

Curiosity: Why Do Metals Bend but Salts Shatter?

Curiosity Reading | CheAI Research Inc.

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Connection: materials and design

Reading time: 4 minutes

Bonding models help explain why metal wire can bend while many ionic crystals break along planes. A metallic model uses mobile electrons and layers of positive centers; an ionic lattice model has charged ions whose shifted alignment can place like charges near each other. These are explanatory models, not literal photographs. Property evidence also matters: composition alone does not determine every measured property.

Think like a chemist

1. Which charge carriers explain metal conductivity?
2. Why are O-H covalent bonds not the same as forces between water molecules?
3. What evidence would strengthen a bonding-model claim?

Word	Meaning	Packet
lattice	repeating structure model	1, 7, 12
conductivity	charge transport ability	7–8, 17–18
intermolecular	between separate molecules	10, 19