

## General Procedure for Writing Lewis Structures

1. Draw atoms (central atom + surrounding atoms) relative to each other.
  - a. For  $AB_n$  compounds, draw atom with *lower group number* in center.
  - b. If atoms have same group number, draw atom with *higher period number* in center.
  - c. H forms only one bond (i.e., never a central atom).
2. Sum the number of valence  $e^-$  of all atoms (= total number of valence  $e^-$  available).
  - a. For anion, *add* one valence  $e^-$  for each negative charge.
  - b. For cation, *subtract* one valence  $e^-$  for each positive charge.
3. Draw single (covalent) bond from each surrounding atom to the central atom.
4. For each single bond drawn, subtract  $2 e^-$  from total number of valence  $e^-$  available.
5. Distribute remaining valence  $e^-$  in pairs so that each atom has  $8 e^-$  ( $2 e^-$  for H).
  - a. First, place unshared  $e^-$  pairs on *surrounding atoms*.
  - b. Place any remaining  $e^-$  on *central atom*.
6. If central atom does not have  $8 e^-$ , change unshared  $e^-$  pair from one of surrounding atoms into bonding pair to central atom to make multiple bond.
7. Check that each atom has 8 valence  $e^-$  ( $2 e^-$  for H).