

Heat

Chapter 5: Heat · Topic 1

Key Concept

Heat flows naturally from a hotter object to a colder one until both reach the same temperature (thermal equilibrium).

Heat can transfer through conduction (direct contact), convection (movement in liquids/gases), or radiation (through space, like sunlight).

Most materials expand when heated and contract when cooled, a property used in thermometers and expansion joints in bridges.

Understanding heat transfer helps us explain cooking, weather patterns, and design efficient heating and cooling systems.

Quick Revision Notes

- Heat flows from hotter to colder objects.
- This continues until thermal equilibrium.
- Heat transfers by conduction, convection, radiation.
- Conduction is direct contact transfer.
- Convection is movement in liquids/gases.
- Radiation transfers through space, like sunlight.
- Materials expand when heated, contract when cooled.
- This is used in thermometers and bridges.

Practice Questions

- 1 Discuss an example of conduction.
- 2 Discuss an example of convection.
- 3 Discuss an example of radiation.
- 4 Explain why materials expand when heated.
- 5 Research how a thermometer works.
- 6 Discuss why bridges have expansion joints.