

Temperature Scales

Chapter 7: Temperature and its Measurement · Topic 3

Key Concept

To convert between Celsius and Fahrenheit, the formula $F = (C \times 9/5) + 32$ is used; for example, 0°C equals 32°F , and 100°C equals 212°F . The Kelvin scale starts at absolute zero (0 K , equal to -273.15°C), the theoretical lowest possible temperature where all particle motion nearly stops — this makes Kelvin especially useful in physics and chemistry, where negative temperature values would otherwise complicate calculations.

Quick Revision Notes

- Celsius scale: water freezes at 0°C , boils at 100°C .
- Fahrenheit scale: water freezes at 32°F , boils at 212°F .
- Conversion formula: $F = (C \times 9/5) + 32$.
- Kelvin scale starts at absolute zero ($0\text{ K} = -273.15^{\circ}\text{C}$), used in scientific work.

Practice Questions

- 1 What is the freezing point of water in degrees Celsius and in degrees Fahrenheit?
- 2 Convert 20°C into Fahrenheit using the conversion formula.
- 3 Why do scientists prefer using the Kelvin scale for certain calculations?