

From Atoms to Molecules

Bond Types

Covalent: atoms share electrons

Molecules: smallest unit of a compound, retains characteristics of the compound, nonmetals with a nonmetal

Ionic compounds

- Metal and non metal
- Large class of compounds
- Ions, atoms, groups of atoms with charge
- Generally salts

Ionic bonding: Complete transfer of 1 or more electrons from one atom to another

Covalent bonding: Valence electrons shared between atoms

Electronegativity: Ability of atoms to attract shared electrons with itself

Electronegativity and polar covalent bonds

Valence electrons = group numbers

1A-4A: Group N

5A-7A: 8 - Group N

Hydrogen: Can only form one bond, never has lone pairs

Boron: Forms only 3 bonds

3rd period and beyond can exceed octet rule.

Molecule Polarity

- Any diatomic molecule with polar bonds will exhibit dipole moments