

TYPES OF CHEMICAL BONDS

Name _____

Classify the following compounds as ionic (metal + nonmetal), covalent (nonmetal + nonmetal) or both (compound containing a polyatomic ion).

1. CaCl_2 _____

11. MgO _____

2. CO_2 _____

12. NH_4Cl _____

3. H_2O _____

13. HCl _____

4. BaSO_4 _____

14. KI _____

5. K_2O _____

15. NaOH _____

6. NaF _____

16. NO_2 _____

7. Na_2CO_3 _____

17. AlPO_4 _____

8. CH_4 _____

18. FeCl_3 _____

9. SO_3 _____

19. P_2O_5 _____

10. LiBr _____

20. N_2O_3 _____

Naming Compounds

Name _____

Part I – Write the correct name for the formula.

1. AlF_3 _____
2. NaNO_3 _____
3. P_2O_3 _____
4. Cr_2S_3 _____
5. SrF_2 _____
6. $\text{Fe}_3(\text{PO}_4)_2$ _____
7. HCl _____
8. $\text{Pb}(\text{SO}_3)_2$ _____
9. K_3N _____
10. N_2O_2 _____
11. $(\text{NH}_4)_2\text{Cr}_2\text{O}_7$ _____

Part II – Write the correct formula for the compound.

12. Calcium Chloride _____
13. Gold (III) Nitrate _____
14. Diarsenic Pentoxide _____
15. Sulfuric Acid _____
16. Tin (IV) Carbonate _____
17. Iron (III) Phosphate _____
18. Magnesium Hydroxide _____
19. Zinc Cyanide _____
20. Copper (II) Acetate _____
21. Silver Bicarbonate _____
22. Sulfur Hexafluoride _____

Name the following compounds. Remember, they may be either ionic or covalent compounds, so make sure you use the right naming method!

- 1) NaF _____
- 2) NF₃ _____
- 3) Li₂O _____
- 4) Al₂S₃ _____
- 5) MgSO₄ _____
- 6) SiH₄ _____
- 7) KNO₃ _____
- 8) P₂O₅ _____
- 9) CH₄ _____
- 10) Ca(OH)₂ _____

Write the formulas for the following compounds. Remember, they may be either ionic or covalent compounds, so make sure you use the right method!

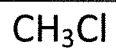
- 11) lithium chloride _____
- 12) nitrogen trichloride _____
- 13) sodium oxide _____
- 14) dinitrogen trioxide _____
- 15) ammonia _____
- 16) diboron dihydride _____
- 17) potassium phosphide _____
- 18) oxygen difluoride _____
- 19) magnesium nitrate _____
- 20) aluminum carbonate _____

Covalent Bonding

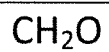
1. Fill in the chart and calculate the number of bonds.
2. Then draw the molecule and make sure each atom has a complete octet by adding pairs of electrons.
3. Identify the shape of each molecule formed

<p>Br₂</p> <p>Name: _____</p> <p>Shape: _____</p>	<p>P₂</p> <p>Name: _____</p> <p>Shape: _____</p>
<p>CO₂</p> <p>Name: _____</p> <p>Shape: _____</p>	<p>H₂S</p> <p>Name: _____</p> <p>Shape: _____</p>

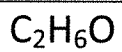
Extra Practice Challenge:



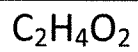
Name: _____
Shape: _____



Name: _____
Shape: _____



Name: _____
Shape: _____



Name: _____
Shape: _____

POLARITY OF MOLECULES

Name _____

Determine whether the following molecules are polar or nonpolar.

1. N_2	7. HF
2. H_2O	8. CH_3OH
3. CO_2	9. H_2S
4. NH_3	10. I_2
5. CH_4	11. $CHCl_3$
6. SO_3	12. O_2