Type of Solid (compound)	**Type of Bonding (Interparticle Force)**	Properties	Examples
Ionic	**Ionic**	-hard -high melting pts.	NaCl, CaF_2
Molecular	*Covalent:*	-soft -low melting points	
	Polar: **H-Bonding**	→→→→→→→→→→→→→→	H_2O
	Dipole-Dipole	→→→→→→→→→→→→→→	PCl_3
	Nonpolar: **London Dispersion Forces (LDF)**	→→→→→→→→	CO_2
Metallic	**non-directional covalent** (bend)	-wide range of hardness and melting points -conductors	Ag, Fe Brass: (Zn & Cu)
Network	**directional covalent** (don't bend)	-hard -high melting pts.	atomic: **C, metalloids (Si, B, Ge)** molecular: **SiO_2 (sand), S_8, P_4** **C – diamond, graphite, charcoal**
Group VIII	**LDF**	-low melting pts.	**noble gases**

The **greater the interparticle force (**the more sticky** it is), the:

-**greater the surface tension** (liquid sticks).
-**greater the viscosity** (liquid sticks).
-**greater the boiling point**
(liquid sticks, hard to escape as a gas).
-**greater the melting point (freezing point)**
(solid sticks, hard to melt).
-**weaker the vapor pressure**
(liquid sticks, less liquid evaporating to form a gas).

Greatest Interparticle Force (stickiest) **Weakest**

↓ ↓

Ionic	>	**metallic**	>	H-Bonding	>	Dipole-Dipole	>	LDF*
(+)/(-) ions		metals (Fe, Pu)		H with N,O,F		polar		nonpolar

*(for LDF: long chains (tangle) and atoms with more electrons, increase the LDF interparticle force)

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