



CHEMISTRY · CHAPTER 2

Electrochemistry

A 1-page guide for parents · 90-second read.

EXPECTED MARKS

8 marks

TIME TO MASTER

12-15 hrs

HELPLINE

70330 05444**WHAT THIS CHAPTER IS, IN PLAIN ENGLISH**

Your child is learning ELECTROCHEMISTRY — the chemistry of electricity. Five core skills: (1) understand GALVANIC cells (batteries) where a spontaneous chemical reaction produces electrical current; (2) compute the EMF (voltage) of a galvanic cell from standard electrode potentials E° ; (3) derive and apply the NERNST EQUATION which tells how cell voltage changes at non-standard concentrations; (4) compute mass of metal deposited / gas evolved in ELECTROLYSIS using Faraday's two laws; (5) understand conductivity, molar conductivity, and Kohlrausch's law for ionic solutions. Real-world connection: every battery in your child's phone, every car battery, every electroplated chrome bumper, and the chemistry of rust all use these concepts.

5 QUESTIONS TO ASK YOUR CHILD

- What is the difference between a galvanic cell and an electrolytic cell? Which one is spontaneous?
- State Faraday's first law of electrolysis.
- Write the Nernst equation at 298K. What does the $(0.0591/n)$ shortcut come from?
- What is the standard hydrogen electrode (SHE) and what is its assigned potential?
- Name three conditions required for iron to rust.

WEAK-SPOT INDICATORS

- Cannot write the Nernst equation from memory.
- Reverses cathode and anode when computing galvanic cell EMF.
- Believes SHE potential of 0V is absolute, not a convention.
- Confuses Faraday's first and second laws.
- Cannot identify the three requirements for iron rusting ($O_2 + H_2O + \text{electrolyte}$).

WHEN TO WORRY — AND WHAT TO DO

If after 1-2 weeks your child scores below 60% on the Chapter CBT at [readyforboards.com](https://www.readyforboards.com), book a 30-min doubt-clearing call: +91 70330 05444.

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