

Practice and Revision - Heat

Chapter 5: Heat · Topic 2

Key Concept

Specific heat capacity is the amount of heat needed to raise the temperature of 1kg of a substance by 1°C, varying between different materials.

Latent heat is the heat absorbed or released during a phase change (melting, boiling) without a change in temperature.

Heat transfer occurs through conduction (direct contact), convection (fluid movement), and radiation (electromagnetic waves).

Understanding heat properties helps explain everyday phenomena like why metals feel colder than wood, and how thermos flasks retain temperature.

Quick Revision Notes

- Specific heat capacity: heat to raise 1kg by 1°C .
- Varies between different materials.
- Latent heat: heat during phase change.
- No temperature change during this.
- Heat transfer: conduction, convection, radiation.
- Conduction: direct contact.
- Convection: fluid movement. Radiation: waves.
- This explains metal coldness, thermos flasks.

Practice Questions

- 1 Calculate heat needed to raise 3kg of water by 5°C.
- 2 Discuss latent heat with an example like melting ice.
- 3 Discuss conduction with a real-life example.
- 4 Discuss why a thermos flask retains temperature.
- 5 Research specific heat capacities of different materials.
- 6 Explain heat transfer methods in your own words.