
11. Ca_3N2 calcium nitride
12. BaI_2 barium iodide
13. RbBr rubidium bromide
14. Li_3N lithium nitride
15. K_2S potassium sulfide
16. AlI_3 aluminum iodide
17. SrS strontium sulfide
18. KCl potassium chloride
19. RbI rubidium iodide
20. Cs_2O cesium oxide
21. MgO magnesium oxide
22. LiCl lithium chloride
23. Al_2O_3 aluminum oxide
24. NaCl sodium chloride
25. BaF_2 barium fluoride
26. Be_2C beryllium carbide

Writing Formulas

Step 1: Write the symbols from the name as they are listed. It will always be metal, then nonmetal
Step 2: In pencil, lightly write the oxidation number of each element above their symbols
Step 3 Write subscripts for each element so that the total negative and positive charges will add up to a net (overall) charge of zero. Erase oxidation numbers.

Example 1: sodium chloride $NaCl \rightarrow \overset{+1\ \ -1}{NaCl} \rightarrow NaCl$

Example 2: magnesium chloride $MgCl \rightarrow \overset{+2\ \ -1}{MgCl_2} \rightarrow MgCl_2$

Example 3: sodium oxide $NaO \rightarrow \overset{+1\ \ -2}{NaO} \rightarrow Na_2O$

1. sodium chloride $NaCl$
2. magnesium fluoride MgF_2
3. calcium bromide $CaBr_2$
4. aluminum iodide AlI_3
5. strontium oxide SrO
6. barium sulfide BaS
7. rubidium phosphide Rb_3P
8. lithium sulfide Li_2S
9. lithium oxide Li_2O
10. potassium phosphide K_3P
11. sodium carbide Na_4C
12. calcium chloride $CaCl_2$
13. beryllium nitride Be_3N_2
14. aluminum sulfide Al_2S_3
15. magnesium oxide MgO
16. beryllium fluoride BeF_2
17. magnesium nitride Mg_2N_3
18. sodium sulfide Na_2S
19. cesium fluoride CsF
20. barium iodide BaI_2
21. potassium nitride K_3N
22. magnesium nitride Mg_2N_3
23. lithium phosphide Li_3P
24. sodium bromide $NaBr$
25. potassium oxide K_2O
26. aluminum oxide Al_2O_3