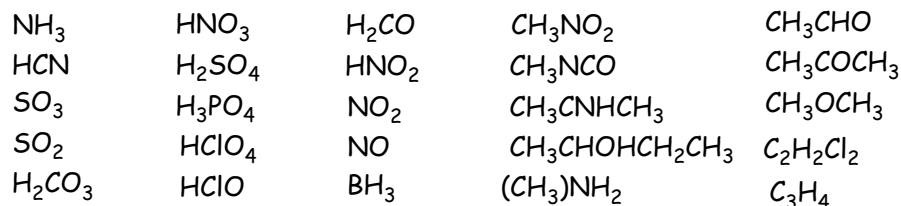


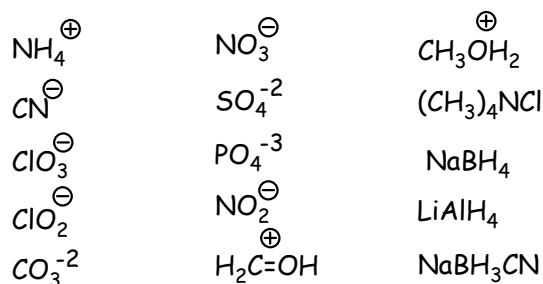
Lewis Structures Must Know List

Students should be able to draw Lewis Structures for all these formulas. Include all lone pairs, include formal charges.

These are molecules- sum of formal charges must equal zero:



These are ions- sum of formal charges must equal ionic charge:



Rules for Drawing Lewis Structures

1. Count valence electrons (add or subtract electrons equal to ionic charge)
2. Determine which atom is central atom. Usually the most electropositive element is the central atom (when more than one carbon atom is present, each C atom is a "central atom")
3. Connect all atoms using single bonds initially.
4. Complete octets on outer atoms first; complete octet on central atom last.
5. Form double or triple bonds to complete octet on central atom if needed.

Be sure the total number of electrons in your structure is equal to the number in step 1.

Eventually, students should know the common bonding arrangements and formal charges for Main Group elements:

Summary of Formal Charges

