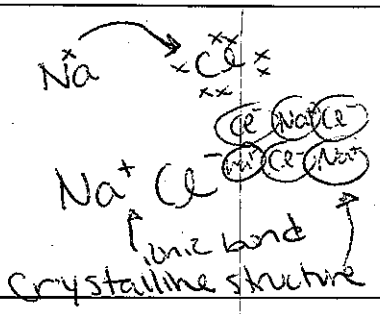
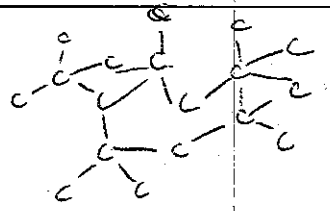
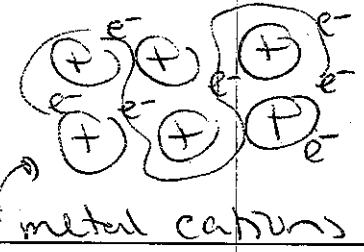
tendency to gain e^-

Compound	Description of Bond	Functional Unit (drawing)	Electronegativity Differences	Elements Combined	Properties
Ionic	Transfer of e^- from metal to non-metal attracted by electrostatic charges		metals low non-metal high	metal + non-metal	very stable ↑ melting point Brittle conduct electricity when dissolved in H_2O solid @ RT
Covalent + polar covalent → share e^- evenly → share e^- unevenly	Lewis structure) many different shapes!		both high electroneg.	non metals	S, l, g at RT low melting point low to high solubility poor to non-conducting
Polar Covalent Network	single atom forming lots of covalent bonds ex carbon		high	multiple of same atom Covalently bonded non-metals	brittle (some) high mp
Metal	metal ions surrounded by sea of free floating e^-	 (ex Na^+)	low	2 or more metals	good conductor Ductile malleable solid @ RT except Hg