


NAME: Alex

BONDING TYPES & CHARACTERISTICS

	IONIC	METALLIC	COVALENT		NETWORK COVALENT
			POLAR	NONPOLAR	
Element types (metals/nonmetals?)	Metal & Nonmetal	Metals	Nonmetals		Nonmetals
Particles in crystals (atoms/ions/molecules?)	+ - Ions	+ ions	atoms → molecules C, O	CO ₂	atoms (macromolecule)
e ⁻ location (with each atom? Shared b/w atoms? Mobile or delocalized?)	With each Ion	mobile electrons 	shared unequally H-O-H	shared equally O=O	shared
Attractive forces b/w particles (strong? weak?)	Strong	Strong	low	very low	Strong
Relative melting point (high, low, intermed)	High	medium to high	low	very low	Yes (high)
Water solubility	Yes	no	yes (low)	no	no
Electrical Conductivity - Of liquid or soln - Of solid	Yes		no	no	no, but yes if "doping"
	No	yes	no	no	
Examples	NaCl	Au, Ag, Pt	H ₂ O C ₁₂ H ₂₂ O ₁₁ (sugar)	oil, N ₂ , O ₂	diamond