

SUMMARY TABLE OF TYPES OF SOLIDS

WEAKING BONDING	→	TO	→	STRONGEST BONDING
	Molecular	Metallic	Ionic	Covalent Network
Melting Point	lowest (many are gas or liquid)	medium - high (varies)	high (all solid @ Room T)	highest
Bonds	London dispersion / dipole-dipole / H bonds forces	metallic bonds	ionic bonds	covalent bonds
Examples	N ₂ , CO ₂ , / CH ₄ / H ₂ S / HCl / H ₂ O, NH ₃ , / CH ₃ OH	Al, Fe, Na, Mo	NaCl, KNO ₃ , MgO, CuSO ₄	C (diamond), SiO ₂ (quartz), SiC
structure/particles	made up of molecules: covalent bonds inside, weak bonds between molecules	3-D array of + ions in a "sea of electrons"	3-D array of + and - ions	atoms held together by covalent bonds
electrical conductivity	NO (except aqueous acids)	YES, including solid	solid - NO, liquid - YES	NO (except graphite)
water soluble	varies (yes, if polar)	NO	varies	NO