Warm-up:

Daily Warm-Ups: Chemistry

Covalent Names

Binary molecular compounds have a simple naming system. These are typically the result of a bond forming between two nonmetals, such as sulfur and oxygen. The number of each element present determines the name of the compound, a system based on common prefixes. Each element gets a prefix that shows how many of each element is available, except when there is only one atom of the first element. The prefix mono- is never used for the first element. For example, NO_2 is nitrogen dioxide, S_2O_3 is disulfur trioxide, and P_5O_{10} is pentaphosphorus decoxide.

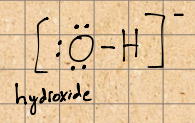
Number of atoms	1	2	3	4	5	6	7	8	9	10
Prefix	mono	di	tri	tetra	penta	hexa	hepta	octa	nona	deca

15

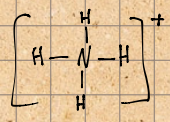
Name the following.

a. N_2O_2
b. CCl_4
c. PBr_6
d. NO
e. S_4O_9
f. C_5I_7

- Polyatomic Ions: a group of 2 or more atoms that have a charge
  - Ex: OH^- (6+1+1 = 8) NH_4^+ (5+4−1 = 8)



hydroxide



Ammonium

NH_4OH → Ammonium Hydroxide

- Ex: Aluminum Hydroxide
  Al^{3+} OH^-
  $Al(OH)_3$

Calcium phosphate
Ca^{2+} PO_4^{3-}
$Ca_3(PO_4)_2$

☆ Polyatomic ions use parentheses for multiples

Diatomic Elements:

7 elements that exist in nature as diatomic
- Unstable by themselves?

H_2 N_2 F_2 O_2 I_2 Cl_2 Br_2