

# Practice Problems

Write the names for each of the following ionic compounds.

1. KOH

\_\_\_\_\_

2. LiH

\_\_\_\_\_

3.  $AlF_3$

\_\_\_\_\_

4.  $FeCl_2$

\_\_\_\_\_

5. MgO

\_\_\_\_\_

6.  $Co(NO_3)_2$

\_\_\_\_\_

7.  $MgSO_4$

\_\_\_\_\_

8.  $NH_4Cl$

\_\_\_\_\_

9.  $CaPO_4$

\_\_\_\_\_

10.  $Ba(OH)_2$

\_\_\_\_\_

11. PbS

\_\_\_\_\_

12.  $Na_2CO_3$

\_\_\_\_\_

13.  $BaF_2$

\_\_\_\_\_

14.  $Cu(NO_3)_2$

\_\_\_\_\_

15. AgI

\_\_\_\_\_

16.  $NiSO_4$

\_\_\_\_\_

17.  $Zn_3(PO_4)_2$

\_\_\_\_\_

18.  $Na_3N$

\_\_\_\_\_

19.  $Cu_2CO_3$

\_\_\_\_\_

20.  $(NH_4)_2SO_4$

\_\_\_\_\_

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# NAMING IONIC COMPOUNDS

Name \_\_\_\_\_

Name the following compounds using the Stock Naming System.

1.  $\text{CaCO}_3$  \_\_\_\_\_
2.  $\text{KCl}$  \_\_\_\_\_
3.  $\text{FeSO}_4$  \_\_\_\_\_
4.  $\text{LiBr}$  \_\_\_\_\_
5.  $\text{MgCl}_2$  \_\_\_\_\_
6.  $\text{FeCl}_3$  \_\_\_\_\_
7.  $\text{Zn}_3(\text{PO}_4)_2$  \_\_\_\_\_
8.  $\text{NH}_4\text{NO}_3$  \_\_\_\_\_
9.  $\text{Al}(\text{OH})_3$  \_\_\_\_\_
10.  $\text{CuC}_2\text{H}_3\text{O}_2$  \_\_\_\_\_
11.  $\text{PbSO}_3$  \_\_\_\_\_
12.  $\text{NaClO}_3$  \_\_\_\_\_
13.  $\text{CaC}_2\text{O}_4$  \_\_\_\_\_
14.  $\text{Fe}_2\text{O}_3$  \_\_\_\_\_
15.  $(\text{NH}_4)_3\text{PO}_4$  \_\_\_\_\_
16.  $\text{NaHSO}_4$  \_\_\_\_\_
17.  $\text{Hg}_2\text{Cl}_2$  \_\_\_\_\_
18.  $\text{Mg}(\text{NO}_2)_2$  \_\_\_\_\_
19.  $\text{CuSO}_4$  \_\_\_\_\_
20.  $\text{NaHCO}_3$  \_\_\_\_\_
21.  $\text{NiBr}_3$  \_\_\_\_\_
22.  $\text{Be}(\text{NO}_3)_2$  \_\_\_\_\_
23.  $\text{ZnSO}_4$  \_\_\_\_\_
24.  $\text{AuCl}_3$  \_\_\_\_\_
25.  $\text{KMnO}_4$  \_\_\_\_\_

# Practice "Criss-cross" method

Write the formulas of the compounds produced from the listed ions.

	$\text{Cl}^-$	$\text{CO}_3^{2-}$	$\text{OH}^-$	$\text{SO}_4^{2-}$	$\text{PO}_4^{3-}$	$\text{NO}_3^-$
$\text{Na}^+$						
$\text{NH}_4^+$						
$\text{K}^+$						
$\text{Ca}^{+2}$						
$\text{Mg}^{+2}$						
$\text{Zn}^{+2}$						
$\text{Fe}^{+3}$						
$\text{Al}^{+3}$						
$\text{Co}^{+3}$						
$\text{Fe}^{+2}$						
$\text{H}^+$						

Name \_\_\_\_\_ Date \_\_\_\_\_ Class \_\_\_\_\_

## 7-1 Practice Problems

Write the correct formula for each of the compounds listed below:

1. potassium iodide

\_\_\_\_\_

2. barium chloride

\_\_\_\_\_

3. lithium bromide

\_\_\_\_\_

4. sodium hypochlorite

\_\_\_\_\_

5. iron(III) sulfate

\_\_\_\_\_

6. chromium(III) sulfide

\_\_\_\_\_

7. calcium carbonate

\_\_\_\_\_

8. sodium acetate

\_\_\_\_\_

9. cobalt(II) fluoride

\_\_\_\_\_

10. sodium phosphide

\_\_\_\_\_

11. tin(IV) oxide

\_\_\_\_\_

12. gold(III) bromide

\_\_\_\_\_

13. copper(II) iodide

\_\_\_\_\_

14. strontium chloride

\_\_\_\_\_

15. lithium acetate

\_\_\_\_\_

16. magnesium hydroxide

\_\_\_\_\_

17. nickel(II) nitrate

\_\_\_\_\_

18. silver oxide

\_\_\_\_\_

19. zinc chloride

\_\_\_\_\_

20. magnesium phosphate

\_\_\_\_\_

# NAMING MOLECULAR COMPOUNDS

Name \_\_\_\_\_

Name the following covalent compounds.

- 1.  $\text{CO}_2$  \_\_\_\_\_
- 2.  $\text{CO}$  \_\_\_\_\_
- 3.  $\text{SO}_2$  \_\_\_\_\_
- 4.  $\text{SO}_3$  \_\_\_\_\_
- 5.  $\text{N}_2\text{O}$  \_\_\_\_\_
- 6.  $\text{NO}$  \_\_\_\_\_
- 7.  $\text{N}_2\text{O}_3$  \_\_\_\_\_
- 8.  $\text{NO}_2$  \_\_\_\_\_
- 9.  $\text{N}_2\text{O}_4$  \_\_\_\_\_
- 10.  $\text{N}_2\text{O}_5$  \_\_\_\_\_
- 11.  $\text{PCl}_5$  \_\_\_\_\_
- 12.  $\text{PCl}_6$  \_\_\_\_\_
- 13.  $\text{NH}_3$  \_\_\_\_\_
- 14.  $\text{SCl}_6$  \_\_\_\_\_
- 15.  $\text{P}_2\text{O}_5$  \_\_\_\_\_
- 16.  $\text{CCl}_4$  \_\_\_\_\_
- 17.  $\text{SiO}_2$  \_\_\_\_\_
- 18.  $\text{CS}_2$  \_\_\_\_\_
- 19.  $\text{OF}_2$  \_\_\_\_\_
- 20.  $\text{PBr}_3$  \_\_\_\_\_

*Practice Problems (continued)*

Write names for each of the following molecular substances.

- |                            |                          |
|----------------------------|--------------------------|
| 21. $\text{SiO}_2$         | 31. $\text{NO}$          |
| _____                      | _____                    |
| 22. $\text{PCl}_3$         | 32. $\text{SF}_4$        |
| _____                      | _____                    |
| 23. $\text{SiF}_4$         | 33. $\text{XeF}_4$       |
| _____                      | _____                    |
| 24. $\text{N}_2\text{O}$   | 34. $\text{SbF}_5$       |
| _____                      | _____                    |
| 25. $\text{SO}_3$          | 35. $\text{NH}_3$        |
| _____                      | _____                    |
| 26. $\text{N}_2\text{O}_5$ | 36. $\text{SO}_2$        |
| _____                      | _____                    |
| 27. $\text{IF}_5$          | 37. $\text{H}_2\text{O}$ |
| _____                      | _____                    |
| 28. $\text{SF}_6$          | 38. $\text{CS}_2$        |
| _____                      | _____                    |
| 29. $\text{ClO}_2$         | 39. $\text{Cl}_4$        |
| _____                      | _____                    |
| 30. $\text{P}_4\text{S}_3$ | 40. $\text{BCl}_3$       |
| _____                      | _____                    |

The 3 Rules for Naming the 3 Types of Acids

Rule 1—If the acid is binary, i.e. has a monatomic anion, or has an ion ending in -ide,  
then: Hydro(root name of anion)ic acid

JUST BECAUSE ACID FORMULAS BEGIN WITH "H" DOES NOT MEAN THAT EVERY ACID'S NAME BEGINS WITH HYDRO!!

Rule 2—If the acid has anion ending in -ate,  
then: (Root name of anion)ic acid

Rule 3—If the acid has anion ending in -ite,  
then: (Root name of anion)ous acid

Acid	Name
1. HF	_____
2. HCl	_____
3. HBr	_____
4. H <sub>2</sub> S	_____
5. HClO <sub>4</sub>	_____
6. HClO <sub>3</sub>	_____
7. HClO <sub>2</sub>	_____
8. HClO	_____
9. HNO <sub>3</sub>	_____
10. HNO <sub>2</sub>	_____
11. H <sub>2</sub> SO <sub>4</sub>	_____
12. H <sub>2</sub> SO <sub>3</sub>	_____
13. H <sub>2</sub> CO <sub>3</sub>	_____
14. H <sub>3</sub> PO <sub>4</sub>	_____
15. H <sub>2</sub> C <sub>2</sub> O <sub>4</sub>	_____
16. HC <sub>2</sub> H <sub>3</sub> O <sub>2</sub>	_____

Name	Formula
17. Nitric acid	_____
18. Acetic acid	_____
19. Sulfuric acid	_____
20. Periodic acid	_____
21. Hydroiodic acid	_____
22. Hydrocyanic acid	_____
23. Phosphorous acid	_____
24. Permanganic acid	_____
25. Hypochlorous acid	_____
26. Hydrophosphoric acid	_____

## Formulas and Nomenclature

Name the following compounds:

1. HCl
2. KOH
3. Hg<sub>2</sub>(OH)<sub>2</sub>
4. KCl
5. FeCl<sub>2</sub>
6. HNO<sub>3</sub>
7. NH<sub>4</sub>OH
8. Cu<sub>2</sub>O
9. Al<sub>2</sub>(SO<sub>4</sub>)<sub>3</sub>
10. N<sub>2</sub>O<sub>5</sub>
11. NaOH
12. CO<sub>2</sub>
13. HF
14. Pb(OH)<sub>2</sub>
15. NH<sub>4</sub>NO<sub>3</sub>
16. NaHCO<sub>3</sub>
17. HgO
18. Zn(NO<sub>3</sub>)<sub>2</sub>
19. H<sub>3</sub>PO<sub>4</sub>
20. CsOH
21. Li<sub>2</sub>O
22. Ca(OH)<sub>2</sub>
23. CaBr<sub>2</sub>
24. Fe<sub>2</sub>O<sub>3</sub>
25. H<sub>2</sub>SO<sub>4</sub>
26. FeCO<sub>3</sub>
27. SO<sub>3</sub>
28. Ba(BrO<sub>3</sub>)<sub>2</sub>
29. Al(OH)<sub>3</sub>
30. HClO<sub>4</sub>
31. NaC<sub>2</sub>H<sub>3</sub>O<sub>2</sub>
32. Na<sub>2</sub>SO<sub>3</sub>
33. H<sub>2</sub>CO<sub>3</sub>
34. HFO<sub>2</sub>
35. NH<sub>4</sub>IO<sub>3</sub>
36. LiH



## FORMULAS AND NOMENCLATURE (naming system)

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WRITE THE FORMULAS FOR THE FOLLOWING :

1. manganese dioxide
2. sulfur dioxide
3. iron(II) sulfate
4. hypochlorous acid
5. potassium permanganate
6. silver chloride
7. copper (II) hydroxide
8. ammonium sulfide
9. nickel bromide
10. iron (II) oxide
11. bromic acid
12. ammonium bisulfate
13. mercury (I) sulfate
14. iron (III) oxide
15. magnesium phosphate
16. nickel bicarbonate
17. zinc hydroxide
18. hydroiodic acid
19. diphosphorus pentoxide
20. aluminum phosphate
21. hydrogen acetate
22. copper (II) nitrite
23. nitrogen dioxide
24. phosphorus trichloride
25. sodium phosphate
26. potassium carbonate
27. phosphoric acid
28. lead (IV) chloride
29. tin (II) bromide
30. ammonium hydroxide
31. periodic acid (periodate ion:  $\text{IO}_4^-$ )
32. iron (II) hydroxide
33. carbon dioxide
34. dinitrogen pentoxide
35. silver oxide
36. aluminum nitride
37. manganese (II) hydroxide
38. ammonium carbonate
39. aluminum oxide
40. antimony pentasulfide

## Naming Compounds Flow Chart

