Intermolecular Force (IMF) - see Intermolecule force webpage

(CF)

- Def: Force (usually coulombic force) that hold basic particles (i.e. ions, molecules, etc) near each other. It is a PHYSICAL PROCESS!!!

INCREASING IMF (Increasing Energy/Force to separate basic particles)

IMF Name		Particle Name
"Ionic bond"	Assume same strength (Ok for 1st year students)	"Ionic bond" → cation (+) + anion (−)
		"metallic bond" → cation (+) + e^- "sea of free flowing electrons"

Hydrogen bonding ← (super strong CF, not SHARING ELECTRONS) ← only polar molecules with H-O, H-N, H-F bonds

Dipole-Dipole (D-D) interaction ← All polar molecules except ones w/ H-O, H-N, H-F bonds

polar molecules

Remember: dipole have a region of partially negative (coulombic force wise) and a partially positive region.

i.e. partially positive end → $\overset{\delta+}{H}\!-\!\overset{\delta-}{Cl}$ ← partially negative end

London Dispersion Forces (LDF) ← non-polar molecules

- Since non-polar molecule have no partially negative/positive region they do exert a CF, right? NO, it does its called Instantenous dipole.

* Breaking a covalent bond (make atoms sharing e^- go back just atoms) require Energy FAR GREATER THAN THIS CHART