

## Worksheet: Thermal Properties of Matter

Gujarat State Board · Class 11 · Physics · 5 questions · 14 marks

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Score: \_\_\_\_\_ / 14

**Q1.** A 20 m steel rail at 20 C is heated to 45 C ( $\alpha = 1.2 \times 10^{-5} / \text{C}$ ). Find the expansion. [2 marks]

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**Q2.** At what temperature is the Celsius reading equal to the Fahrenheit reading? [2 marks]

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**Q3.** A 100 g copper block ( $c = 390 \text{ J/kg K}$ ) at 200 C is placed in 200 g water at 20 C. Find the final temperature. [3 marks]

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**Q4.** Why is the bottom of a lake warmer than the top in winter? [2 marks]

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**Q5.** Find the heat to convert 100 g ice at -10 C to steam at 100 C ( $c_{\text{ice}} = 2100$ ,  $L_f = 3.36 \times 10^5$ ,  $c_{\text{water}} = 4200$ ,  $L_v = 22.6 \times 10^5 \text{ J/kg}$ ). [5 marks]

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