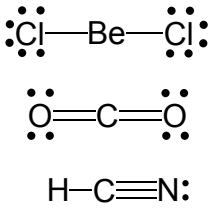
**CONCEPT:** MOLECULAR GEOMETRY (SIMPLIFIED)

- True shape of a molecule that takes into account differences in repulsion between lone pairs and surrounding elements.
  - □ Treats lone pairs and surrounding elements as _____.

**Two Electron Groups**

- Central elements with 2 electron groups have _____ lone pair(s) to give only one possible molecular geometry.

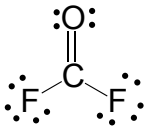
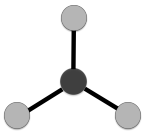
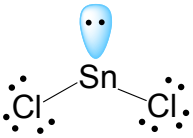
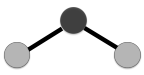
**2 Electron Groups**

| Electron Groups | Bonding Groups | Lone Pairs | Shapes | Visual | Molecular Geometry |
|---|---|---|---|---|---|
| 2 | | |  |  | _____ |

**Three Electron Groups**

- Central elements with 3 electron groups can have ___ or ___ lone pair(s) to give two possible molecular geometries.

**3 Electron Groups**

| Electron Groups | Bonding Groups | Lone Pairs | Shapes | Visual | Molecular Geometry |
|---|---|---|---|---|---|
| 3 | | |  |  | _____ |
| | | |  |  | _____<br>_____<br>_____ |

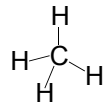
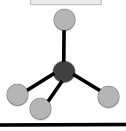
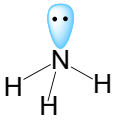
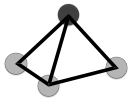
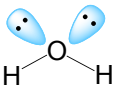
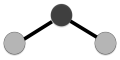
**EXAMPLE:** Determine the molecular geometry for the following molecule: $BCl_3$

**CONCEPT:** MOLECULAR GEOMETRY (SIMPLIFIED)

**Four Electron Groups**

● Central elements with 4 electron groups can have ___ to ___ lone pair(s) to give three possible molecular geometries.

**4 Electron Groups**

| Electron Groups | Bonding Groups | Lone Pairs | Shapes | Visual | Molecular Geometry |
|---|---|---|---|---|---|
| 4 | | |  |  | _____ |
| | | |  |  | _____ |
| | | |  |  | _____<br>_____<br>_____ |

**EXAMPLE:** Determine the molecular geometry for the following ion: $NH_4^+$

**PRACTICE:** Determine the molecular geometry for the following molecule: FSSF.