Naming Rules for Covalent Compounds

1. The first element is named first, using the elements name from the Periodic Table.

2. Second element is named as an anion (add the suffix "-ide" to the root)

3. Use prefixes to denote the number of atoms for each element in the compound

4. "Mono" is not used to name the first element

Prefix	# of atoms
mono-	1
di-	2
tri-	3
tetra-	4
penta-	5
hexa-	6
hepta-	7
octa-	8
nona-	9
deca-	10

Note: When the addition of the Greek prefix places two vowels adjacent to one another, the "a" (or the "o") at the end of the Greek prefix is usually dropped; e.g., "non**ao**xide" would be written as "non**o**xide", and "mon**oo**xide" would be written as "mon**o**xide". The "i" at the end of the prefixes **"di-" and "tri-" are never dropped**.

Examples:

NO_2 → nitrogen **di**oxide

ClF_3 → chlorine **tri**fluoride

Cl_2O_7 → **di**chlorine **hept**oxide

N_2O_4 → **di**nitrogen **tetr**oxide

Prefixes are necessary when naming covalent compounds because the atoms can combine in any whole number ratio. These compounds do not involve ions and so we are not looking at charges when forming covalent compounds. For example, NO_2 cannot be called “nitrogen oxide” because there are many other compounds that are formed using only nitrogen and oxygen (N_2O_5, N_2O_4, etc)

When writing covalent compounds, we ***NEVER REDUCE* the ***SUBSCRPITS***

1. NO _____

2. NO_2 _____

3. N_2O_3 _____

4. ClF_3 _____

5. S_2O_4 _____

6. P_4S_5 _____

7. SeF_6 _____

8. Si_2Br_6 _____

9. SCl_4 _____

10. CH_4 _____

11. NF_3 _____

12. CBr_4 _____

13. CO_2 _____

14. P_2S_3 _____

15. SO_2 _____

1. antimony tribromide _____

2. chlorine dioxide _____

3. iodine pentafluoride _____

4. phosphorus triiodide _____

5. carbon monoxide _____

6. oxygen difluoride _____

7. carbon tetrafluoride _____

8. pentanitrogen dibromide _____

9. octasilicon trifluoride _____

10. boron trisulfide _____

11. hexaselenium decoxide _____

12. arsenic tetrafluoride _____

13. tellurium heptiodide _____

14. hexaphophorus trisulfide _____

15. dibromine pentachloride _____