

CHAPTER 2: BONDING AND PROPERTIES

ISSUES TO ADDRESS...

- What promotes bonding?
- What types of bonds are there?
- What properties are inferred from bonding?



Atomic Structure (Freshman Chem.)

- atom –
 - electrons – 9.11×10^{-31} kg
 - protons } 1.67×10^{-27} kg
 - neutrons }
- atomic number = # of protons in nucleus of atom
= # of electrons of neutral species
- A [=] atomic mass unit = amu = 1/12 mass of ^{12}C

Atomic wt = wt of 6.023×10^{23} molecules or atoms

$$1 \text{ amu/atom} = 1\text{g/mol}$$

C 12.011
H 1.008 etc.



Atomic Structure

- Valence electrons determine all of the following properties
 - 1) Chemical
 - 2) Electrical
 - 3) Thermal
 - 4) Optical

