

# Chapter 09 WS

Name: KEY

Names/Formulas of Molecular Compounds Period: \_\_\_\_\_ Date: \_\_\_\_\_

## Directions

Name the Following Molecular Compounds

- |                |                                      |               |                                  |
|----------------|--------------------------------------|---------------|----------------------------------|
| 1) $O_2$       | <u>oxygen gas</u>                    | 9) $Si_2Br_6$ | <u>disilicon hexabromide</u>     |
| 2) $H_2$       | <u>hydrogen gas</u>                  | 10) $SCl_4$   | <u>sulfur tetrachloride</u>      |
| 3) $Cl_2$      | <u>chlorine gas</u>                  | 11) $PCl_5$   | <u>phosphorus pentachloride</u>  |
| 4) $F_2$       | <u>fluorine gas</u>                  | 12) $P_7I_9$  | <u>heptaphosphorus noniodide</u> |
| 5) $C_8H_{10}$ | <u>octacarbon decahydride</u>        | 13) $N_2O_4$  | <u>dinitrogen tetroxide</u>      |
| 6) $SF_6$      | <u>sulfur hexafluoride</u>           | 14) $Cl_2O_7$ | <u>dichlorine heptoxide</u>      |
| 7) $P_4S_5$    | <u>tetraphosphorus pentachloride</u> | 15) $C_3O_4$  | <u>tricarbon tetroxide</u>       |
| 8) $SeF_6$     | <u>selenium hexafluoride</u>         | 16) $BF_3$    | <u>boron trifluoride</u>         |

## Directions

Write the formula for the following Molecular Compounds

- |                                  |                             |                                  |                             |
|----------------------------------|-----------------------------|----------------------------------|-----------------------------|
| 1) Antimony tribromide           | <u><math>SbBr_3</math></u>  | 8) Methane (carbon tetrahydride) | <u><math>CH_4</math></u>    |
| 2) Hexaboron trisilicide         | <u><math>B_6Si_3</math></u> | 9) Nonasulfur heptabromide       | <u><math>S_9Br_7</math></u> |
| 3) Tetrachlorine dioxide         | <u><math>Cl_4O_2</math></u> | 10) Carbon tetrachloride         | <u><math>CCl_4</math></u>   |
| 4) Dinitrogen Trioxide           | <u><math>N_2O_3</math></u>  | 11) Trinitrogen Pentoxide        | <u><math>N_3O_5</math></u>  |
| 5) Octasilicon tetracarbide      | <u><math>Si_8C_4</math></u> | 12) Diboron pentasilicide        | <u><math>B_2Si_5</math></u> |
| 6) Ammonia (nitrogen trihydride) | <u><math>NH_3</math></u>    | 13) Carbon monoxide              | <u><math>CO</math></u>      |
| 7) Phosphorous triiodide         | <u><math>PI_3</math></u>    | 14) Carbon dioxide               | <u><math>CO_2</math></u>    |

**Directions**

Fill in the blanks.

- 1) A base is a compound that contains a hydroxide anion. This  $\text{OH}^-$  anion is usually ionically bound to a metal cation and is named the exact same way as all ionic compounds with the cation first, followed by the anion.
- 2) An acid is a compound that contains a hydrogen cation when placed in water. There are three basic types of acids. Acids can be a combination of the  $\text{H}^+$  cation with an anion that has a name that ends in either ide, ate, or ite. The name of the acid depends on the anion.

**Directions**

Write the formula for the following acids and bases.

- |                      |   |                             |  |
|----------------------|---|-----------------------------|--|
| 3) Hydrochloric acid | <u>HCl</u>  | 8) Nitrous acid             | <u><math>\text{HNO}_2</math></u>           |
| 4) Hydroiodic acid   | <u>HI</u>   | 9) Chlorous acid            | <u><math>\text{HClO}_2</math></u>          |
| 5) Sulfuric acid     | <u><math>\text{H}_2\text{SO}_4</math></u>           | 10) Sodium hydroxide        | <u>NaOH</u>                                |
| 6) Nitric acid       | <u><math>\text{HNO}_3</math></u>                    | 11) Calcium hydroxide       | <u><math>\text{Ca}(\text{OH})_2</math></u> |
| 7) Acetic acid       | <u><math>\text{HC}_2\text{H}_3\text{O}_2</math></u> | 12) Vanadium (II) hydroxide | <u><math>\text{V}(\text{OH})_2</math></u>  |

**Directions**

Write the name for the following acids and bases.

- |                              |                          |                              |                                |
|------------------------------|--------------------------|------------------------------|--------------------------------|
| 13) HBr                      | <u>hydrobromic acid</u>  | 18) $\text{HNO}_2$           | <u>nitrous acid</u>            |
| 14) HF                       | <u>hydrofluoric acid</u> | 19) $\text{H}_2\text{SO}_3$  | <u>sulfurous acid</u>          |
| 15) $\text{H}_3\text{PO}_4$  | <u>phosphoric acid</u>   | 20) KOH                      | <u>potassium hydroxide</u>     |
| 16) $\text{H}_2\text{CrO}_4$ | <u>chromic acid</u>      | 21) $\text{Pb}(\text{OH})_4$ | <u>lead(IV) hydroxide</u>      |
| 17) $\text{H}_2\text{CO}_3$  | <u>carbonic acid</u>     | 22) $\text{Cr}(\text{OH})_3$ | <u>chromium(III) hydroxide</u> |