

**ADVANCED PLACEMENT CHEMISTRY
CHEMICAL FORMULAS WORKSHEET**

A. Predict the formula for each of the following ionic compounds:

- | | |
|-----------------------|---------------------------|
| 1. Tin (II) hydroxide | 6. Ammonium sulfide |
| 2. Barium fluoride | 7. Aluminum sulfate |
| 3. Sodium phosphite | 8. Chromium (III) nitrite |
| 4. Magnesium nitrate | 9. Sodium acetate |
| 5. Iron (II) oxide | 10. Lead (IV) chlorate |

Name the following ionic compounds.

- | | |
|---|---|
| 11. Cu_2O | 18. Mg_3P_2 |
| 12. $\text{Mg}(\text{MnO}_4)_2$ | 19. PbCrO_4 |
| 13. K_2HPO_4 | 20. Hg_2Cl_2 |
| 14. $\text{Fe}(\text{C}_2\text{H}_3\text{O}_2)_3$ | 21. CaH_2 |
| 15. $\text{Ca}(\text{HCO}_3)_2$ | 22. SnCr_2O_7 |
| 16. HCN | 23. H_2S |
| 17. KSCN | 24. $(\text{NH}_4)_2\text{C}_2\text{O}_4$ |

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B. Predict the formula of each of the following compounds.

- | | |
|-------------------------------|----------------------------|
| 1. Sodium oxalate | 8. Lead (II) nitrate |
| 2. Calcium hydrogen carbonate | 9. Carbon tetrachloride |
| 3. Phosphorus pentabromide | 10. Mercury (II) oxide |
| 4. Sulfur hexafluoride | 11. Potassium permanganate |
| 5. Aluminum sulfite | 12. Copper (II) acetate |
| 6. Sodium thiocyanate | 13. Oxalic acid |
| 7. Dinitrogen tetroxide | 14. Nickel (II) sulfate |

Name the following compounds:

- | | |
|--------------------|-------------------|
| 15. P_2O_5 | 21. Co_3N_2 |
| 16. $FeCr_2O_7$ | 22. Cl_2O_7 |
| 17. NaH | 23. $Cr(NO_3)_3$ |
| 18. $(NH_4)_2SO_4$ | 24. $Sn(OH)_4$ |
| 19. Si_3N_4 | 25. $Mg(ClO)_2$ |
| 20. $HClO_3$ | 26. $Sr(HSO_3)_2$ |

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C. Predict the formula of each of the following compounds:

- | | |
|---------------------------------|-----------------------------|
| 1. Iron (III) hydroxide | 8. Barium sulfate |
| 2. Copper (I) nitrite | 9. Calcium carbonate |
| 3. Perchloric acid | 10. Hydrochloric acid |
| 4. Magnesium hydroxide | 11. Calcium acetate |
| 5. Lead (II) phosphate | 12. Chromic acid |
| 6. Iron (III) thiocyanate | 13. Sodium hydrogen sulfite |
| 7. Sodium carbonate decahydrate | 14. Bismuth sulfide |

Name each of the following ionic compounds

- | | |
|--|-------------------------------|
| 15. Ag_2CrO_4 | 21. $(\text{NH}_4)_2\text{S}$ |
| 16. CoI_3 | 22. HClO_2 |
| 17. $\text{Mg}(\text{ClO}_3)_2$ | 23. Ca_3N_2 |
| 18. $\text{HC}_2\text{H}_3\text{O}_2$ | 24. HI |
| 19. $\text{Cr}_2(\text{SO}_3)_3$ | 25. Na_2O_2 |
| 20. $\text{Na}_3\text{PO}_4 \cdot 12 \text{H}_2\text{O}$ | 26. KO_2 |

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D. Predict the formula.

- | | |
|-------------------------|-----------------------------|
| 1. Dichromic acid | 7. Phosphorus pentachloride |
| 2. Dinitrogen tetroxide | 8. Chlorous acid |
| 3. Ammonium hydroxide | 9. Magnesium phosphide |
| 4. Sulfurous acid | 10. Sodium hydrogen sulfate |
| 5. Lead (II) acetate | 11. Chloric acid |
| 6. Hydroiodic acid | 12. Ammonia |

Name the following compounds.

- | | |
|----------------------------------|----------------------------------|
| 13. $\text{Cu}_3(\text{PO}_4)_2$ | 20. HCl |
| 14. HNO_2 | 21. $\text{Pb}(\text{SCN})_2$ |
| 15. SO_3 | 22. NaH_2PO_4 |
| 16. CuSO_4 | 23. H_2CrO_4 |
| 17. I_2O_5 | 24. $\text{Co}_2(\text{SO}_3)_3$ |
| 18. HgBr_2 | 25. $\text{Ba}(\text{OH})_2$ |
| 19. NaOCl | 26. SiO_2 |

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E. Predict the Formula

- | | |
|-------------------------------|-------------------------|
| 1. Magnesium hydrogen sulfite | 8. Calcium hydroxide |
| 2. Sodium hydrogen phosphate | 9. Lead (II) sulfate |
| 3. Manganese (II) phosphate | 10. Potassium carbonate |
| 4. Hydrobromic acid | 11. Nitrous acid |
| 5. Tetraphosphorus decoxide | 12. Potassium iodate |
| 6. Ammonium sulfide | 13. Bromic acid |
| 7. Phosphorous acid | 14. Chloric acid |

Name the following compounds

- | | |
|---------------------------------------|--|
| 15. $\text{HC}_2\text{H}_3\text{O}_2$ | 21. $\text{Ca}(\text{SCN})_2$ |
| 16. $\text{Fe}(\text{NO}_3)_2$ | 22. H_2SO_4 |
| 17. $(\text{NH}_4)_3\text{PO}_4$ | 23. NO_2 |
| 18. K_3N | 24. $\text{Al}_2(\text{Cr}_2\text{O}_7)_3$ |
| 19. NaH_2PO_4 | 25. Na_2SeO_4 |
| 20. S_4N_4 | 26. HIO_2 |

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F. Predict the formulas of the following:

- | | |
|---------------------------------|---------------------------|
| 1. Potassium hydrogen phosphate | 8. Hydrogen carbonate ion |
| 2. Diarsenic pentoxide | 9. Aluminum bromide |
| 3. Hydrocyanic acid | 10. Lead (IV) oxide |
| 4. Iron (III) hydroxide | 11. Bismuth sulfide |
| 5. Barium nitride | 12. Sulfur hexafluoride |
| 6. Nitrous acid | 13. Calcium oxalate |
| 7. Sodium permanganate | 14. Hydroiodic acid |

Name the following:

- | | |
|----------------------------------|---|
| 15. H_3PO_4 | 22. $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$ |
| 16. $\text{Pb}(\text{NO}_3)_2$ | 23. Hg_2Cl_2 |
| 17. $\text{Fe}_2(\text{SO}_4)_3$ | 24. P_4O_6 |
| 18. HBr | 25. $\text{Mg}(\text{H}_2\text{PO}_4)_2$ |
| 19. $(\text{NH}_4)_2\text{CO}_3$ | 26. BaO_2 |
| 20. N_2O_5 | 27. $\text{Co}_2(\text{SO}_3)_3$ |
| 21. NH_4NO_2 | 28. $\text{H}_2\text{Cr}_2\text{O}_7$ |

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G. Predict the formulas:

- | | |
|---------------------------|---------------------------------------|
| 1. Disulfur hexafluoride | 8. Calcium phosphate |
| 2. Nitric acid | 9. Hydrocyanic acid |
| 3. Magnesium hydroxide | 10. Sodium hypochlorite |
| 4. Silver sulfide | 11. Iodic acid |
| 5. Iron (III) thiocyanate | 12. Oxalic acid |
| 6. Calcium nitride | 13. Nickel (II) chloride pentahydrate |
| 7. Ammonia | |

Name the following compounds:

- | | |
|---------------------------------|---|
| 14. NaClO_3 | 21. $\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$ |
| 15. HClO | 22. VF_5 |
| 16. $\text{Mg}(\text{BrO}_3)_2$ | 23. Ga_2O_3 |
| 17. SrS | 24. $\text{Ti}(\text{NO}_3)_4$ |
| 18. $\text{Sn}(\text{CrO}_4)_2$ | 25. Li_2O |
| 19. H_2PO_3^- | 26. CuO |
| 20. KSCN | 27. NaIO_4 |

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H. Predict the formulas:

- | | |
|---------------------------------|--------------------------|
| 1. Mercury (II) acetate | 7. Lead (II) phosphate |
| 2. Cesium perchlorate | 8. Dichlorine pentoxide |
| 3. Ammonium nitrite | 9. Nitrous acid |
| 4. Carbonic acid | 10. Calcium permanganate |
| 5. Calcium dihydrogen phosphate | 11. Aluminum selenite |
| 6. Silver chromate | 12. Zinc nitride |

H. Name the following:

- | | |
|---------------------------------|---|
| 13. HI | 21. NO_2^- |
| 14. $\text{Mg}(\text{HSO}_4)_2$ | 22. CrF_3 |
| 15. NO_2 | 23. $\text{H}_2\text{Cr}_2\text{O}_7$ |
| 16. HBrO_4 | 24. $\text{Ni}(\text{C}_2\text{H}_3\text{O}_2)_2$ |
| 17. HSO_3^- | 25. NaHCO_3 |
| 18. NH_4OH | 26. $\text{Ba}(\text{ClO})_2$ |
| 19. KSCN | 27. H_2O_2 |
| 20. CCl_4 | 28. $\text{Co}(\text{NO}_3)_2$ |