

The Thermometer

Chapter 7: Temperature and its Measurement · Topic 2

Key Concept

A clinical thermometer, used to measure human body temperature, has a narrower range (typically 35°C to 42°C) since human body temperature does not vary much. A laboratory thermometer has a much wider range (often -10°C to 110°C), since it needs to measure a broader variety of substances, including hot liquids and cold environments. Careful handling of thermometers is important, especially mercury ones, since mercury is toxic if the thermometer breaks.

Quick Revision Notes

- A thermometer accurately measures temperature using a calibrated scale.
- Liquid-in-glass thermometers work because liquids expand when heated and contract when cooled.
- Clinical thermometers have a narrow range (35°C-42°C) suited to human body temperature.
- Laboratory thermometers have a wider range (-10°C to 110°C) for varied substances.

Practice Questions

- 1 Name two types of thermometers and where each is typically used.
- 2 Why does a clinical thermometer have a narrower temperature range than a laboratory thermometer?
- 3 Explain the working principle of a liquid-in-glass thermometer.