

## Properties of Solid Lab

### Part A:

Sample I:

Type of Solid: Molecular Crystal

- Melting Point: Low (80.5°)
- Conductivity: None
- Hardness: Soft

Forces of Attraction: Intermolecular Forces

- Hydrogen Bonds
- Dipole-Dipole
- London Dispersion

Types of Particles: Non-Polar and Polar

Sample H:

Type of Solid: Metallic Crystal

- Boiling Point: Extremely High (4827 °)
- Conductivity: Good in solids; none in solution
- Hardness: 0.5 (Brittle)
- Aqueous Solubility: None

Forces of Attraction: Metallic Bonds

Types of Particles: Atoms (mainly metals)

Sample D:

Type of Solid: Ionic Crystal

- Melting Point: High (772 °)
- Conductivity: Good in solution; poor in solid
- Aqueous Solubility: 75
- Odor: None

Forces of Attraction: Electrostatic Attraction

Types of Particles: Cations and Anions

Sample B:

Type of Solid: Covalent Crystal

- Boiling Point: Very High (2355 °)
- Conductivity: None
- Aqueous Solubility: No
- Hardness: 6.5 (Hard Crystals)

Forces of Attraction: Covalent Bonds

Types of Particles: Atoms

Analyze:

1.

