

# Drawing Lewis Structures

1. Find the total number of electrons in the compound

a.  $\text{NH}_3$

Element	Valence Electrons	Times the # of the element	= Total
N	5	1	<b>5</b>
H	1	3	<b>3</b>

2. Add total electrons available

a.  $5 + 3 = 8$

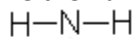
b. You have 8 electrons available for bonding

3. Divide by 2

a.  $8 / 2 = 4$

b. You have 4 pairs of electrons

4. Determine the number of bonds



a.

b.  $4 - 3$  (3 bonds) = 1 electron pair left

5. Place remaining electrons pair on atoms or create double/triple bonds



a.

6. Check for octet OR make sure each element has enough bonds

## Practice

1.  $\text{C}_2\text{H}_4$

3. Nitrogen trifluoride

2. Carbon disulfide

4.  $\text{H}_2\text{O}$

# Drawing Lewis Structures

## Polyatomic Ions

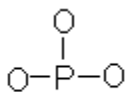
- Same as above EXCEPT you add/subtract the extra electrons (the charge)

a.  $\text{PO}_4$

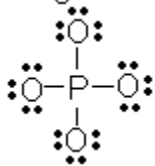
Element	Valence Electrons	Times the # of the element	= Total
P	5	1	5
O	6	4	24
Charge	-3		3

- $5 + 24 + 3 = 32$

- $32 / 2 = 16$



- 



- with a (-3) charge

- 

- Check for octet OR make sure each element has enough bonds

## Practice

