

Chapter 8: Bonding

Chemical bond—strong attraction bet. atoms or ions
Electrons are transferred or shared bet. atoms

3 general types:

1. ionic

Forms bet. force of attraction bet. oppositely charged ions

ion forms when electrons are transferred bet. atoms

generally bet. a metal and a nonmetal

2. covalent

Forms when electrons are shared bet. atoms

Generally involves nonmetals

*simplest
particle of
compd.
formula
unit*

or crystal lattice (p. 344)

simplest particle: molecule

3. metallic

Found in metals

Atoms are bonded to other metallic atoms

bonding electrons are free to move throughout the
3-d structure

Lewis Structures:

Consists of element's symbol surrounded by dots to
represent the valence electrons

can only have 2 dots on each of the four sides of the symbol

Draw the Lewis structure for sulfur, helium, aluminum

use Representative elements:

A group
valence
 e^- in $s + p$



outer energy
level full
w/ $2e^-$



Octet rule:

Atoms tend to gain, lose, or share electrons to achieve a noble gas configuration (s^2p^6).

Noble gas configuration is having 8 valence electrons or an octet. This is a stable electron arrangement. Atoms with this arrangement tend to be unreactive.

The s and p sublevels will be filled.