

Oxyacids

(H bonded to an oxyanion):

Hydrogen will always be bonded to the oxygen atoms.

Ex. H_2CO_3 (#15)

To be completed in class!
(leave 3-4 lines below)

Exceptions to the octet rule:

1. Hydrogen will only have 1 pair of e⁻
2. Boron will only have 3 pairs of e⁻
3. Sulfur and phosphorus will occasionally have *more* than 4 pairs of e⁻ by using their empty d-orbitals (“expanded octet”)

Practice

Draw the Lewis structure for BH_3
(Boron is an exception to the octet rule!)

To be completed in class!
(leave 3-4 lines below)

Practice

Draw the Lewis structure for PF_5
(Phosphorus is an exception to the octet rule!)

To be completed in class!
(leave 3-4 lines below)

Special note regarding carbon:

Carbon *rarely* has an unshared pair of e⁻

Two exceptions:

CO

carbon monoxide

CN⁻

cyanide

The HONC Rule

This is a *general rule*

	Number of bonds				
H ydrogen & H alogens	1	-H	-X:		
O xygen	2	-O-	=O		
N itrogen	3	-N-	=N-	≡N:	
C arbon	4	-C-	=C	=C=	≡C-