

## Lewis Structures

Lewis structures can be drawn for:

- Ionic Compounds
- Molecular Compounds

**Lone Pair:** Represents pairs of electrons not used in bonding

Looks like

**Bonded Pair:** Represents a shared pair of electrons

Looks like

**Single Bond:** One pair of shared electrons

Looks like

**Double Bond:** Two pairs of shared electrons

Looks like

**Triple Bond:** Three pairs of shared electrons

Looks like

## Lewis Structures of Ionic Compounds

Contains metallic and non-metallic ions.

Difference in electronegativity is greater than 1.7.

To draw a Lewis structure for an ionic compound:

- I) Determine the charge of each ion and place it outside the square bracket.
- II) Be sure all ions are next to an opposite charge.

Lithium Chloride

LiCl

Aluminum Bromide  $\text{AlBr}_3$

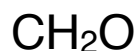
## Lewis Structures for Molecular Compounds

Contains two or more non-metals held together by covalent bonds.

Difference in electronegativity is equal to or less than 1.7.

To draw a Lewis structure for an covalent compound:

- I) Identify the central atom (typically that with less electronegativity)
- II) Arrange other atoms around the central atom
- III) Sketch the valence electrons for each atom
- IV) Ensure each atom has a full valence shell by forming single, double or triple bonds



Draw Lewis structures for:

