

LECTURE 29
THE SHAPES OF MOLECULES: VSEPR THEORY

I. Valence Shell Electron Pair Repulsion (VSEPR) Theory

- A. Prediction of geometry
- B. Nomenclature

II. VSEPR Rules

- A. Steric Number (SN)
- B. Resonance structures
- C. Molecules without lone pairs
- D. Molecules with lone pairs
 - 1. Attractive forces exerted by nuclei
 - 2. Repulsive forces

III. Rationalization of shapes based on VSEPR theory

- A. Atomic size
- B. Bond lengths