

**Naming and Formula Writing #1**

**1. Write the compound formula for the following main group metals with polyatomic ions.**

- |                       |                                  |
|-----------------------|----------------------------------|
| a. Hydrogen nitrate   | i. Strontium nitrate             |
| b. Lithium iodate     | j. Magnesium phosphate           |
| c. Potassium chlorite | k. Aluminum cyanide              |
| d. Lithium chlorate   | l. Cesium permanganate           |
| e. Barium carbonate   | m. Aluminum phosphate            |
| f. Calcium hydroxide  | n. Strontium hydroxide           |
| g. Beryllium sulfate  | o. Aluminum acetate              |
| h. Magnesium nitrite  | p. <b>BONUS</b> Ammonium nitrate |

**2. Write the name of the following chemical compounds containing Polyatomic Ions.**

- |                             |  |
|-----------------------------|--|
| a. LiOH                     | i. $\text{Al}(\text{NO}_3)_3$                |
| b. $\text{HNO}_2$           | j. $\text{CaSO}_4$                           |
| c. $\text{CsClO}_4$         | k. $\text{K}_2\text{CO}_3$                   |
| d. $\text{KCH}_3\text{COO}$ | l. $\text{Li}_3\text{PO}_4$                  |
| e. $\text{H}_2\text{SO}_4$  | m. $\text{Ca}(\text{NO}_2)_2$                |
| f. $\text{MgCO}_3$          | n. $\text{Be}(\text{OH})_2$                  |
| g. $\text{Sr}(\text{CN})_2$ | o. $\text{Al}_2(\text{SO}_3)_3$              |
| h. $\text{Rb}_2\text{O}_2$  | p. <b>BONUS</b> $(\text{NH}_4)_3\text{PO}_4$ |

3. Write the compound formula for the following binary compounds.

- |                      |                        |
|----------------------|------------------------|
| a. Hydrogen chloride | i. Strontium sulfide   |
| b. Lithium phosphide | j. Magnesium chloride  |
| c. Potassium sulfide | k. Aluminum oxide      |
| d. Cesium chloride   | l. Cesium fluoride     |
| e. Barium Iodide     | m. Aluminum nitride    |
| f. Calcium nitride   | n. Strontium phosphide |
| g. Beryllium oxide   | o. Aluminum sulfide    |
| h. Magnesium bromide |                        |

4. Write the name of the following binary compounds chemical compounds.

- |                            |                            |
|----------------------------|----------------------------|
| a. KBr                     | i. $\text{Ba}_3\text{N}_2$ |
| b. $\text{Sr}_3\text{N}_2$ | j. LiF                     |
| c. BaO                     | k. $\text{Al}_2\text{O}_3$ |
| d. AlP                     | l. $\text{MnS}_2$          |
| e. $\text{CaCl}_2$         | m. $\text{BaF}_2$          |
| f. NaI                     | n. $\text{Na}_4\text{C}$   |
| g. MgS                     | o. $\text{MgI}_2$          |
| h. $\text{K}_3\text{P}$    |                            |

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Period: \_\_\_\_\_

**Naming and Formula Writing #2**

Directions

1. Write the charge above each element in table 1.
2. Write the formula for the compound formed when the anion and cation from each square combine.

Table 1

		Anions							
Cations		F <sup>-1</sup>	Cl	I	S	O	N	P	
	H <sup>+1</sup>	<b>HF</b>							
	Na								
	K								
	Mg								
	Ca								
	Be								
	Al								

Write the name of each compound formed

Table 2

	F <sup>-1</sup>	Cl	I	S	O	N	P
H <sup>+1</sup>	<b>Hydrogen fluoride</b>						
Na							
K							
Mg							
Ca							
Be							
Al							

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Name: \_\_\_\_\_ Date: \_\_\_\_\_ Period: \_\_\_\_\_

### Naming and Formula Writing #2

1. Complete the following table naming and writing formulas for molecules:

	Common Name (prefixes)	Systematic Name (Stock System)
$N_2O$		
NO		
$N_2O_3$		
$NO_2$		
$N_2O_5$		
$SO_2$		
		sulfur (VI) oxide
		carbon (IV) sulfide
		carbon (II) oxide
	carbon dioxide	
	carbon tetrachloride	
	phosphorus tribromide	
	phosphorus pentabromide	
	sulfur difluoride	
	sulfur tetrafluoride	
	sulfur hexafluoride	

2. Determine how many atoms of the stated element are in each compound.

- a.  $MgI_2$                       Mg =                      I =
- b.  $CaClO_3$                       Ca =                      Cl =                      O =
- c.  $Al_2(SO_2)_3$                       Al =                      S =                      O =
- d.  $Na_3PO_4$                       Na =                      P =                      O =
- e.  $Al_2(SO_4)_3$                       Al =                      S =                      O =
- f.  $Mg(OH)_2$                       Mg =                      O =                      H =
- g.  $Al_2(B_4O_7)_3$                       Al =                      B =                      O =

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## HONORS – Naming and Writing Chemical Formulas #3

**Write the formulas for the following compounds**

1. copper (II) chloride \_\_\_\_\_
2. lithium hypochlorite \_\_\_\_\_
3. zinc sulfide \_\_\_\_\_
4. potassium permanganate \_\_\_\_\_
5. chromium (VI) cyanide \_\_\_\_\_
6. sodium phosphide \_\_\_\_\_
7. magnesium nitrate \_\_\_\_\_
8. nitrogen dioxide \_\_\_\_\_
9. calcium phosphate \_\_\_\_\_
10. phosphorus (III) chloride \_\_\_\_\_
11. lead (IV) nitrite \_\_\_\_\_
12. nitrogen (II) oxide \_\_\_\_\_
13. barium oxide \_\_\_\_\_
14. manganese (VII) acetate \_\_\_\_\_
15. strontium phosphate \_\_\_\_\_
16. magnesium sulfate \_\_\_\_\_
17. lead (IV) nitride \_\_\_\_\_
18. aluminum nitrate \_\_\_\_\_
19. sodium peroxide \_\_\_\_\_
20. iron (III) oxide \_\_\_\_\_
21. iron (II) oxide \_\_\_\_\_
22. rubidium sulfite \_\_\_\_\_
23. cesium permanganate \_\_\_\_\_
24. beryllium perchlorate \_\_\_\_\_
25. sulfur (VI) bromide \_\_\_\_\_
26. silver nitrate \_\_\_\_\_
27. zinc iodate \_\_\_\_\_
28. carbon tetrachloride \_\_\_\_\_
29. iodine (IV) chloride \_\_\_\_\_
30. nickel (II) hydroxide \_\_\_\_\_

Name \_\_\_\_\_ Date \_\_\_\_\_ Period \_\_\_\_\_

**Name the following compounds. If there are two blanks, use the Greek prefix system as well as the stock system.**

31.  $\text{Na}_2\text{CO}_3$  \_\_\_\_\_

32.  $\text{NaOH}$  \_\_\_\_\_

33.  $\text{Cl}_2\text{O}$  \_\_\_\_\_

34.  $\text{MgBr}_2$  \_\_\_\_\_

35.  $\text{KCl}$  \_\_\_\_\_

36.  $\text{FeCl}_2$  \_\_\_\_\_

37.  $\text{FeCl}_3$  \_\_\_\_\_

38.  $\text{Zn}(\text{OH})_2$  \_\_\_\_\_

39.  $\text{SF}_6$  \_\_\_\_\_

40.  $\text{BeSO}_4$  \_\_\_\_\_

41.  $\text{CrF}_2$  \_\_\_\_\_

42.  $\text{CS}_2$  \_\_\_\_\_

43.  $\text{Al}_2\text{S}_3$  \_\_\_\_\_

44.  $\text{PbO}$  \_\_\_\_\_

45.  $\text{Li}_3\text{PO}_4$  \_\_\_\_\_

46.  $\text{P}_2\text{O}_5$  \_\_\_\_\_

47.  $\text{Co}_3\text{N}_2$  \_\_\_\_\_

48.  $\text{Mg}_3\text{P}_2$  \_\_\_\_\_

49.  $\text{Al}(\text{CN})_3$  \_\_\_\_\_

50.  $\text{CO}_2$  \_\_\_\_\_

OVER →

### Naming and Writing Chemical Formulas #4

If the name of a compound is given, write the chemical formula. If the formula is given, write the name of the compound. Don't forget to use parentheses and Roman Numerals if needed. **For covalent compounds write the name using both the Greek prefix system and Roman Numerals.**

- |                              |                                 |
|------------------------------|---------------------------------|
| 1. strontium phosphide       | 22. sodium oxide                |
| 2. $\text{CuCl}_2$           | 23. Be                          |
| 3. mercury (II) phosphate    | 24. $\text{NO}_2^{1-}$          |
| 4. Nickel (II) acetate       | 25. potassium iodide            |
| 5. RbI                       | 26. $\text{PbCl}_2$             |
| 6. Zn                        | 27. $\text{Cu}_2\text{O}$       |
| 7. KBr                       | 28. $\text{NO}_3$               |
| 8. $\text{SF}_6$             | 29. $\text{Sn}(\text{NO}_3)_2$  |
| 9. silver phosphate          | 30. tin (IV) oxide              |
| 10. AlN                      | 31. $\text{MnSO}_4$             |
| 11. sodium sulfide           | 32. $\text{SnCl}_2$             |
| 12. $\text{SO}_2$            | 33. $\text{K}_2\text{SO}_4$     |
| 13. $\text{SnSO}_4$          | 34. nitrogen dioxide            |
| 14. FeO                      | 35. Copper (II) oxide           |
| 15. B                        | 36. $\text{FeI}_2$              |
| 16. hydrogen chloride        | 37. $\text{HgCO}_3$             |
| 17. $\text{NH}_4\text{NO}_3$ | 38. $\text{SO}_4^{2-}$          |
| 18. cobalt (II) phosphide    | 39. lithium cyanide             |
| 19. CO                       | 40. lead (IV) sulfite           |
| 20. $\text{CO}_2$            | 41. $\text{Al}(\text{MnO}_4)_3$ |
| 21. cobalt (III) oxide       | 42. $\text{CaBr}_2$             |

43.  $\text{CF}_4$
44.  $\text{NaOH}$
45.  $\text{Li}_3\text{PO}_4$
46.  $\text{K}_2\text{O}$
47.  $\text{Ba}_3\text{N}_2$
48. silver cyanide
49.  $\text{SF}_2$
50.  $\text{BeBr}_2$
51.  $\text{CuBr}$
52.  $\text{NH}_4\text{I}$
53. Carbon (IV) Iodide
54.  $\text{PbO}$
55.  $\text{NO}_2$
56. ammonium
57.  $\text{CCl}_4$
58. Strontium
59.  $\text{PO}_5$
60. Cs
61.  $\text{KCl}$
62.  $\text{NaCl}$
63.  $\text{Li}_2\text{S}$
64.  $\text{Mn}(\text{NO}_2)_3$
65. lead (IV) carbonate
66.  $\text{KClO}_3$
67.  $\text{KNO}_2$
68.  $\text{Fe}_2\text{O}_3$
69. iron (II) phosphide
70. copper (II) fluoride
71. aluminum sulfate
72. disulfur monoxide
73. hydrogen (I) sulfide
74.  $\text{CoCO}_3$
75. copper (I) sulfite
76. ammonium nitrite
77. F
78. magnesium iodide
79. boron fluoride
80. chromium (II) nitride
81.  $\text{BeBr}_2$
82. carbon disulfide
83. phosphorus (VI) fluoride
84. Manganese (II) oxide
85. Au
86. silver bromide
87.  $\text{C}_2\text{H}_3\text{O}_2^{1-}$
88.  $\text{MnO}$



Name \_\_\_\_\_ Date \_\_\_\_\_ Period \_\_\_\_\_

## **HONORS – Naming and Writing Chemical Formulas #5**

If the name of a compound is given, write the chemical formula. If the formula is given, write the name of the compound. Don't forget to use parentheses and Roman Numerals if needed. For covalent compounds, use both the Greek prefix and the Stock system.

1. N <sub>2</sub> S	
2. CuCl <sub>2</sub>	
3. mercury (II) phosphate	
4. Cl <sub>4</sub>	
5. KBr	
6. chlorine trifluoride	
7. silver phosphate	
8. AlN	
9. sodium sulfide	
10. SnSO <sub>4</sub>	
11. FeO	
12. NH <sub>4</sub> NO <sub>3</sub>	
13. sulfur (IV) oxide	
14. cobalt (III) oxide	
15. sodium oxide	
16. potassium iodide	
17. PbCl <sub>2</sub>	
18. Cu <sub>2</sub> O	
19. Sn(NO <sub>3</sub> ) <sub>2</sub>	
20. tin (IV) oxide	
21. MnSO <sub>4</sub>	
22. SnCl <sub>2</sub>	
23. SiO <sub>2</sub>	
24. FeI <sub>2</sub>	
25. HgCO <sub>3</sub>	
26. P <sub>2</sub> O <sub>5</sub>	
27. SrF <sub>2</sub>	
28. beryllium bromide	
29. Pb <sub>3</sub> N <sub>2</sub>	
30. tin (IV) fluoride	
31. silver cyanide	
32. chlorine heptafluoride	
33. K <sub>2</sub> O	

Name \_\_\_\_\_ Date \_\_\_\_\_ Period \_\_\_\_\_

34. rubidium oxide	
35. $\text{FeSO}_4$	
36. $\text{AlP}$	
37. $\text{SrI}_2$	
38. $\text{AuF}$	
39. barium iodide	
40. diboron hexahydride	
41. iron (II) chloride	
42. sodium hypochlorite	
43. $\text{Mn}_2\text{O}_3$	
44. $\text{SiF}_4$	
45. $\text{AuCl}_3$	
46. iron (III) nitrate	
47. phosphorus (III) bromide	
48. calcium bromide	
49. $\text{Al}_2\text{O}_3$	
50. lithium chloride	
51. $\text{NH}_4\text{I}$	
52. mercury (I) sulfide	
53. $\text{N}_2\text{S}_3$	
54. mercury (II) fluoride	
55. $\text{CuBr}$	
56. $\text{Sr}_3\text{P}_2$	
57. $\text{MgF}_2$	
58. $\text{OF}_2$	
59. $\text{Li}_2\text{S}$	
60. $\text{PbO}$	
61. $\text{Mn}(\text{NO}_3)_3$	
62. lithium cyanide	
63. lead (IV) sulfite	
64. $\text{SnO}$	
65. $\text{Al}(\text{MnO}_4)_3$	
66. $\text{CaBr}_2$	
67. nitrogen (I) sulfide	
68. $\text{SiH}_4$	
69. $\text{Na}_2\text{O}$	
70. sulfur (IV) fluoride	