

Chemistry  
Writing Ionic Formulas with Monoatomic Ions

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

Write formulas for ionic compounds made from the following ions. Use your ion cutouts to help determine the correct ratio of ions.

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|---|---|
| 1. $\text{Ca}^{2+}$ and $\text{Cl}^-$ <u><math>\text{CaCl}_2</math></u>           | 6. $\text{Cu}^+$ and $\text{N}^{3-}$ <u><math>\text{Cu}_3\text{N}</math></u>      |
| 2. $\text{Mn}^{3+}$ and $\text{O}^{2-}$ <u><math>\text{Mn}_2\text{O}_3</math></u> | 7. $\text{Co}^{2+}$ and $\text{P}^{3-}$ <u><math>\text{Co}_3\text{P}_2</math></u> |
| 3. $\text{Al}^{3+}$ and $\text{S}^{2-}$ <u><math>\text{Al}_2\text{S}_3</math></u> | 8. $\text{K}^+$ and $\text{S}^{2-}$ <u><math>\text{K}_2\text{S}</math></u>        |
| 4. $\text{Li}^+$ and $\text{Br}^-$ <u><math>\text{LiBr}</math></u>                | 9. $\text{Sr}^{2+}$ and $\text{O}^{2-}$ <u><math>\text{SrO}</math></u>            |
| 5. $\text{Ba}^{2+}$ and $\text{F}^-$ <u><math>\text{BaF}_2</math></u>             | 10. $\text{Cr}^{6+}$ and $\text{O}^{2-}$ <u><math>\text{CrO}_3</math></u>         |

Use your periodic table to predict the ionic compounds made from the following elements. Hint: first determine the most likely charge on each element when it either gains or loses electrons.

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|--|--|
| 11. Na and Cl <u><math>\text{NaCl}</math></u>          | 16. Ga and S <u><math>\text{Ga}_2\text{S}_3</math></u> |
| 12. Mg and Br <u><math>\text{MgBr}_2</math></u>        | 17. Rb and F <u><math>\text{RbF}</math></u>            |
| 13. Al and O <u><math>\text{Al}_2\text{O}_3</math></u> | 18. Li and Se <u><math>\text{Li}_2\text{Se}</math></u> |
| 14. Cs and As <u><math>\text{Cs}_3\text{As}</math></u> | 19. Be and P <u><math>\text{Be}_3\text{P}_2</math></u> |
| 15. Ca and I <u><math>\text{CaI}_2</math></u>          | 20. Sr and N <u><math>\text{Sr}_3\text{N}_2</math></u> |

Write formulas for each ionic compound named below.

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|--|--|
| 21. Sodium oxide <u><math>\text{Na}_2\text{O}</math></u>       | 26. Copper (II) oxide <u><math>\text{CuO}</math></u>       |
| 22. Strontium fluoride <u><math>\text{SrF}_2</math></u>        | 27. Iron (III) chloride <u><math>\text{FeCl}_3</math></u>  |
| 23. Lithium sulfide <u><math>\text{Li}_2\text{S}</math></u>    | 28. Zinc sulfide <u><math>\text{ZnS}</math></u>            |
| 24. Aluminum nitride <u><math>\text{AlN}</math></u>            | 29. Nickel (III) bromide <u><math>\text{NiBr}_3</math></u> |
| 25. Potassium selenide <u><math>\text{K}_2\text{Se}</math></u> | 30. Titanium (IV) oxide <u><math>\text{TiO}_2</math></u>   |

Name each ionic compound from the formulas given below.

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|--|---|
| 31. $\text{CaCl}_2$ <u>Calcium Chloride</u>      | 40. $\text{Al}_2\text{O}_3$ <u>Aluminum Oxide</u>   |
| 32. $\text{MgBr}_2$ <u>Magnesium Bromide</u>     | 41. $\text{CoCl}_2$ <u>Cobalt (II) Chloride</u>     |
| 33. $\text{Li}_2\text{O}$ <u>Lithium Oxide</u>   | 42. $\text{CuO}$ <u>Copper (II) Oxide</u>           |
| 34. $\text{NaI}$ <u>Sodium Iodide</u>            | 43. $\text{ZnCl}_2$ <u>Zinc Chloride</u>            |
| 35. $\text{SrF}_2$ <u>Strontium Fluoride</u>     | 44. $\text{HgO}$ <u>Mercury (II) Oxide</u>          |
| 36. $\text{PbO}_2$ <u>Lead (IV) Oxide</u>        | 45. $\text{Na}_3\text{As}$ <u>Sodium Arsenide</u>   |
| 37. $\text{MgCl}_2$ <u>Magnesium Chloride</u>    | 46. $\text{Fe}_2\text{O}_3$ <u>Iron (III) Oxide</u> |
| 38. $\text{NiCl}_3$ <u>Nickel (III) Chloride</u> | 47. $\text{SnO}_2$ <u>Tin (IV) Oxide</u>            |
| 39. $\text{KI}$ <u>Potassium Iodide</u>          | 48. $\text{BaF}_2$ <u>Barium Fluoride</u>           |