Flow of Logic for Chapter 1 Concepts
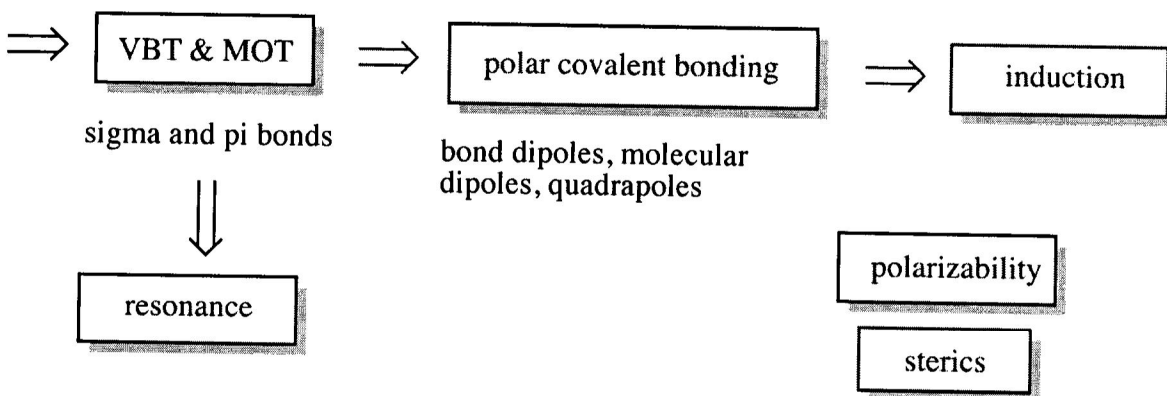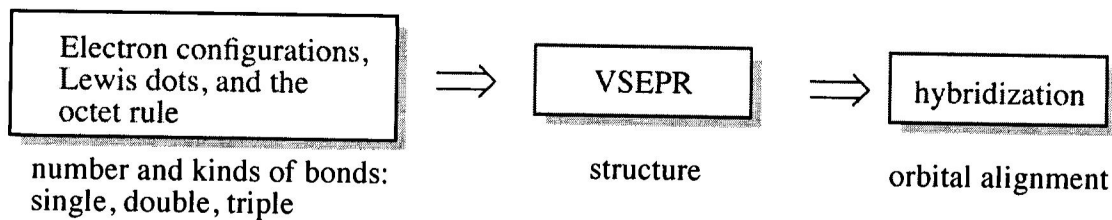
Classic Bonding and Structure

Electron configurations, Lewis dots, and the octet rule	$\Longrightarrow$	VSEPR	$\Longrightarrow$	hybridization

number and kinds of bonds: single, double, triple   structure   orbital alignment

$\Longrightarrow$ | VBT & MOT | $\Longrightarrow$ | polar covalent bonding | $\Longrightarrow$ | induction |

sigma and pi bonds

bond dipoles, molecular dipoles, quadrapoles

$\Downarrow$

resonance

polarizability

sterics

Modern Bonding Theory

Electron configurations, and the octet rule	$\Longrightarrow$	QMOT	$\Longrightarrow$	Walsh Diagrams

number and kinds of bonds: single, double, triple   group orbitals   structure

$\Longrightarrow$ | MOT only | $\Longrightarrow$

delocalized molecular orbitals

1) lower energy orbitals = induction and polarity
2) get sigma and pi bonding systems, not localized
3) HOMOs and LUMOs
4) structure is obvious from electron count

polarizability

sterics