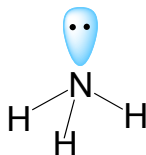


## CONCEPT: VALENCE SHELL ELECTRON PAIR REPULSION THEORY

### VSEPR Theory

- The geometry of a molecule is based on minimizing the \_\_\_\_\_ between *electron groups* on the central element.
  - **Electron Groups** = \_\_\_\_\_ pairs + \_\_\_\_\_ groups (surrounding elements).
    - \_\_\_\_\_ pair electrons exhibit an **electron cloud** that further adds to repulsion.

**EXAMPLE:** How many electron groups on the nitrogen atom based on the following Lewis Dot Structure?



- Using VSEPR Theory, the locations of surrounding elements and lone pairs around the central element are determined.

Valence Shell Electron Repulsion Theory	
Electron Groups	Molecular Shapes
2	
3	
4	
5	
6	

**EXAMPLE:** How many electron groups, lone pairs, and bonding groups does the compound have respectively?

