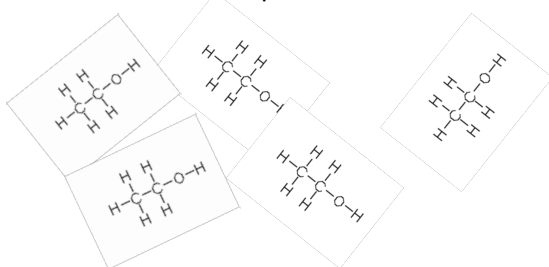


Chem 6.2 Notes - Naming Molecules.notebook

6.2 Naming Molecules

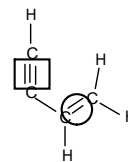
Remove or streamline naming acids section - not important!



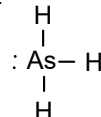
Oct 14-10:35 AM

1. Pertinent Review!

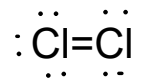
BOX the strongest carbon to carbon bond.
Circle the 2nd strongest carbon to carbon bond.



Draw the Lewis structure of AsH₃.



Draw the Lewis Structure of Cl₂!



Oct 6-6:47 AM

Binary Molecular Compounds

Def: covalently bonded compound formed from ratios of two different elements.

Three naming rules: *Ex: SeCl₂*

1. Name 1st element. *Ex: selenium*
2. Name 2nd element, with -IDE ending. *Ex: chloride*

3. Use prefixes to indicate *how many* of each element there are.

Note: 1st element never gets "mono-"

Ex: selenium dichloride

4. Reverse process determines formulas from names.

Nov 1-9:18 PM

Prefix Rabbit Hole! (Resources Page 4)

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

Nov 1-9:18 PM

Vowel Rabbit Hole!

Sometimes, vowel clusters (groups of vowels) involving oxygen result in slightly altered names, to make words sound better:

1. monoxide is: **monoxide**

2 and 3. di, tri are unchanged

4, 5, 6, 7, 8, 9 and 10: the prefix's last a is dropped: tetroxide, pentoxide, heptoxide, octoxide, nonoxide, decoxide.

Nov 1-9:18 PM

2. Example: Name N₂O

Rule 1: 1st element: nitrogen

Rule 2: 2nd element: oxygen =oxide

Rule 3: Add prefixes: *dinitrogen monoxide*

Nov 1-9:18 PM

More Examples

3. CO_2 = carbon dioxide
4. CCl_4 = carbon tetrachloride
5. H_2O = dihydrogen monoxide

Nov 1-9:18 PM

6. Your Turn!

Write the names of the following molecules:



Write the formulas of the following molecule names:

tetraselenium heptoxide

pentaphosphorus nonoxide

carbon monoxide

Nov 27-6:31 PM

Naming Binary Acids Process

Acid - Ionic compounds that release hydrogen ions (H^+) in aqueous solution.

Binary Acids- contain hydrogen and another element.

Naming Process:

1. Write name of ionic compound.
Ex: HCl – hydrogen chloride.
2. Remove *gen* and *ide* endings.
3. Combine word parts, add ending *acid*!.
Ex: Hydrochloric acid
4. Check your name: Resources Page 4.

Nov 1-9:18 PM

7. Binary Acids

Other Examples:

HBr = hydrobromic acid

HI = hydroiodic acid

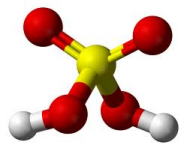
H_2S = hydrosulfuric acid

HCN (hydrocyanic acid) follows this rule too.

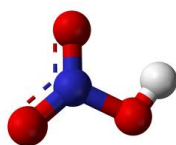
Nov 1-9:18 PM

Naming Oxyacids

Oxyacids contain hydrogen and an oxyanion.



Sulfuric Acid: H_2SO_4



Nitric Acid: HNO_3

Nov 1-9:18 PM

Naming Oxyacids Process

1. Write ionic compound name.
2. Remove the word 'hydrogen', then
 - A. Replace *-ite* ending with *-ous acid*.
Ex: - HNO_2 = hydrogen nitrite = **nitrous acid**.
 - B. Replace *-ate* with *-ic acid*.
Ex: - HNO_3 = hydrogen nitrate = **nitric acid**.
3. Check the name: Resources Page 4.

Nov 1-9:18 PM

Chem 6.2 Notes - Naming Molecules.notebook

8. Naming Oxyacids Practice

Name the following oxyacids:

HClO hydrogen hypochlorite hypochlorous acid.

HClO₂ hydrogen chlorite chlorous acid.

HClO₃ hydrogen chlorate chloric acid.

HClO₄ hydrogen perchlorate perchloric acid.

Nov 1-9:18 PM

9. More practice!

Write the names of
the following
molecules:



boron trifluoride



carbon diselenide

Write the formulas for
the following names:

trisulfur pentabromide



dichlorine monosulfide



Nov 27-6:31 PM

Homework

Preview 6.3

6.2 Problems in your Booklet

Due: Next Class

Lab next class - Dress appropriately!

Nov 1-9:24 PM