

Curiosity: A Formula Is a Ratio, Not a Snapshot

Curiosity Reading | CheAI Research Inc.

Packet ID: g09_u05_w17

Connection: materials and models

Reading time: 4 minutes

Ionic formulas are compact charge-balance statements. CaCl_2 says the simplest ratio of calcium ions to chloride ions is one to two. It does not photograph three atoms holding hands, and it cannot by itself tell melting point, crystal shape, or reaction rate. Models become more useful when students ask what information they preserve and what they omit.

Think like a chemist

1. Show the charge sum for Al_2O_3 .
2. Why is a formula ratio simplified?
3. What does an ionic formula not reveal?

Word	Meaning	Packet
formula unit	simplest ionic ratio	2, 5–14
subscript	count in one formula ratio	9–10, 15
charge balance	total charge equals zero	throughout