

Step 1: Use prefixes to indicate the number of both atoms in the compound (given in the chemical formula)

Step 2: The name of the second element ends in -ide. \*Write the elements in order of how they appear in the chemical formula\*

Example 1: Name  $\text{SO}_3$

Example 2: Name  $\text{N}_2\text{O}_4$

### Writing Chemical Formulas for Molecular Compounds

Example: Write the chemical formula for disulfur dinitride

Step 1: Write down the symbol of the elements with the subscripts indicated by the prefixes.

Note:

(A simplified ratio can result in a different molecular compound. For example,  $\text{NO}_2$  and  $\text{N}_2\text{O}_4$  are different compounds!)

Common names of molecular compounds

### Practice:

Name each of the following compounds.

- |                            |                             |                              |                                 |
|----------------------------|-----------------------------|------------------------------|---------------------------------|
| a) $\text{BrF}$            | <u>bromine monofluoride</u> | f) $\text{PBr}_5$            | <u>phosphorus pentabromide</u>  |
| b) $\text{NO}$             | <u>nitrogen monoxide</u>    | g) $\text{Br}_2\text{O}$     | <u> dibromine monoxide</u>      |
| c) $\text{CO}_2$           | <u>carbon dioxide</u>       | h) $\text{P}_2\text{O}_3$    | <u>diphosphorus trioxide</u>    |
| d) $\text{SO}_3$           | <u>sulfur trioxide</u>      | i) $\text{CO}$               | <u>carbon monoxide</u>          |
| e) $\text{As}_2\text{O}_3$ | <u>diarsenic trioxide</u>   | j) $\text{P}_4\text{O}_{10}$ | <u>tetraphosphorus decoxide</u> |

Write the chemical formula for each of the following compounds.

- |                            |                                   |                         |   |
|----------------------------|-----------------------------------|-------------------------|---|
| a) Iodine monofluoride     | <u>IF</u>                         | f) carbon tetrafluoride | <u><math>\text{CF}_4</math></u>           |
| b) Arsenic trichloride     | <u><math>\text{AsCl}_3</math></u> | g) hydrogen chloride    | <u>HCl</u>                                |
| c) sulfur dioxide          | <u><math>\text{SO}_2</math></u>   | h) dichlorine monoxide  | <u><math>\text{Cl}_2\text{O}</math></u>   |
| d) phosphorus pentabromide | <u><math>\text{PBr}_5</math></u>  | i) dichlorine pentoxide | <u><math>\text{Cl}_2\text{O}_5</math></u> |
| e) nitrogen trichloride    | <u><math>\text{NCl}_3</math></u>  | j) sulfur hexafluoride  | <u><math>\text{SF}_6</math></u>           |