

Name: \_\_\_\_\_



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# Chemistry 11

## Atoms Worksheet

Directions: Odd # - List all Elements and the # of atoms of each element.

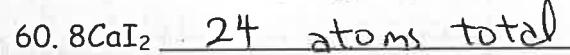
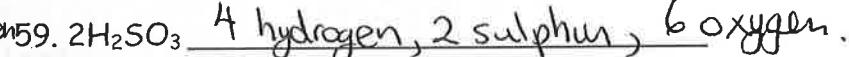
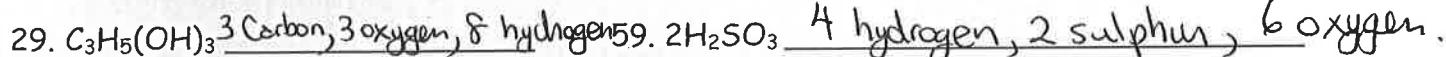
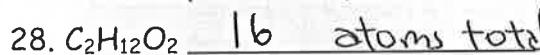
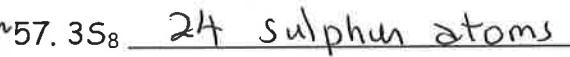
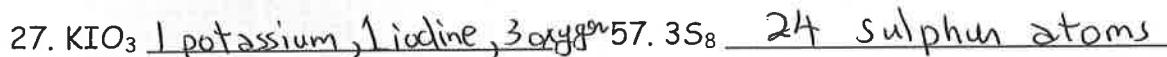
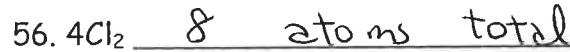
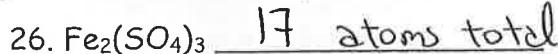
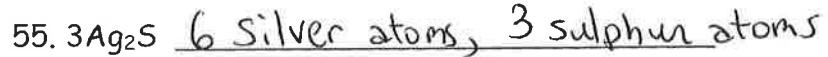
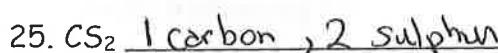
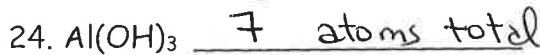
Even # - Total # of atoms in this molecule.

1.  $\text{H}_2\text{O}$  2 Hydrogen atoms, 1 oxygen atom
2.  $\text{ClO}_2$  3 atoms total
3.  $\text{NH}_3$  1 Nitrogen atom, 3 hydrogen atoms
4.  $\text{PbCl}_2$  3 atoms total
5.  $\text{CCl}_4$  1 Carbon atom, 4 chlorine atoms
6.  $\text{C}_3\text{H}_8$  11 atoms total
7.  $\text{C}_5\text{H}_{12}$ . 5 carbon atoms, 12 hydrogen atoms
8.  $\text{Ca}(\text{OH})_2$  5 atoms total
9.  $\text{BaSO}_4$  1 Barium, 1 Sulphur, 4 oxygen
10.  $\text{Mg}(\text{NO}_3)_2$  9 atoms total
11.  $\text{Al}(\text{ClO}_3)_3$  1 Aluminum, 3 chlorine, 9 oxygen
12.  $\text{NiSO}_4$  6 atoms total
13.  $\text{HNO}_3$  1 hydrogen, 1 nitrogen, 3 oxygen
14.  $\text{P}_4\text{O}_{10}$  14 atoms total
15.  $\text{C}_2\text{H}_5\text{OH}$  2 Carbon, 6 hydrogen, 1 oxygen
16.  $\text{HF}_2$  3 atoms total
17.  $\text{Mg}(\text{ClO}_4)_2$  1 Magnesium, 2 chlorine, 8 oxygen
18.  $\text{MnCl}_2$  3 atoms total
19.  $\text{Cr}(\text{NO}_3)_3$  1 Chromium, 3 Nitrogen, 9 oxygen
20.  $\text{Zn}(\text{NO}_3)_2$  9 atoms total
21.  $\text{Sn}(\text{SO}_4)_2$  1 tin, 2 sulphur, 8 oxygen
22.  $\text{BaCO}_3$  5 atoms total
23.  $\text{NaClO}$  1 Sodium, 1 chlorine, 1 oxygen.
31.  $\text{Fe}(\text{C}_2\text{H}_3\text{O}_2)_3$  1 Iron, 6 Carbon, 9 hydrogen, 6 oxygen
32.  $\text{KCN}$  3 atoms total
33.  $\text{KCl}$  1 Potassium, 1 chlorine
34.  $\text{Cr}(\text{OH})_3$  7 atoms total
35.  $\text{Fe}(\text{IO}_4)_3$  1 Iron, 3 iodine, 12 oxygen
36.  $\text{PBr}_5$  6 atoms total
37.  $\text{KMnO}_4$  1 Potassium, 1 manganese, 4 oxygen
38.  $\text{Sr}(\text{NO}_3)_2$  9 atoms total
39.  $\text{CaCO}_3$  1 Calcium, 1 carbon, 3 oxygen
40.  $2\text{NH}_3$  8 atoms total
41.  $5\text{CO}$  5 carbon, 5 oxygen
42.  $3\text{CCl}_4$  15 atoms total
43.  $2\text{FeCO}_3$  2 Iron, 2 Carbon, 6 oxygen
44.  $2(\text{NH}_4)_2\text{CO}_3$  28 atoms total
45.  $5\text{HIO}_2$  5 hydrogen, 5 iodine, 10 oxygen
46.  $3\text{HNO}_2$  12 atoms total
47.  $10\text{H}_2\text{SO}_4$  20 hydrogen, 10 sulphur, 40 oxygen
48.  $5\text{HCl}$  10 atoms total
49.  $6\text{CH}_4$  6 Carbon atoms, 24 hydrogen atoms
50.  $3\text{MgCl}_2$  9 atoms total
51.  $5\text{C}_3\text{H}_8$  15 Carbon atoms, 40 hydrogen atoms
52.  $2\text{PCl}_5$  12 atoms total
53.  $6\text{NO}_2$  6 nitrogen atoms, 12 oxygen atoms

Name: \_\_\_\_\_

**KEY**

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Each particle of the following compounds contains the atoms listed. Write the formula of each compound.

1. One copper atom and one sulphur atom
2. One nitrogen and three hydrogen atoms
3. Two hydrogen and one sulphur atom
4. One hydrogen, one nitrogen and three oxygen atoms
5. Two potassium, one carbon and three oxygen atoms
6. Two aluminum and three oxygen atoms
7. One iron, one phosphorous and four oxygen atoms
8. One nitrogen, four hydrogen, one carbon and three oxygen atoms
9. One sodium, one manganese and four oxygen atoms
10. One potassium, one chlorine and three oxygen atoms
11. Six carbons, twelve hydrogen and six oxygen atoms
12. One carbon, three hydrogen, one oxygen and one hydrogen atom.

CSNH<sub>3</sub>H<sub>2</sub>SHNO<sub>3</sub>K<sub>2</sub>CO<sub>3</sub>Al<sub>2</sub>O<sub>3</sub>FePO<sub>4</sub>NH<sub>4</sub>CO<sub>3</sub>NaMnO<sub>4</sub>KClO<sub>3</sub>C<sub>6</sub>H<sub>12</sub>O<sub>6</sub>CH<sub>3</sub>OH

Name: \_\_\_\_\_

Block: \_\_\_\_\_



# Chemistry 11

## Atoms Worksheet

Directions: Odd # - List all Elements and the # of atoms of each element.

Even # - Total # of atoms in this molecule.

1.  $\text{H}_2\text{O}$  2 Hydrogen atoms, 1 oxygen atom
2.  $\text{ClO}_2$  3 atoms total
3.  $\text{PbCl}_2$  1 Lead atom, 2 chlorine atoms
4.  $\text{CCl}_4$  5 atoms total
5.  $\text{C}_5\text{H}_{12}$  5 Carbon atom, 12 hydrogen
6.  $\text{Sr}(\text{NO}_3)_2$  9 atoms total
7.  $\text{CaCO}_3$  1 Calcium, 1 Carbon, 3 oxygen
8.  $2\text{NH}_3$  8 atoms total
9.  $5\text{CO}$  5 Carbon, 5 oxygen
10.  $10\text{H}_2\text{SO}_4$  70 atoms total

Each particle of the following compounds contains the atoms listed. Write the formula of each compound.

1. One copper atom and one sulphur atom  $\text{CS}$
2. One nitrogen and three hydrogen atoms  $\text{NH}_3$
3. Two hydrogen and one sulphur atom  $\text{H}_2\text{S}$
4. One hydrogen, one nitrogen and three oxygen atoms  $\text{HNO}_3$
5. Two potassium, one carbon and three oxygen atoms  $\text{K}_2\text{CO}_3$
6. Two aluminum and three oxygen atoms  $\text{Al}_2\text{O}_3$
7. One iron, one phosphorous and four oxygen atoms  $\text{FePO}_4$
8. One nitrogen, four hydrogen, one carbon and three oxygen atoms  $\text{NH}_4\text{CO}_3$
9. One sodium, one manganese and four oxygen atoms  $\text{NaMnO}_4$
10. One potassium, one chlorine and three oxygen atoms  $\text{KClO}_3$
11. Six carbons, twelve hydrogen and six oxygen atoms  $\text{C}_6\text{H}_{12}\text{O}_6$
12. One carbon, three hydrogen, one oxygen and one hydrogen atom.  $\text{CH}_3\text{OH}$

# PERIODIC TABLE OF IONS

|   |     | TABLE OF POLYATOMIC IONS   |  |  |  |  |  |  |  |  |   |  |  |  |  |  |  |  |  |
|---|-----|--|--|--|--|--|--|--|--|--|---|--|--|--|--|--|--|--|--|
|   |     | C <sub>2</sub> O <sub>4</sub> <sup>2-</sup>                      |  |  |  |  |  |  |  |  | oxalate   |  |  |  |  |  |  |  |  |
|   |     | dihydrogen phosphate H <sub>2</sub> PO <sub>4</sub> <sup>-</sup> |  |  |  |  |  |  |  |  | perchlorate   |  |  |  |  |  |  |  |  |
|   |     | hydrogen carbonate HCO <sub>3</sub> <sup>-</sup>                 |  |  |  |  |  |  |  |  | periodate IO <sub>4</sub> <sup>-</sup>                    |  |  |  |  |  |  |  |  |
|   |     | hydrogen oxalate HC <sub>2</sub> O <sub>4</sub> <sup>-</sup>     |  |  |  |  |  |  |  |  | permanganate MnO <sub>4</sub> <sup>-</sup>                |  |  |  |  |  |  |  |  |
| acetate CH <sub>3</sub> COO <sup>-</sup>                |     | hydrogen sulfate HS <sup>-</sup>                                 |  |  |  |  |  |  |  |  | O <sub>2</sub> <sup>2-</sup>                              |  |  |  |  |  |  |  |  |
| arsenate AsO <sub>4</sub> <sup>3-</sup>                 |     | hydrogen sulfide HS <sup>-</sup>                                 |  |  |  |  |  |  |  |  | peroxide H <sub>2</sub> O <sub>2</sub>                    |  |  |  |  |  |  |  |  |
| arsenite AsO <sub>3</sub> <sup>3-</sup>                 |     | hydrogen sulfite HSO <sub>3</sub> <sup>-</sup>                   |  |  |  |  |  |  |  |  | phosphate PO <sub>4</sub> <sup>3-</sup>                   |  |  |  |  |  |  |  |  |
| benzoate C <sub>6</sub> H <sub>5</sub> COO <sup>-</sup> |     | hydrogen sulfate SO <sub>4</sub> <sup>2-</sup>                   |  |  |  |  |  |  |  |  | pyrophosphate P <sub>2</sub> O <sub>7</sub> <sup>4-</sup> |  |  |  |  |  |  |  |  |
| borate BO <sub>3</sub> <sup>3-</sup>                    |     | hydrogen sulfite SO <sub>4</sub> <sup>2-</sup>                   |  |  |  |  |  |  |  |  | sulfate SO <sub>4</sub> <sup>2-</sup>                     |  |  |  |  |  |  |  |  |
| bromate BrO <sub>3</sub> <sup>-</sup>                   |     | hydrogen sulfite SO <sub>4</sub> <sup>2-</sup>                   |  |  |  |  |  |  |  |  | sulfite SO <sub>3</sub> <sup>2-</sup>                     |  |  |  |  |  |  |  |  |
| carbonate CO <sub>3</sub> <sup>2-</sup>                 |     | hydroxide OH <sup>-</sup>  |  |  |  |  |  |  |  |  | thiocyanate SCN <sup>-</sup>                              |  |  |  |  |  |  |  |  |
| chlorate ClO <sub>3</sub> <sup>-</sup>                  |     | hypochlorite ClO <sup>-</sup>                                    |  |  |  |  |  |  |  |  | thiosulfate S <sub>2</sub> O <sub>3</sub> <sup>2-</sup>   |  |  |  |  |  |  |  |  |
| chlorite ClO <sub>2</sub> <sup>-</sup>                  |     | iodate IO <sub>3</sub> <sup>-</sup>                              |  |  |  |  |  |  |  |  | positive polyatomic ions                                  |  |  |  |  |  |  |  |  |
| chromate CrO <sub>4</sub> <sup>2-</sup>                 |     | monohydrogen phosphate HPO <sub>4</sub> <sup>2-</sup>            |  |  |  |  |  |  |  |  | ammonium NH <sub>4</sub> <sup>+</sup>                     |  |  |  |  |  |  |  |  |
| cyanate CNO <sup>-</sup>                                |     | nitrate NO <sub>3</sub> <sup>-</sup>                             |  |  |  |  |  |  |  |  | hydronium H <sub>3</sub> O <sup>+</sup>                   |  |  |  |  |  |  |  |  |
| dichromate Cr <sub>2</sub> O <sub>7</sub> <sup>2-</sup> |     | nitrite NO <sub>2</sub> <sup>-</sup>                             |  |  |  |  |  |  |  |  | orthosilicate SiO <sub>4</sub> <sup>4-</sup>              |  |  |  |  |  |  |  |  |
| hydrogen H <sup>+</sup>                                 | 1   | silicon Si   |  |  |  |  |  |  |  |  | aluminum Al <sup>3+</sup>                                 |  |  |  |  |  |  |  |  |
| beryllium Be <sup>2+</sup>                              | 2   | magnesium Mg <sup>2+</sup>                                       |  |  |  |  |  |  |  |  | sulfide Cl <sup>-</sup>                                   |  |  |  |  |  |  |  |  |
| lithium Li <sup>+</sup>                                 | 3   | sodium Na <sup>+</sup>   |  |  |  |  |  |  |  |  | chloride Ar   |  |  |  |  |  |  |  |  |
| magnesium Mg <sup>2+</sup>                              | 12  | calcium Ca <sup>2+</sup>   |  |  |  |  |  |  |  |  | potassium K <sup>+</sup>                                  |  |  |  |  |  |  |  |  |
| potassium K <sup>+</sup>                                | 19  | strontium Sr <sup>2+</sup>                                       |  |  |  |  |  |  |  |  | barium Ba <sup>2+</sup>                                   |  |  |  |  |  |  |  |  |
| calcium Ca <sup>2+</sup>                                | 20  | yttrium Y <sup>3+</sup>  |  |  |  |  |  |  |  |  | cesium Cs <sup>+</sup>                                    |  |  |  |  |  |  |  |  |
| yttrium Y <sup>3+</sup>                                 | 39  | lanthanum La <sup>3+</sup>                                       |  |  |  |  |  |  |  |  | actinium Ac <sup>3+</sup>                                 |  |  |  |  |  |  |  |  |
| lanthanum La <sup>3+</sup>                              | 57  | francium Fr <sup>+</sup>   |  |  |  |  |  |  |  |  | radium Ra <sup>2+</sup>                                   |  |  |  |  |  |  |  |  |
| actinium Ac <sup>3+</sup>                               | 87  | thorium Th <sup>4+</sup>   |  |  |  |  |  |  |  |  | cerium Ce <sup>3+</sup>                                   |  |  |  |  |  |  |  |  |
| thorium Th <sup>4+</sup>                                | 90  | protactinium Pa <sup>4+</sup>                                    |  |  |  |  |  |  |  |  | praseodymium Pr <sup>3+</sup>                             |  |  |  |  |  |  |  |  |
| protactinium Pa <sup>4+</sup>                           | 91  | uranium U <sup>6+</sup>  |  |  |  |  |  |  |  |  | neodymium Nd <sup>3+</sup>                                |  |  |  |  |  |  |  |  |
| uranium U <sup>6+</sup>                                 | 92  | thorium Th <sup>4+</sup>   |  |  |  |  |  |  |  |  | europium Eu <sup>3+</sup>                                 |  |  |  |  |  |  |  |  |
| thorium Th <sup>4+</sup>                                | 93  | neptunium Np <sup>5+</sup>                                       |  |  |  |  |  |  |  |  | gadolinium Gd <sup>3+</sup>                               |  |  |  |  |  |  |  |  |
| neptunium Np <sup>5+</sup>                              | 94  | curium Am <sup>4+</sup>  |  |  |  |  |  |  |  |  | terbium Tb <sup>3+</sup>                                  |  |  |  |  |  |  |  |  |
| curium Am <sup>4+</sup>                                 | 95  | americium Pu <sup>6+</sup>                                       |  |  |  |  |  |  |  |  | dysprosium Dy <sup>3+</sup>                               |  |  |  |  |  |  |  |  |
| americium Pu <sup>6+</sup>                              | 96  | neptunium Pu <sup>4+</sup>                                       |  |  |  |  |  |  |  |  | holmium Ho <sup>3+</sup>                                  |  |  |  |  |  |  |  |  |
| neptunium Pu <sup>4+</sup>                              | 97  | curium Am <sup>3+</sup>  |  |  |  |  |  |  |  |  | erbium Er <sup>3+</sup>                                   |  |  |  |  |  |  |  |  |
| curium Am <sup>3+</sup>                                 | 98  | berkelium Bk <sup>4+</sup>                                       |  |  |  |  |  |  |  |  | thulium Tm <sup>3+</sup>                                  |  |  |  |  |  |  |  |  |
| berkelium Bk <sup>4+</sup>                              | 99  | einsteinium Es <sup>3+</sup>                                     |  |  |  |  |  |  |  |  | ytterbium Yb <sup>3+</sup>                                |  |  |  |  |  |  |  |  |
| einsteinium Es <sup>3+</sup>                            | 100 | lutetium Lu <sup>3+</sup>  |  |  |  |  |  |  |  |  | neptunium Np <sup>3+</sup>                                |  |  |  |  |  |  |  |  |
| neptunium Np <sup>3+</sup>                              | 101 | mendelevium Md <sup>2+</sup>                                     |  |  |  |  |  |  |  |  | thorium Th <sup>4+</sup>                                  |  |  |  |  |  |  |  |  |
| mendelevium Md <sup>2+</sup>                            | 102 | rutherfordium Rf <sup>+</sup>                                    |  |  |  |  |  |  |  |  | protactinium Pa <sup>4+</sup>                             |  |  |  |  |  |  |  |  |
| rutherfordium Rf <sup>+</sup>                           | 103 | lawrencium Lr <sup>3+</sup>                                      |  |  |  |  |  |  |  |  | nobelium No <sup>2+</sup>                                 |  |  |  |  |  |  |  |  |
| lawrencium Lr <sup>3+</sup>                             | 104 | curium Cm <sup>3+</sup>  |  |  |  |  |  |  |  |  | curium Cm <sup>3+</sup>                                   |  |  |  |  |  |  |  |  |

|                               |    | KEY                            |   |   |   |   |   |   |   |   |                               |    |    |    |    |    |    |    |    |
|-------------------------------|----|--------------------------------|---|---|---|---|---|---|---|---|-------------------------------|----|----|----|----|----|----|----|----|
|                               |    | ion charge                     |   |   |   |   |   |   |   |   | ion name (IUPAC)              |    |    |    |    |    |    |    |    |
|                               |    | 26 Fe <sup>3+</sup> iron (III) |   |   |   |   |   |   |   |   | 26 Fe <sup>2+</sup> iron (II) |    |    |    |    |    |    |    |    |
|                               |    | 1                              | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10                            | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| hydrogen H <sup>+</sup>       | 1  |                                |   |   |   |   |   |   |   |   |                               |    |    |    |    |    |    |    |    |
| Li <sup>+</sup>               | 3  |                                |   |   |   |   |   |   |   |   |                               |    |    |    |    |    |    |    |    |
| Be <sup>2+</sup>              | 4  |                                |   |   |   |   |   |   |   |   |                               |    |    |    |    |    |    |    |    |
| beryllium Be <sup>2+</sup>    | 2  |                                |   |   |   |   |   |   |   |   |                               |    |    |    |    |    |    |    |    |
| calcium Ca <sup>2+</sup>      | 19 |                                |   |   |   |   |   |   |   |   |                               |    |    |    |    |    |    |    |    |
| strontium Sr <sup>2+</sup>    | 38 |                                |   |   |   |   |   |   |   |   |                               |    |    |    |    |    |    |    |    |
| rubidium Rb <sup>+</sup>      | 56 |                                |   |   |   |   |   |   |   |   |                               |    |    |    |    |    |    |    |    |
| cesium Cs <sup>+</sup>        | 87 |                                |   |   |   |   |   |   |   |   |                               |    |    |    |    |    |    |    |    |
| francium Fr <sup>+</sup>      | 58 |                                |   |   |   |   |   |   |   |   |                               |    |    |    |    |    |    |    |    |
| radium Ra <sup>2+</sup>       | 88 |                                |   |   |   |   |   |   |   |   |                               |    |    |    |    |    |    |    |    |
| actinium Ac <sup>3+</sup>     | 89 |                                |   |   |   |   |   |   |   |   |                               |    |    |    |    |    |    |    |    |
| thorium Th <sup>4+</sup>      | 90 |                                |   |   |   |   |   |   |   |   |                               |    |    |    |    |    |    |    |    |
| protactinium Pa <sup>4+</sup> | 91 |                                |   |   |   |   |   |   |   |   |                               |    |    |    |    |    |    |    |    |
| uranium U <sup>6+</sup>       | 92 |                                |   |   |   |   |   |   |   |   |                               |    |    |    |    |    |    |    |    |
| thorium Th <sup>4+</sup>      | 93 |                                |   |   |   |   |   |   |   |   |                               |    |    |    |    |    |    |    |    |

Name: \_\_\_\_\_

**KEY**

Block: \_\_\_\_\_

# Chemistry 11

## Writing Chemical Formulas (Basic)

**Directions:** Write the formula for each of the following.

1. Calcium oxide
2. Lithium nitride
3. Magnesium sulphide
4. Silver chloride
5. Strontium fluoride
6. Barium bromide
7. Cesium phosphide
8. Potassium iodide
9. Aluminum nitride
10. Zinc sulphide
11. Gallium bromide
12. Strontium oxide
13. Rubidium nitride
14. Silver oxide
15. Magnesium phosphide
16. Barium oxide
17. Zinc iodide
18. Cesium chloride
19. Lithium sulphide
20. Aluminum fluoride
21. Beryllium selenide
22. Silver phosphide
23. Calcium bromide
24. Barium nitride

CaO  
 Li<sub>3</sub>N  
 MgS  
 AgCl  
 SrF<sub>2</sub>  
 BaBr<sub>2</sub>  
 Cs<sub>3</sub>P  
 KI  
 AlN  
 ZnS  
 GaBr<sub>3</sub>  
 SrO  
 Rb<sub>3</sub>N  
 Ag<sub>2</sub>O  
 Mg<sub>3</sub>P<sub>2</sub>  
 BaO  
 ZnI<sub>2</sub>  
 CsCl  
 Li<sub>2</sub>S  
 AlF<sub>3</sub>  
 BeSe  
 Ag<sub>3</sub>P  
 CaBr<sub>2</sub>  
 Ba<sub>3</sub>N<sub>2</sub>

Name: \_\_\_\_\_

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# Chemistry 11

## Writing Chemical Formulas (Polyatomic)

**Directions:** Write the formula for each of the following.

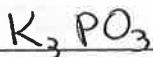
1. Aluminum iodate



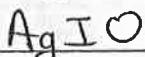
2. Zinc cyanate



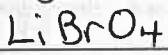
3. Potassium phosphite



4. Silver hypoiodite



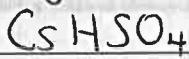
5. Lithium perbromate



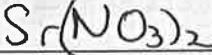
6. Magnesium thiocyanate



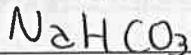
7. Cesium bisulphate



8. Strontium nitrate



9. Sodium bicarbonate



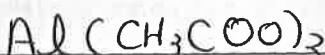
10. Silver oxalate



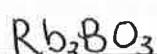
11. Barium chlorate



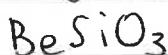
12. Aluminum acetate



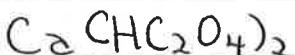
13. Rubidium borate



14. Beryllium silicate



15. Calcium hydrogen oxalate



16. Lithium hypobromite



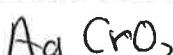
17. Potassium amide



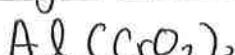
18. Sodium selenate



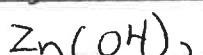
19. Silver chromite



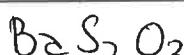
20. Aluminum chromite



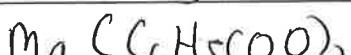
21. Zinc hydroxide



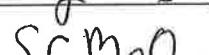
22. Barium thiosulphate



23. Magnesium benzoate



24. Strontium molybdate



Name: \_\_\_\_\_

Block: \_\_\_\_\_

**KEY**

# Chemistry 11

## Naming Compounds Worksheet - Basic

Directions: Name each of the following compounds. Have fun ☺

1. CaO      Calcium Oxide
2. NaCl      sodium chloride
3. Cs<sub>2</sub>S      cesium sulphide
4. Li<sub>2</sub>O      lithium oxide
5. MgCl<sub>2</sub>      magnesium chloride
6. BaS      barium sulphide
7. Sc<sub>2</sub>O<sub>3</sub>      scandium oxide
8. BeS      beryllium sulphide
9. SrCl<sub>2</sub>      strontium chloride
10. Al<sub>2</sub>S<sub>3</sub>      aluminum sulphide
11. MgO      magnesium oxide
12. BaI<sub>2</sub>      barium iodide
13. KCl      potassium chloride
14. CsOH      cesium hydroxide
15. AlBr<sub>3</sub>      aluminum bromide
16. Ag<sub>3</sub>PO<sub>4</sub>      silver phosphate
17. Y<sub>2</sub>S<sub>3</sub>      yttrium sulphide
18. AgBr      silver bromide
19. ZnO      zinc oxide
20. GaN      gallium nitride
21. Na<sub>3</sub>P      sodium phosphide
22. LaF<sub>3</sub>      lanthanum fluoride
23. GaI<sub>3</sub>      gallium iodide
24. Ba(NO<sub>3</sub>)<sub>2</sub>      barium nitrate

Name: \_\_\_\_\_



Block: \_\_\_\_\_

25.  $\text{Sr}_3(\text{PO}_4)_2$  strontium phosphate
26.  $\text{MgSO}_4$  magnesium sulphate
27.  $\text{Al}_2\text{Se}_3$  aluminum selenide
28.  $\text{AlBO}_3$  aluminum borate
29.  $\text{K}_3\text{P}$  potassium phosphide
30.  $\text{Sc}_2(\text{CO}_3)_3$  scandium carbonate
31.  $\text{YI}_3$  yttrium (III) iodide
32.  $\text{Zn}_3\text{B}_4\text{O}_7$  zinc tetraborate
33.  $\text{NaIO}_3$  sodium iodate
34.  $\text{K}_3\text{PO}_3$  potassium phosphite
35.  $\text{YN}$  yttrium (III) nitride
36.  $\text{Al}_2(\text{HPO}_4)_3$  aluminum hydrogen phosphate
37.  $\text{Li}_2(\text{C}_2\text{O}_4)$  lithium oxide
38.  $\text{Ca}_3\text{P}_2$  calcium phosphide
39.  $(\text{NH}_4)_2\text{O}$  ammonium oxide
40.  $\text{Mg}_3(\text{C}_6\text{H}_5\text{O}_7)_2$  magnesium citrate
41.  $\text{NaBrO}_3$  sodium borate
42.  $\text{Ag}_2\text{S}$  silver sulphide
43.  $\text{KCl}$  potassium chloride
44.  $\text{Zn}_3\text{N}_2$  zinc nitride
45.  $\text{BaC}_4\text{H}_4\text{O}_6$  barium tartrate
46.  $\text{Al}(\text{AlO}_2)_3$  aluminum aluminate
47.  $\text{Cs}_2\text{S}_2\text{O}_3$  cesium thiosulfate
48.  $\text{Ag}_2\text{CrO}_4$  silver chromate
49.  $\text{BeMoO}_4$  beryllium molybdate
50.  $\text{Cs}_3\text{N}$  cesium nitride

Name: \_\_\_\_\_

Block \_\_\_\_\_

**KEY**

# Chemistry 11

## Writing Chemical Formulas (Multivalent)

**Directions:** Write the formula for each of the following compounds. Have fun ☺

1. Titanium (III) oxide
2. Iron (II) sulphide
3. Cobalt (III) phosphite
4. Lead (IV) bromide
5. Manganese (II) bisulphate
6. Gold (III) nitride
7. Chromium (VI) phosphate
8. Nickel (II) sulphide
9. Platinum (IV) phosphide
10. Palladium (III) hypochlorite
11. Iron (III) hydroxide
12. Copper (I) acetate
13. Tin (IV) thiocyanate
14. Lead (II) chloride
15. Vanadium (V) sulphite
16. Iron (II) monohydrogen phosphate
17. Cobalt (II) sulphate
18. Chromium (VI) oxide
19. Titanium (IV) phosphide
20. Gold (III) nitrite
21. Antimony (V) hypochlorite
22. Cobalt (III) bicarbonate
23. Molybdenum (II) nitride
24. Gold (I) bisulphate

|   |
|---|
| Ti <sub>2</sub> O <sub>3</sub>                    |
| FeS   |
| CoPO <sub>3</sub>                                 |
| PbBr <sub>4</sub>                                 |
| Mn <sub>n</sub> (HSO <sub>4</sub> ) <sub>2</sub>  |
| AuN   |
| Cr(PO <sub>4</sub> ) <sub>2</sub>                 |
| NiS   |
| Pt <sub>3</sub> P <sub>4</sub>                    |
| Pd(CClO) <sub>3</sub>                             |
| Fe(OH) <sub>3</sub>                               |
| CuCH <sub>3</sub> COO                             |
| Sn(SCN) <sub>4</sub>                              |
| PbCl <sub>2</sub>                                 |
| V <sub>2</sub> (SO <sub>3</sub> ) <sub>2</sub>    |
| FeHPO <sub>4</sub>                                |
| CoSO <sub>4</sub>                                 |
| Cr <sub>2</sub> O <sub>6</sub> = CrO <sub>3</sub> |
| Ti <sub>3</sub> P <sub>4</sub>                    |
| Au(NO <sub>3</sub> ) <sub>3</sub>                 |
| Sb(CClO) <sub>5</sub>                             |
| Co(HCO <sub>3</sub> ) <sub>3</sub>                |
| Mo <sub>2</sub> N <sub>2</sub>                    |
| AuHSO <sub>4</sub>                                |

Date:

 KEY

Name: \_\_\_\_\_

Block: \_\_\_\_\_

## Writing Formulae

1. Potassium bromide
2. Calcium chloride
3. Aluminum fluoride
4. Sodium oxide
5. Potassium hydroxide
6. Calcium sulphate
7. Iron(II) sulphate
8. Iron(III) sulphate
9. Sodium phosphate
10. Manganese(II) nitrate
11. Chromium(III) oxide
12. Chromium(III) sulphide
13. Aluminium sulphate
14. Aluminium chloride
15. Calcium nitrate
16. Silver phosphate
17. Silver phosphide
18. Vanadium (V) oxide
19. Barium nitride
20. Calcium selenide
21. Calcium iodide
22. Tungsten chloride
23. Scandium bromide
24. Cobalt(II) nitrate
25. Lead(IV) phosphate

1. KBr
2. CaCl<sub>2</sub>
3. AlF<sub>3</sub>
4. Na<sub>2</sub>O
5. KOH
6. CaSO<sub>4</sub>
7. FeSO<sub>4</sub>
8. Fe<sub>2</sub>(SO<sub>4</sub>)<sub>3</sub>
9. Na<sub>3</sub>PO<sub>4</sub>
10. Mn(NO<sub>3</sub>)<sub>2</sub>
11. Cr<sub>2</sub>O<sub>3</sub>
12. Cr<sub>2</sub>S<sub>3</sub>
13. Al<sub>2</sub>(SO<sub>4</sub>)<sub>3</sub>
14. AlCl<sub>3</sub>
15. Ca(NO<sub>3</sub>)<sub>2</sub>
16. Ag<sub>3</sub>PO<sub>4</sub>
17. Ag<sub>3</sub>P
18. V<sub>2</sub>O<sub>5</sub>
19. Ba<sub>3</sub>N<sub>2</sub>
20. Ca<sub>2</sub>Se<sub>2</sub>
21. CaI<sub>2</sub>
22. WCl
23. ScBr
24. Co(NO<sub>3</sub>)<sub>2</sub>
25. Pb<sub>3</sub>(PO<sub>4</sub>)<sub>4</sub>

Name: \_\_\_\_\_

KEY

Block: \_\_\_\_\_

# Chemistry 11

## Writing Chemical Formulas Review Worksheet #2

Directions: Write the formula for each of the following.

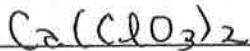
1. Lithium sulphate



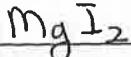
2. Sodium bromide



3. Calcium chlorate



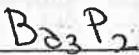
4. Magnesium Iodide



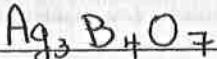
5. Copper (I) oxalate



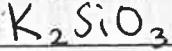
6. Barium phosphide



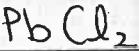
7. Silver tetraborate



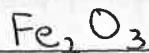
8. Potassium silicate



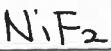
9. Lead (II) chloride



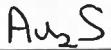
10. Iron (III) oxide



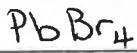
11. Nickel (II) fluoride



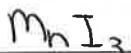
12. Gold (I) sulfide



13. Lead (IV) bromide



14. Manganese (III) iodide



15. Bismuth (V) nitride



16. Copper (II) oxide



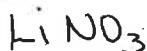
17. Chromium (III) oxide



18. Cobalt (III) nitride



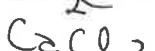
19. Lithium nitrate



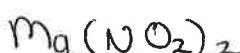
20. Sodium carbonate



21. Calcium chloride



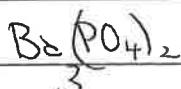
22. Magnesium nitrite



23. Cesium hydroxide



24. Barium phosphate



Name: \_\_\_\_\_



Block: \_\_\_\_\_

|                                  |                                       |
|----------------------------------|---------------------------------------|
| 25. Gold (I) nitrate             | $\text{AuNO}_3$                       |
| 26. Beryllium carbonate          | $\text{BeCO}_3$                       |
| 27. Lead (II) sulfate            | $\text{PbSO}_4$                       |
| 28. Iron (III) phosphite         | $\text{FePO}_3$                       |
| 29. Nickel (II) sulfite          | $\text{NiSO}_3$                       |
| 30. Gold (I) hydroxide           | $\text{AuOH}$                         |
| 31. Chromium (II) phosphate      | $\text{Cr}_3(\text{PO}_4)_2$          |
| 32. Manganese (IV) sulfate       | $\text{Mn}(\text{SO}_4)_2$            |
| 33. Iron (III) chlorate          | $\text{Fe}(\text{ClO}_3)_3$           |
| 34. Ammonium nitrate             | $\text{NH}_4\text{NO}_3$              |
| 35. Copper (II) hydroxide        | $\text{Cu}(\text{OH})_2$              |
| 36. Chromium (III) phosphate     | $\text{CrPO}_4$                       |
| 37. Cobalt (III) nitrate         | $\text{Co}(\text{NO}_3)_3$            |
| 38. Strontium acetate            | $\text{Sr}(\text{CH}_3\text{COO})_2$  |
| 39. Molybdenum (II) oxide        | $\text{MoO}$                          |
| 40. Bismuth (III) nitride        | $\text{BiN}$                          |
| 41. Gold (III) bromide           | $\text{AuBr}_3$                       |
| 42. Titanium (III) hypobromite   | $\text{Ti}(\text{BrO})_3$             |
| 43. Cobalt (II) hydrogen oxalate | $\text{Co}(\text{CH}_2\text{COO})_2$  |
| 44. Barium hydroxide             | $\text{Ba}(\text{OH})_2$              |
| 45. Calcium sulphide             | $\text{CaS}$                          |
| 46. Ammonium thiosulphate        | $(\text{NH}_4)_2\text{S}_2\text{O}_3$ |
| 47. Osmium (IV) chromite         | $\text{Os}(\text{CrO}_2)_4$           |
| 48. Gallium bisulphide           | $\text{GaHS}$                         |
| 49. Lithium phosphide            | $\text{Li}_3\text{P}$                 |
| 50. Magnesium sulphite           | $\text{MgSO}_3$                       |

Name: \_\_\_\_\_



Block: \_\_\_\_\_

# Chemistry 11

## Naming Compounds Worksheet - Multivalent

**Directions:** Name each of the following compounds. Enjoy the Chem-is-try ☺

|  |                                   |
|--|-----------------------------------|
| 1. CuOH  | copper (I) hydroxide              |
| 2. Mn(SO <sub>4</sub> ) <sub>2</sub>                               | manganese (IV) sulphate           |
| 3. Co(BrO <sub>2</sub> ) <sub>3</sub>                              | cobalt (III) bromite              |
| 4. Pb(CrO <sub>4</sub> ) <sub>2</sub>                              | lead (IV) chromate                |
| 5. CrP   | chromium (III) phosphide          |
| 6. Pt(SiO <sub>3</sub> ) <sub>2</sub>                              | platinum (II) silicate            |
| 7. SnS   | tin (II) sulphide                 |
| 8. Mo <sub>2</sub> (CO <sub>3</sub> ) <sub>3</sub>                 | molybdenum (III) carbonate        |
| 9. Ni <sub>2</sub> (HPO <sub>4</sub> ) <sub>3</sub>                | nickel (III) hydrogen phosphate   |
| 10. BiBO <sub>3</sub>  | bismuth (III) borate              |
| 11. Pd(B <sub>4</sub> O <sub>7</sub> ) <sub>2</sub>                | palladium (IV) tetraborate        |
| 12. Sb(IO <sub>3</sub> ) <sub>3</sub>                              | antimony (III) iodate             |
| 13. Au(HS) <sub>3</sub>  | gold (III) bisulphide             |
| 14. Co(OH) <sub>2</sub>  | cobalt (II) hydroxide             |
| 15. Mn(HPO <sub>3</sub> ) <sub>2</sub>                             | manganese (IV) hydrogen phosphite |
| 16. V <sub>3</sub> (AsO <sub>4</sub> ) <sub>4</sub>                | vanadium (IV) arsenate            |
| 17. Pb(C <sub>6</sub> H <sub>5</sub> COO) <sub>4</sub>             | lead (IV) acetate                 |
| 18. TiO <sub>2</sub>   | titanium (IV) oxide               |
| 19. CuBr   | copper (I) bromide                |
| 20. FeP  | iron (III) phosphide              |
| 21. Ti(C <sub>4</sub> H <sub>4</sub> O <sub>6</sub> ) <sub>2</sub> | titanium (IV) tartrate            |
| 22. Sb(ClO <sub>4</sub> ) <sub>3</sub>                             | antimony (III) perchlorate        |
| 23. OsO <sub>2</sub>   | osmium (IV) oxide                 |
| 24. PtCO <sub>3</sub>  | platinum (II) carbonate           |

Name: \_\_\_\_\_

Block: \_\_\_\_\_

**KEY**

|  |                                     |
|--|-------------------------------------|
| 25. Cr(BO <sub>3</sub> ) <sub>2</sub>                              | chromium (VI) borate                |
| 26. AuIO   | gold (I) hypoiodite                 |
| 27. CuHC <sub>2</sub> O <sub>4</sub>                               | copper (I) hydrogen oxalate         |
| 28. Sn(SCN) <sub>2</sub>   | tin (II) thiocyanate                |
| 29. Sb <sub>3</sub> (AsO <sub>4</sub> ) <sub>5</sub>               | antimony (V) arsenate               |
| 30. Ni(BrO <sub>3</sub> ) <sub>2</sub>                             | nickel (II) bromate                 |
| 31. V(CrO <sub>4</sub> ) <sub>2</sub>                              | vanadium (IV) chromate              |
| 32. Mn(CN) <sub>2</sub>  | manganese (II) cyanide              |
| 33. Ti <sub>2</sub> (Cr <sub>2</sub> O <sub>7</sub> ) <sub>3</sub> | titanium (III) dichromate           |
| 34. Cu(BrO <sub>4</sub> ) <sub>2</sub>                             | copper (II) hypobromite             |
| 35. OsPO <sub>3</sub>  | osmium (III) phosphite              |
| 36. NiAsO <sub>3</sub>   | nickel (III) arsenate               |
| 37. Au <sub>3</sub> PO <sub>3</sub>                                | gold (I) phosphite                  |
| 38. Mo(CrO <sub>2</sub> ) <sub>3</sub>                             | molybdenum (III) chromite           |
| 39. Mn(CH <sub>3</sub> COO) <sub>3</sub>                           | manganese (III) acetate             |
| 40. Fe <sub>2</sub> (S <sub>2</sub> O <sub>3</sub> ) <sub>3</sub>  | iron (III) thiosulfate              |
| 41. Cu(IO) <sub>2</sub>  | copper (II) hypoiodite              |
| 42. PdO <sub>2</sub>   | palladium (IV) oxide                |
| 43. MoP  | molybdenum (III) phosphide          |
| 44. TiPO <sub>4</sub>  | titanium (III) phosphate            |
| 45. OsS <sub>2</sub>   | osmium (IV) sulphide                |
| 46. Au(AlO <sub>2</sub> ) <sub>3</sub>                             | gold (III) aluminate                |
| 47. Cr <sub>2</sub> (CO <sub>3</sub> ) <sub>3</sub>                | chromium (III) carbonate            |
| 48. Sb <sub>2</sub> (HPO <sub>4</sub> ) <sub>5</sub>               | antimony (V) monohydrogen phosphate |
| 49. MnS  | manganese (II) sulphide             |
| 50. PbC <sub>2</sub> O <sub>4</sub>                                | lead (II) oxalate                   |

Name: CKEY

Block: \_\_\_\_\_

# Chemistry 11

## Naming Compounds Worksheet - Non-Metal / Non-Metal

Directions: Name each of the following compounds. Enjoy the Chem-is-try goodness

1.  $\text{CO}_3$  carbon trioxide
2.  $\text{N}_2\text{O}_5$  dinitrogen pentoxide
3.  $\text{ClF}_3$  chlorine trifluoride
4.  $\text{N}_2\text{O}_7$  dinitrogen heptoxide
5.  $\text{CO}$  carbon monoxide
6.  $\text{NO}_2$  nitrogen dioxide
7.  $\text{P}_2\text{O}_6$  diphosphorus hexoxide
8.  $\text{S}_4\text{N}_3$  tetrasulphur trinitride
9.  $\text{CS}_2$  carbon disulphide
10.  $\text{Si}_2\text{I}_8$  disilicon octiodide
11.  $\text{N}_2\text{O}_9$  dinitrogen non oxide
12.  $\text{P}_5\text{O}_7$  pentaphosphorus heptoxide
13.  $\text{SO}_2$  sulphur dioxide
14.  $\text{S}_3\text{O}_7$  trisulphur heptoxide
15.  $\text{CCl}_4$  carbon tetrachloride
16.  $\text{ClF}_6$  chlorine hexafluoride
17.  $\text{SiCl}_3$  silicon trichloride
18.  $\text{NO}$  nitrogen monoxide
19.  $\text{S}_4\text{Cl}_3$  tetrasulphur trichloride
20.  $\text{BrF}$  bromine monofluoride
21.  $\text{XeF}_8$  xenon octafluoride
22.  $\text{OF}_4$  oxygen tetrafluoride
23.  $\text{S}_5\text{O}_9$  pentasulphur nonoxide
24.  $\text{PCl}_6$  phosphorus hexachloride

Name: \_\_\_\_\_



Block \_\_\_\_\_

# Chemistry 11

## Writing Chemical Formulas – Non Metal / Non Metal

**Directions:** Write the formula for each of the following compounds. Have fun ☺

1. difluorine dioxide
2. silicon tetrafluoride
3. xenon trichloride
4. Pentasulphur octanitride
5. Dinitrogen pentoxide
6. carbon pentabromide
7. xenon tetraoxide
8. triphosphorus heptoxide
9. carbon dioxide
10. silicon trifluorine
11. trinitrogen tetrabromide
12. nitrogen monoxide
13. silicon pentnitride
14. tricarbon hexafluoride
15. phosphorus hexoxide
16. sulphur pentabromide
17. carbon heptachloride
18. sulphur octoxide
19. xenon tribromide
20. diphosphorus tetroxide
21. nitrogen tetraiodide
22. oxygen difluoride
23. tricarbon pentachloride
24. silicon heptabromide

- F2O2
- SiF4
- XeCl3
- S5N8
- N2O5
- CBr5
- XeO4
- P3O7
- CO2
- SiF3
- N3Br4
- NO
- SiN5
- C3F6
- PO6
- SBr5
- CCl7
- SO8
- XeBr3
- P2O4
- NI4
- OF2
- C3Cl5
- SiBr7

Name: \_\_\_\_\_



Block: \_\_\_\_\_

# Chemistry 11

## Naming Compounds Worksheet - Hydrates

**Directions:** Name each of the following hydrates. Make sure you smile ☺

1.  $\text{Cu}(\text{OH})_3 \cdot 5\text{H}_2\text{O}$  copper(III) hydroxide pentahydrate
2.  $\text{CaO} \cdot 3\text{H}_2\text{O}$  calcium oxide trihydrate
3.  $\text{MgS} \cdot 6\text{H}_2\text{O}$  magnesium sulphide hexahydrate
4.  $\text{Pb}(\text{SO}_4)_2 \cdot 2\text{H}_2\text{O}$  lead(IV) sulphate dihydrate
5.  $\text{K}_3\text{AsO}_4 \cdot 4\text{H}_2\text{O}$  potassium arsenate tetrahydrate
6.  $\text{FeHPO}_4 \cdot \text{H}_2\text{O}$  iron(II) hydrogen phosphate monohydrate
7.  $\text{LiNO}_2 \cdot 8\text{H}_2\text{O}$  lithium nitrite octahydrate
8.  $\text{Os}_2(\text{CO}_3)_3 \cdot 5\text{H}_2\text{O}$  osmium(III) carbonate
9.  $\text{TiO} \cdot 7\text{H}_2\text{O}$  titanium(II) oxide heptahydrate
10.  $\text{Ba}(\text{ClO}_3)_2 \cdot 9\text{H}_2\text{O}$  barium chlorate nonahydrate
11.  $\text{ScPO}_3 \cdot 8\text{H}_2\text{O}$  scandium(III) phosphite octahydrate
12.  $\text{Sb}(\text{BrO}_3)_5 \cdot 5\text{H}_2\text{O}$  antimony(IV) bromate pentahydrate
13.  $\text{W}(\text{C}_6\text{H}_5\text{O}_7)_2 \cdot 10\text{H}_2\text{O}$  tungsten(VI) citrate decahydrate
14.  $\text{Co}(\text{ClO})_2 \cdot \text{H}_2\text{O}$  cobalt(II) hypochlorite monohydrate
15.  $\text{AuCNO} \cdot 3\text{H}_2\text{O}$  gold(I) cyanide trihydrate
16.  $\text{Ca}(\text{NH}_2)_2 \cdot 9\text{H}_2\text{O}$  calcium amide nonahydrate
17.  $\text{Fe}(\text{IO}_2)_2 \cdot 4\text{H}_2\text{O}$  iron(II) iodite tetrhydrate
18.  $\text{Mo}(\text{BrO}_2)_2 \cdot 2\text{H}_2\text{O}$  molybdenum(II) bromite dihydrate
19.  $\text{NaF} \cdot 8\text{H}_2\text{O}$  sodium fluoride octahydrate
20.  $\text{AgCNO} \cdot 5\text{H}_2\text{O}$  silver(I) cyanate pentahydrate
21.  $(\text{NH}_4)_2\text{C}_2\text{O}_4 \cdot 6\text{H}_2\text{O}$  ammonium oxalate hexahydrate
22.  $\text{CsClO}_2 \cdot 7\text{H}_2\text{O}$  cesium chlorite heptahydrate
23.  $\text{Zn}_3\text{N}_2 \cdot 10\text{H}_2\text{O}$  zinc nitride decahydrate
24.  $\text{Cr}(\text{H}_2\text{PO}_3)_6 \cdot 2\text{H}_2\text{O}$  chromium(VI) dihydrogen phosphite dihydrate

Name: \_\_\_\_\_



Block \_\_\_\_\_

# Chemistry 11

## Writing Chemical Formulas - Hydrates

**Directions:** Write the formula for each of the following compounds. Have fun ☺

1. Copper (II) sulphate octahydrate
2. Calcium oxide monohydrate
3. Manganese (IV) oxalate dihydrate
4. Gold (III) hydroxide tetrahydrate
5. Lead (IV) Aluminate pentahydrate
6. Silver bromide trihydrate
7. Titanium (III) borate hexahydrate
8. Molybdenum (V) phosphate heptahydrate
9. Tin (II) perchlorate octahydrate
10. Antimony (V) phosphite decahydrate
11. Chromium (VI) pyrophosphate dihydrate
12. Cobalt (III) chromite trihydrate
13. Zinc selenate monohydrate
14. Copper (I) iodate nonahydrate
15. Iron (III) carbonate pentahydrate
16. Osmium (IV) thiosulphate tetrahydrate
17. Lead (II) molybdate pentahydrate
18. Palladium (IV) arsenite hexahydrate
19. Antimony (III) hypochlorite pentahydrate
20. Vanadium (IV) acetate heptahydrate
21. Bismuth (III) hydrophosphite octahydrate
22. Tin (II) chlorate monohydrate
23. Titanium (IV) cyanate dihydrate
24. Nickel (II) hydrogen sulphate hexahydrate

|                                |
|--------------------------------|
| <chem>CuSO4 · 8H2O</chem>      |
| <chem>CaO · H2O</chem>         |
| <chem>MnO2 · 2H2O</chem>       |
| <chem>Au(OH)3 · 4H2O</chem>    |
| <chem>Pb(AlO2)4 · 5H2O</chem>  |
| <chem>AgBr · 3H2O</chem>       |
| <chem>TiB3O3 · 6H2O</chem>     |
| <chem>MoPO4 · 7H2O</chem>      |
| <chem>Sn(ClO4)2 · 8H2O</chem>  |
| <chem>Sb3(Po3)5 · 10H2O</chem> |
| <chem>Cr2(R2O7)3 · 2H2O</chem> |
| <chem>Co(CrO2)3 · 3H2O</chem>  |
| <chem>ZnSeO4 · 1H2O</chem>     |
| <chem>CuIO3 · 9H2O</chem>      |
| <chem>Fe2(CO3)3 · 5H2O</chem>  |
| <chem>Os(S2O3)2 · 4H2O</chem>  |
| <chem>PbMoO4 · 5H2O</chem>     |
| <chem>Pd3(AsO3)4 · 6H2O</chem> |
| <chem>Sb(ClO)3 · 5H2O</chem>   |
| <chem>V(CH3COO)4 · 7H2O</chem> |
| <chem>BiHPO3 · 8H2O</chem>     |
| <chem>Sn(ClO3)2 · H2O</chem>   |
| <chem>Ti(CNCO)4 · 2H2O</chem>  |
| <chem>Ni(HSO4)2 · 6H2O</chem>  |