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

**Ions and Ionic Compounds**

1. **Name the monatomic ions below. Write formulas for the monatomic ions below.**

1. Li1+ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 7. sulfide \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. Co2+ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 8. zinc \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. Ba2+\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 9. bromide \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. O2-\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 10. iron (II) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. Br1-\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 11. nitride \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6. P3- \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 12. magnesium \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**II. Name the polyatomic ions below. Write the formulas for the polyatomic ions below.**

13. PO43- \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 17. hydroxide \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

14. NH41+ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 18. ammonium \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

15. NO3-1 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 19. carbonate \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

16. SO42- \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 20. acetate \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. **Write compounds in the table by matching the given ions and balancing the charges.**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **Anions = negative ions** | | | | | |
|  |  | Cl- | SO4-2 | NO3- | S-2 | Br- | PO4-3 |
| **Cations = positive ions** | Na+ |  |  |  |  |  |  |
| Ca+2 |  |  |  |  |  |  |
| Al+3 |  |  |  |  |  |  |
| NH4+ |  |  |  |  |  |  |
| Fe+2 |  |  |  |  |  |  |
| Co1+ |  |  |  |  |  |  |

1. **Write the chemical name for the following compounds:**

Binary Compounds:

* 1. CaI2 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  2. BaO \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  3. AlCl3 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  4. LiI \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Compounds with Polyatomic Ions

* 1. KNO3\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  2. K3PO4 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  3. NaOH \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  4. CaCO3 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  5. NH4Cl \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  6. Al2(SO4)3 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Compnds with Transition Metals (Rom Num)

* 1. FeO \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  2. Fe2O3 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  3. PbSO4 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  4. Cu(NO3)2 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  5. ZnCl2 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  6. CoCO3 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  7. AgNO3 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. **Write the chemical name for the compounds below.**

1. AgC2H3O2 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. (NH4)2SO4 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. MgO \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. Zn3(PO4)2 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   
5. K2CO3 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
6. Fe(OH)3 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7. FeS \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

8. Al2O3 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

9. Ca(OH)2 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

10.AgCl\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Cu(NO3)2 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Cu2CO3 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**VI. Write formulas for the following compounds:**

Binary Compounds:

* 1. calcium fluoride \_\_\_\_\_\_\_\_\_\_\_\_\_
  2. lithium sulfide \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  3. magnesium bromide \_\_\_\_\_\_\_\_\_\_
  4. sodium oxide \_\_\_\_\_\_\_\_\_\_\_\_\_

Compounds with Polyatomic Ions

* 1. potassium nitrate \_\_\_\_\_\_\_\_\_\_\_\_
  2. barium hydroxide \_\_\_\_\_\_\_\_\_\_
  3. ammonium sulfate \_\_\_\_\_\_\_\_\_\_\_
  4. aluminum phosphate \_\_\_\_\_\_\_\_\_
  5. ammonium hydroxide \_\_\_\_\_\_\_\_\_\_\_\_\_

Compounds with Transition Elements

* 1. zinc oxide \_\_\_\_\_\_\_\_\_\_\_\_\_
  2. iron (II) chloride \_\_\_\_\_\_\_\_\_\_
  3. lead (II) acetate \_\_\_\_\_\_\_\_\_\_\_
  4. copper (II) sulfate \_\_\_\_\_\_\_\_\_
  5. silver phosphide \_\_\_\_\_\_\_\_\_\_\_\_\_

All Compounds

* 1. nickel (II) oxide \_\_\_\_\_\_\_\_\_\_\_\_\_\_
  2. sodium carbonate \_\_\_\_\_\_\_\_\_\_
  3. sodium phosphate \_\_\_\_\_\_\_\_\_\_\_\_
  4. silver acetate \_\_\_\_\_\_\_\_\_\_\_\_\_\_
  5. magnesium oxide \_\_\_\_\_\_\_\_\_\_
  6. lithium carbonate \_\_\_\_\_\_\_\_\_\_\_\_
  7. iron (III) chloride \_\_\_\_\_\_\_\_\_\_\_\_
  8. barium carbonate \_\_\_\_\_\_\_\_\_\_\_\_
  9. zinc fluoride \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  10. lead (IV) hydroxide \_\_\_\_\_\_\_\_\_
  11. sodium nitrate \_\_\_\_\_\_\_\_\_\_\_\_\_\_
  12. sodium fluoride \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  13. sodium nitride \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  14. aluminum oxide \_\_\_\_\_\_\_\_\_\_\_\_\_
  15. copper (I) chloride \_\_\_\_\_\_\_\_\_\_\_
  16. iron (III) sulfate \_\_\_\_\_\_\_\_\_\_\_\_\_