

## Chemical Formula Writing Worksheet Solutions

Write chemical formulas for the compounds in each box. The names are found by finding the intersection between the cations and anions. Example: The first box is the intersection between the "zinc" cation and the "chloride" anion, so you should write "ZnCl<sub>2</sub>", as shown.

	<i>zinc</i>	<i>iron (II)</i>	<i>iron (III)</i>	<i>gallium</i>	<i>silver</i>	<i>lead (IV)</i>
<i>chloride</i>	<b>ZnCl<sub>2</sub></b>	<b>FeCl<sub>2</sub></b>	<b>FeCl<sub>3</sub></b>	<b>GaCl<sub>3</sub></b>	<b>AgCl</b>	<b>PbCl<sub>4</sub></b>
<i>acetate</i>	<b>Zn(C<sub>2</sub>H<sub>3</sub>O<sub>2</sub>)<sub>2</sub></b>	<b>Fe(C<sub>2</sub>H<sub>3</sub>O<sub>2</sub>)<sub>2</sub></b>	<b>Fe(C<sub>2</sub>H<sub>3</sub>O<sub>2</sub>)<sub>3</sub></b>	<b>Ga(C<sub>2</sub>H<sub>3</sub>O<sub>2</sub>)<sub>3</sub></b>	<b>Ag C<sub>2</sub>H<sub>3</sub>O<sub>2</sub></b>	<b>Pb(C<sub>2</sub>H<sub>3</sub>O<sub>2</sub>)<sub>4</sub></b>
<i>nitrate</i>	<b>Zn(NO<sub>3</sub>)<sub>2</sub></b>	<b>Fe(NO<sub>3</sub>)<sub>2</sub></b>	<b>Fe(NO<sub>3</sub>)<sub>3</sub></b>	<b>Ga(NO<sub>3</sub>)<sub>3</sub></b>	<b>AgNO<sub>3</sub></b>	<b>Pb(NO<sub>3</sub>)<sub>4</sub></b>
<i>oxide</i>	<b>ZnO</b>	<b>FeO</b>	<b>Fe<sub>2</sub>O<sub>3</sub></b>	<b>Ga<sub>2</sub>O<sub>3</sub></b>	<b>Ag<sub>2</sub>O</b>	<b>PbO<sub>2</sub></b>
<i>nitride</i>	<b>Zn<sub>3</sub>N<sub>2</sub></b>	<b>Fe<sub>3</sub>N<sub>2</sub></b>	<b>FeN</b>	<b>GaN</b>	<b>Ag<sub>3</sub>N</b>	<b>Pb<sub>3</sub>N<sub>4</sub></b>
<i>sulfate</i>	<b>ZnSO<sub>4</sub></b>	<b>FeSO<sub>4</sub></b>	<b>Fe<sub>2</sub>(SO<sub>4</sub>)<sub>3</sub></b>	<b>Ga<sub>2</sub>(SO<sub>4</sub>)<sub>3</sub></b>	<b>Ag<sub>2</sub>SO<sub>4</sub></b>	<b>Pb(SO<sub>4</sub>)<sub>2</sub></b>

Write the formulas for the following compounds:

- 1) copper (II) chloride **CuCl<sub>2</sub>**
- 2) lithium acetate **LiC<sub>2</sub>H<sub>3</sub>O<sub>2</sub>**
- 3) vanadium (III) selenide **V<sub>2</sub>Se<sub>3</sub>**
- 4) manganese (IV) nitride **Mn<sub>3</sub>N<sub>4</sub>**
- 5) beryllium oxide **BeO**
- 6) sodium sulfate **Na<sub>2</sub>SO<sub>4</sub>**
- 7) aluminum arsenide **AlAs**
- 8) potassium permanganate **KMnO<sub>4</sub>**
- 9) chromium (VI) cyanide **Cr(CN)<sub>6</sub>**
- 10) tin (II) sulfite **SnSO<sub>3</sub>**
- 11) vanadium (V) fluoride **VF<sub>5</sub>**
- 12) ammonium nitrate **NH<sub>4</sub>NO<sub>3</sub>**

## Naming Ionic Compounds – Answer Key

Give the name and molar mass of the following ionic compounds:

### Name

- 1)  $\text{Na}_2\text{CO}_3$  **sodium carbonate**
- 2)  $\text{NaOH}$  **sodium hydroxide**
- 3)  $\text{MgBr}_2$  **magnesium bromide**
- 4)  $\text{KCl}$  **potassium chloride**
- 5)  $\text{FeCl}_2$  **iron (II) chloride**
- 6)  $\text{FeCl}_3$  **iron (III) chloride**
- 7)  $\text{Zn(OH)}_2$  **zinc hydroxide**
- 8)  $\text{Be}_2\text{SO}_4$  **beryllium sulfate**
- 9)  $\text{CrF}_2$  **chromium (II) fluoride**
- 10)  $\text{Al}_2\text{S}_3$  **aluminum sulfide**
- 11)  $\text{PbO}$  **lead (II) oxide**
- 12)  $\text{Li}_3\text{PO}_4$  **lithium phosphate**
- 13)  $\text{TiI}_4$  **titanium (IV) iodide**
- 14)  $\text{Co}_3\text{N}_2$  **cobalt (II) nitride**
- 15)  $\text{Mg}_3\text{P}_2$  **magnesium phosphide**
- 16)  $\text{Ga(NO}_2)_3$  **gallium nitrite**
- 17)  $\text{Ag}_2\text{SO}_3$  **silver sulfite**
- 18)  $\text{NH}_4\text{OH}$  **ammonium hydroxide**
- 19)  $\text{Al(CN)}_3$  **aluminum cyanide**
- 20)  $\text{Be(CH}_3\text{COO)}_2$  **beryllium acetate**

*For the following compounds, give the formulas and the molar masses:*

	<b>Formula</b>
21) sodium phosphide	<b>Na<sub>3</sub>P</b>
22) magnesium nitrate	<b>Mg(NO<sub>3</sub>)<sub>2</sub></b>
23) lead (II) sulfite	<b>PbSO<sub>3</sub></b>
24) calcium phosphate	<b>Ca<sub>3</sub>(PO<sub>4</sub>)<sub>3</sub></b>
25) ammonium sulfate	<b>(NH<sub>4</sub>)<sub>2</sub>SO<sub>4</sub></b>
26) silver cyanide	<b>AgCN</b>
27) aluminum sulfide	<b>Al<sub>2</sub>S<sub>3</sub></b>
28) beryllium chloride	<b>BeCl<sub>2</sub></b>
29) copper (I) arsenide	<b>Cu<sub>3</sub>As</b>
30) iron (III) oxide	<b>Fe<sub>2</sub>O<sub>3</sub></b>
31) gallium nitride	<b>GaN</b>
32) iron (II) bromide	<b>FeBr<sub>2</sub></b>
33) vanadium (V) phosphate	<b>V<sub>3</sub>(PO<sub>4</sub>)<sub>5</sub></b>
34) calcium oxide	<b>CaO</b>
35) magnesium acetate	<b>Mg(CH<sub>3</sub>COO)<sub>2</sub></b>
36) aluminum sulfate	<b>Al<sub>2</sub>(SO<sub>4</sub>)<sub>3</sub></b>
37) copper (I) carbonate	<b>Cu<sub>2</sub>CO<sub>3</sub></b>
38) barium oxide	<b>BaO</b>
39) ammonium sulfite	<b>(NH<sub>4</sub>)<sub>2</sub>SO<sub>3</sub></b>
40) silver bromide	<b>AgBr</b>