

**WKS 7.2 – Formula Writing (1 page)**

1. **CLASSIFY** each of the following substances as:

- *Ionic*
- *Acid*
- *Covalent*

2. Write a **CORRECT** chemical formula for each of the following substances.

SUBSTANCE NAME	CLASSIFICATION	FORMULA
Cadmium sulfide		
Lead (IV) permanganate		
Phosphoric Acid		
Sulfur trioxide		
Tetraphosphorus decoxide		
Sodium carbonate		
Cyclobutane		
Magnesium chloride hexahydrate		
Cesium bicarbonate		
Aluminum sulfide		
Decane		
Sulfur tetrafluoride		
Carbon disulfide		
Ammonium phosphite		
Dinitrogen tetrafluoride		
Dichlorine heptaoxide		
Hydrosulfuric acid		
Barium hyposulfite		
Diarsenic trioxide		
Calcium sulfate dihydrate		
Tin (II) nitride		
Zinc phosphate		
Sulfurous acid		
Perchloric acid		

**WKS 7.3 – Formula Naming (1 page)**

1. *CLASSIFY* each of the following substances as:

- *Ionic*
- *Acid*
- *Covalent*

2. Write a *CORRECT* chemical formula for each of the following substances.

SUBSTANCE FORMULA	CLASSIFICATION	NAME
SrS		
SeO <sub>2</sub>		
H <sub>2</sub> SO <sub>3</sub> (aq)		
C <sub>7</sub> H <sub>16</sub>		
Cu <sub>3</sub> P <sub>2</sub>		
Cd(NO <sub>2</sub> ) <sub>2</sub>		
C <sub>3</sub> H <sub>8</sub>		
ICl		
H <sub>2</sub> SO <sub>4</sub> (aq)		
HCl (aq)		
MnO <sub>2</sub>		
C <sub>9</sub> H <sub>18</sub>		
NiCl <sub>2</sub> •6H <sub>2</sub> O		
Fe(C <sub>2</sub> H <sub>3</sub> O <sub>2</sub> ) <sub>3</sub>		
SnCl <sub>4</sub> •5H <sub>2</sub> O		
PH <sub>3</sub>		
P <sub>2</sub> Se <sub>3</sub>		
Hg(IO <sub>2</sub> ) <sub>2</sub>		
IF <sub>7</sub>		
Cu <sub>3</sub> P		
Sn(CN) <sub>4</sub>		
CoSO <sub>4</sub> •7H <sub>2</sub> O		
C <sub>2</sub> H <sub>6</sub>		
HBrO <sub>4</sub> (aq)		

**WKS 7.4 – Formula Naming, Round Two (1 page)**

1. $(\text{NH}_4)_2\text{CO}_3$		2. $\text{Na}_2\text{CO}_3$	
3. $\text{Sn}(\text{HCO}_3)_4$		4. $\text{Hg}(\text{ClO})_2$	
5. $\text{Pb}(\text{ClO}_2)_2$		6. $\text{HNO}_3$ (aq)	
7. $\text{HCl}$ (aq)		8. $\text{H}_3\text{PO}_4$ (aq)	
9. $\text{P}_2\text{Br}_4$		10. $\text{Fe}(\text{NO}_2)_2$	
11. $\text{SbCl}_3$		12. $\text{Ca}(\text{ClO}_4)_2$	
13. $\text{HC}_2\text{H}_3\text{O}_2$ (aq)		14. $\text{Al}_2(\text{SO}_4)_3$	
15. $\text{H}_2\text{SO}_4$ (aq)		16. $\text{Fe}_2\text{O}_3$	
17. $\text{CrCl}_3$		18. $\text{Cu}_2\text{SO}_2$	
19. $\text{PF}_5$		20. $\text{IF}_5$	
21. $\text{Ag}_2\text{O}$		22. $\text{KClO}_4$	
23. $\text{Cl}_2\text{O}_5$		24. $\text{Pb}_3(\text{PO}_4)_4$	
25. $\text{CoF}_3$		26. $\text{Ba}(\text{OH})_2$	
27. $\text{B}_2\text{Si}$		28. $\text{N}_2\text{H}_4$	
29. $\text{P}_4\text{S}_5$		30. $\text{NaHCO}_3$	
31. $\text{Sr}_3(\text{PO}_4)_2$		32. $\text{As}_4\text{O}_{10}$	
33. $\text{ClF}_3$		34. $\text{N}_2\text{S}$	
35. $\text{HgF}_2$		36. $\text{LiMnO}_4$	
37. $\text{Si}_2\text{Br}_6$		38. $\text{Bi}_2(\text{SO}_3)_5$	
39. $\text{Pb}(\text{ClO}_3)_2 \cdot 3 \text{H}_2\text{O}$		40. $\text{SeF}_6$	
41. $\text{SBr}_2$		42. $\text{Cl}_2\text{O}$	
43. $\text{P}_2\text{O}_5$		44. $\text{MgSO}_4 \cdot 9 \text{H}_2\text{O}$	

**WKS 7.5 – Formula Writing, Round Two (1 page)**

1. Selenium trioxide		2. Iron (II) hypobromite	
3. Copper (I) sulfate		4. Hexabromide monosilicide	
5. Nitric Acid		6. Boron trihydride	
7. Iodine pentabromide		8. Dichlorine heptaoxide	
9. Nickel (III) iodide		10. Antimony (III) chloride	
11. Ammonium phosphate		12. Hypoiodous Acid	
13. Silicon dioxide		14. Carbon tetrachloride	
15. Nickel (III) nitrate		16. Zinc bicarbonate	
17. Cyclohexane		18. Dinitrogen monoxide	
19. Dinitrogen tetroxide		20. Copper (II) sulfate pentahydrate	
21. Pentane		22. Chromium (III) bisulfate	
23. Carbonic Acid		24. Hydrophosphoric Acid	
25. Perchloric Acid		26. Silver cyanide	
27. Magnesium hydroxide		28. Ammonium Sulfide	
29. Ammonium chlorate		30. Potassium oxide	
31. Iron (III) sulfide		32. Diphosphorous pentoxide	
33. Octane		34. Hydrobromic Acid	
35. Aluminum sulfite		36. Cyclononane	
37. Magnesium sulfate trihydrate		38. Bismuth (III) bicarbonate	
39. Copper (II) carbonate		40. Fluorine tribromide	
41. Iodous Acid		42. Hyposulfurous acid	

## Review– Naming Chemical Compounds

The following are a good mix of naming and formula writing problems to help you get some practice.

*Name the following chemical compounds:*

- 1) NaBr \_\_\_\_\_
- 2)  $\text{Ca}(\text{C}_2\text{H}_3\text{O}_2)_2$  \_\_\_\_\_
- 3)  $\text{P}_2\text{O}_5$  \_\_\_\_\_
- 4)  $\text{Ti}(\text{SO}_4)_2$  \_\_\_\_\_
- 5)  $\text{FePO}_4$  \_\_\_\_\_
- 6)  $\text{K}_3\text{N}$  \_\_\_\_\_
- 7)  $\text{SO}_2$  \_\_\_\_\_
- 8)  $\text{CuOH}$  \_\_\_\_\_
- 9)  $\text{Zn}(\text{NO}_2)_2$  \_\_\_\_\_
- 10)  $\text{V}_2\text{S}_3$  \_\_\_\_\_

*Write the formulas for the following chemical compounds:*

- 11) silicon dioxide \_\_\_\_\_
- 12) nickel (III) sulfide \_\_\_\_\_
- 13) manganese (II) phosphate \_\_\_\_\_
- 14) silver acetate \_\_\_\_\_
- 15) diboron tetrabromide \_\_\_\_\_
- 16) magnesium sulfate heptahydrate \_\_\_\_\_
- 17) potassium carbonate \_\_\_\_\_
- 18) ammonium oxide \_\_\_\_\_
- 19) tin (IV) selenide \_\_\_\_\_
- 20) carbon tetrachloride \_\_\_\_\_

## Answers – Naming Chemical Compounds

*Name the following chemical compounds:*

- 1) NaBr                      **sodium bromide**
- 2)  $\text{Ca}(\text{C}_2\text{H}_3\text{O}_2)_2$         **calcium acetate**
- 3)  $\text{P}_2\text{O}_5$                     **diphosphorus pentoxide**
- 4)  $\text{Ti}(\text{SO}_4)_2$                 **titanium(IV) sulfate**
- 5)  $\text{FePO}_4$                   **iron(III) phosphate**
- 6)  $\text{K}_3\text{N}$                      **potassium nitride**
- 7)  $\text{SO}_2$                      **sulfur dioxide**
- 8)  $\text{CuOH}$                     **copper(I) hydroxide**
- 9)  $\text{Zn}(\text{NO}_2)_2$               **zinc nitrite**
- 10)  $\text{V}_2\text{S}_3$                   **vanadium(III) sulfide**

*Write the formulas for the following chemical compounds:*

- 11) silicon dioxide                       **$\text{SiO}_2$**
- 12) nickel (III) sulfide                     **$\text{Ni}_2\text{S}_3$**
- 13) manganese (II) phosphate             **$\text{Mn}_3(\text{PO}_4)_2$**
- 14) silver acetate                         **$\text{AgC}_2\text{H}_3\text{O}_2$**
- 15) diboron tetrabromide                  **$\text{B}_2\text{Br}_4$**
- 16) magnesium sulfate heptahydrate     **$\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$**
- 17) potassium carbonate                  **$\text{K}_2\text{CO}_3$**
- 18) ammonium oxide                       **$(\text{NH}_4)_2\text{O}$**
- 19) tin (IV) selenide                      **$\text{SnSe}_2$**
- 20) carbon tetrachloride                  **$\text{CCl}_4$**

## Mixed Compound Naming

For each of the following questions write the appropriate name for the compound.

- 1)  $\text{Na}_2\text{CO}_3$  \_\_\_\_\_
- 2)  $\text{P}_2\text{O}_5$  \_\_\_\_\_
- 3)  $\text{NH}_3$  \_\_\_\_\_
- 4)  $\text{FeSO}_4$  \_\_\_\_\_
- 5)  $\text{SiO}_2$  \_\_\_\_\_
- 6)  $\text{GaCl}_3$  \_\_\_\_\_
- 7)  $\text{CoBr}_2$  \_\_\_\_\_
- 8)  $\text{B}_2\text{H}_4$  \_\_\_\_\_
- 9)  $\text{CO}$  \_\_\_\_\_
- 10)  $\text{P}_4$  \_\_\_\_\_

For each of the following questions write the appropriate formula for the compound.

- 11) dinitrogen trioxide \_\_\_\_\_
- 12) nitrogen \_\_\_\_\_
- 13) methane \_\_\_\_\_
- 14) lithium acetate \_\_\_\_\_
- 15) phosphorus trifluoride \_\_\_\_\_
- 16) vanadium (V) oxide \_\_\_\_\_
- 17) aluminum hydroxide \_\_\_\_\_
- 18) zinc sulfide \_\_\_\_\_
- 19) silicon tetrafluoride \_\_\_\_\_
- 20) silver phosphate \_\_\_\_\_

## Mixed Compound Naming

*For each of the following questions write the appropriate name for the compound.*

- |     |                          |  |
|-----|--------------------------|--|
| 1)  | $\text{Na}_2\text{CO}_3$ | <b>sodium carbonate</b>                |
| 2)  | $\text{P}_2\text{O}_5$   | <b>diphosphorus pentoxide</b>          |
| 3)  | $\text{NH}_3$            | <b>nitrogen trioxide (aka ammonia)</b> |
| 4)  | $\text{FeSO}_4$          | <b>iron (II) sulfate</b>               |
| 5)  | $\text{SiO}_2$           | <b>silicon dioxide</b>                 |
| 6)  | $\text{GaCl}_3$          | <b>gallium chloride</b>                |
| 7)  | $\text{CoBr}_2$          | <b>cobalt (II) bromide</b>             |
| 8)  | $\text{B}_2\text{H}_4$   | <b>diboron tetrahydride</b>            |
| 9)  | $\text{CO}$              | <b>carbon monoxide</b>                 |
| 10) | $\text{P}_4$             | <b>phosphorus</b>                      |

*For each of the following questions write the appropriate formula for the compound.*

- |     |                        |                                    |
|-----|------------------------|------------------------------------|
| 11) | dinitrogen trioxide    | $\text{N}_2\text{O}_3$             |
| 12) | nitrogen               | $\text{N}_2$                       |
| 13) | methane                | $\text{CH}_4$                      |
| 14) | lithium acetate        | $\text{LiC}_2\text{H}_3\text{O}_2$ |
| 15) | phosphorus trifluoride | $\text{PF}_3$                      |
| 16) | vanadium (V) oxide     | $\text{V}_2\text{O}_5$             |
| 17) | aluminum hydroxide     | $\text{Al}(\text{OH})_3$           |
| 18) | zinc sulfide           | $\text{ZnS}$                       |
| 19) | silicon tetrafluoride  | $\text{SiF}_4$                     |
| 20) | silver phosphate       | $\text{Ag}_3\text{PO}_4$           |



## (Still) More Naming Practice

*Write the names of the following chemical compounds:*

- 1)  $\text{BBr}_3$  \_\_\_\_\_
- 2)  $\text{CaSO}_4$  \_\_\_\_\_
- 3)  $\text{C}_2\text{Br}_6$  \_\_\_\_\_
- 4)  $\text{Cr}(\text{CO}_3)_3$  \_\_\_\_\_
- 5)  $\text{Ag}_3\text{P}$  \_\_\_\_\_
- 6)  $\text{IO}_2$  \_\_\_\_\_
- 7)  $\text{VO}_2$  \_\_\_\_\_
- 8)  $\text{PbS}$  \_\_\_\_\_
- 9)  $\text{CH}_4$  \_\_\_\_\_
- 10)  $\text{N}_2\text{O}_3$  \_\_\_\_\_

*Write the formulas of the following chemical compounds:*

- 11) tetraphosphorus triselenide \_\_\_\_\_
- 12) potassium acetate \_\_\_\_\_
- 13) iron (II) phosphide \_\_\_\_\_
- 14) disilicon hexabromide \_\_\_\_\_
- 15) titanium (IV) nitrate \_\_\_\_\_
- 16) diselenium diiodide \_\_\_\_\_
- 17) copper (I) phosphate \_\_\_\_\_
- 18) gallium oxide \_\_\_\_\_
- 19) tetrasulfur dinitride \_\_\_\_\_
- 20) phosphorus \_\_\_\_\_

