

CHEMISTRY PROJECTS FOR CLASS 12
(Variation of Conductance with
Temperature in Electrolytes)-4TH PART
GANESH KUMAR DATE:- 18/02/2021

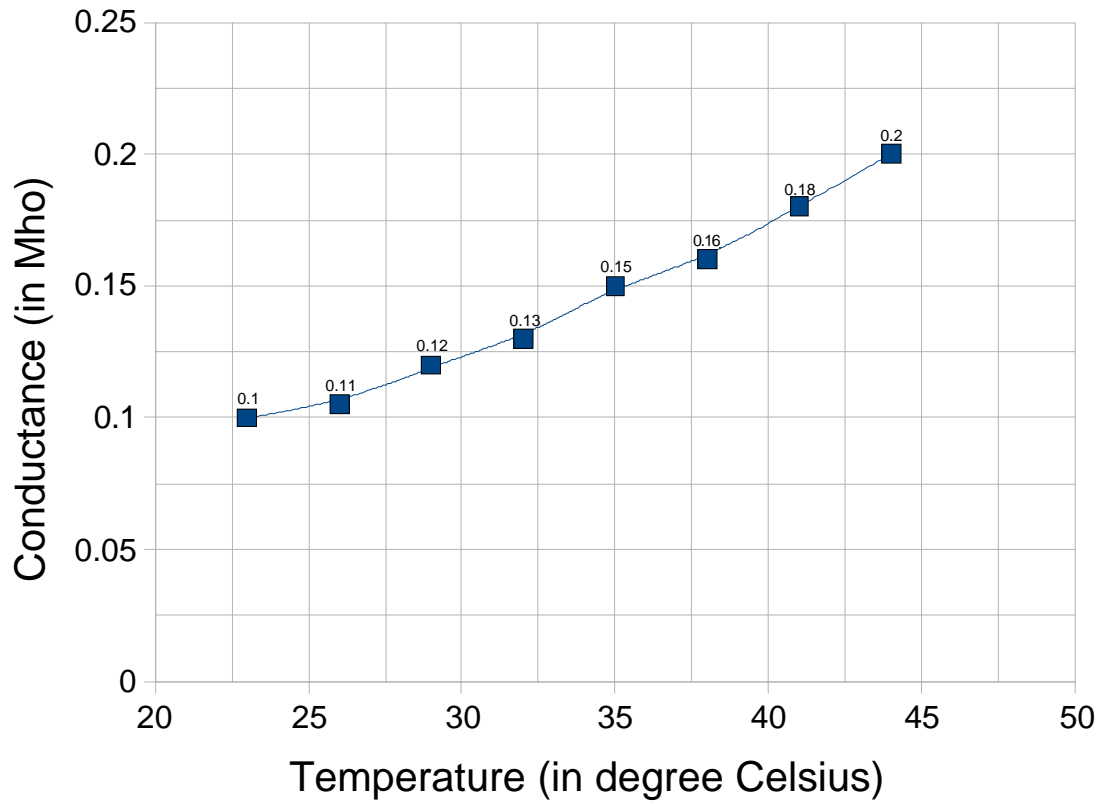
Observation Set 1

For ZnSO₄ electrolyte with Zn electrodes

S.No	Temperature	Reading of Ammeter <i>I</i>	Reading of Voltmeter <i>V</i>	Resistance <i>R = V / I</i>	Conductance <i>C = 1 / R</i>
1	23 ^o C	100 mA	1.0 V	10 Ω	0.100 Ω ⁻¹
2	26 ^o C	100 mA	0.95 V	9.5 Ω	0.105 Ω ⁻¹
3	29 ^o C	110 mA	0.89 V	8.09 Ω	0.120 Ω ⁻¹
4	32 ^o C	110 mA	0.84 V	7.63 Ω	0.130 Ω ⁻¹
5	35 ^o C	120 mA	0.80 V	6.66 Ω	0.150 Ω ⁻¹
6	38 ^o C	125 mA	0.75 V	6.00 Ω	0.160 Ω ⁻¹
7	41 ^o C	130 mA	0.71 V	7.6 Ω	0.180 Ω ⁻¹
8	44 ^o C	130 mA	0.65 V	5.00 Ω	0.200 Ω ⁻¹

Graph of Observation Set 1

Zinc Sulphate Electrolyte



Observation Set 2

For CuSO_4 electrolyte

S. No	Temperature	Reading of Ammeter I	Reading of Voltmeter V	Resistance $R = V / I$	Conductance $C = 1/R$
1	25 ^o C	75 mA	1.4 V	18.67 Ω	0.053 Ω^{-1}
2	28 ^o C	75 mA	1.35 V	18.00 Ω	0.055 Ω^{-1}
3	31 ^o C	75 mA	1.3 V	17.33 Ω	0.057 Ω^{-1}
4	34 ^o C	75 mA	1.25 V	16.67 Ω	0.060 Ω^{-1}
5	36 ^o C	80 mA	1.2 V	15.00 Ω	0.066 Ω^{-1}
6	38 ^o C	80 mA	1.15 V	14.38 Ω	0.069 Ω^{-1}
7	42 ^o C	80 mA	1.10 V	13.75 Ω	0.072 Ω^{-1}
8	44 ^o C	85 mA	1.10 V	12.94 Ω	0.075 Ω^{-1}
9	47 ^o C	85 mA	1.05 V	12.35 Ω	0.080 Ω^{-1}
10	49 ^o C	90 mA	1.10 V	11.11 Ω	0.090 Ω^{-1}
11	53 ^o C	90 mA	1.90 V	10.00 Ω	0.100 Ω^{-1}