Intermolecular (Interparticle) Forces:

Name: _____

1. For the following substances, identify the type of substance as either *Ionic, Polar Covalent, Non-Polar Covalent, Metallic, or Networks.*
2. Determine the interparticle force for each type of substance: *H-bonding (H-B), dipole-dipole (D-D), ion-dipole (I-D), London Dispersion Force (LDF), Network Covalent (NC), or Metallic (M).*
3. Rank the relative melting point for each substance from *highest (1)* to *lowest (9).*
4. Rank the relative boiling point for each substance from *highest (1)* to *lowest (9).*
5. Determine the conductivity for each substance: Choose from *High, NONE, In Solution/Liquid*
6. Determine the solubility for each substance: Choose from *YES, NO, or Slightly*

	Substance	Type of Substance	Strongest Interparticle Force	Relative Melting Point	Relative Boiling Point	Conductivity	Solubility
1)	NH_3	Polar Covalent	H-Bonding (H-B)				
2)	CH_2O						
3)	K_3PO_4						
4)	CCl_4						
5)	Zn						
6)	$C_{(diamond)}$						
7)	LiCl						
8)	C_2H_6						
9)	BF_3						

For the following substances, identify the type of substance first, followed by its interparticle force (see example #1). If the attraction is dipole-dipole, determine if the molecule forms hydrogen bonds.

- **Type of Substance:** *Ionic, Polar Covalent, Non-Polar Covalent, Metallic, or Networks.*
- **Interparticle:** *H-Bonding (H-B), Dipole-Dipole (D-D), Ion-Dipole (I-D), London Dispersion Force (LDF), Network Covalent (NC), or Metallic (M).*

1. I_2 _____Non-Polar Covalent → London Dispersion Force (LDF)_____

2. Cu _____

3. CH_4 _____

4. CH_4O _____

5. LiOH _____

6. CH_2O _____

7. Na_3PO_4 _____

8. PCl_3 _____

9. Fe _____

10. $C_{(graphite)}$ _____

11. HF _____

12. $CuBr_2$ _____

13. Br_2 _____