Competition Corner: Driven Electron Transfer

g10_u06_w23

Use only supplied data/model cards. Keep anode/cathode reactions distinct from electrode signs, track electron stoichiometry, and do not treat this as a build procedure.

1. A simplified electrolytic model reduces $Ag^+ + e^- \rightarrow Ag$ at its cathode. If 0.0150 mol e^- passes, find the model moles of Ag deposited and identify cathode sign.

2. A model oxidizes $Al \rightarrow Al^{3+} + 3e^-$ at its anode. If 0.0600 mol e^- is withdrawn, find moles of Al lost.

3. Compare the statement "anode is oxidation" with "anode is positive." Explain which holds across electrochemical cell types and which depends on cell type.

4. A student multiplies a cell potential by 3 because a half-reaction was tripled. Critique the claim, distinguishing electron amount from an intensive potential value.

5. Name two practical/safety or solution-condition facts that would be required before translating a supplied electrolysis card into an actual apparatus activity.