

Key Stage 3 Precise Learning Points



Unit Number	P2
Unit Title	Energy
Chapter	Thermal Energy Transfer

Key Scientific Points

1. Temperature is a measure of how hot or cold an object is.
2. Temperature is measured in degrees Celsius. The scale is based upon the freezing point of water and boiling point of water.
3. Thermal energy can be transferred by conduction, convection and radiation.
4. The transfer of thermal energy is called heating.
5. Thermal energy is transferred from hotter objects to cooler objects.
6. Conduction happens when a solid is heated, the particles gain more energy and vibrate more vigorously. The particles transfer energy to neighbouring particles.
7. Non-metal solids are generally poor conductors and transfer heat by conduction slowly.
8. Very poor conductors are called insulators.
9. Solid metals are good conductors and transfer heat quickly.
10. Liquids and gases are fluids since their particles are not in fixed positions.
11. When a fluid is heated it becomes less dense than the surrounding fluid and will rise being replaced by cooler denser fluid.
12. The movement of less dense and denser fluid due to heating is called a convection current.
13. Convection only occurs in fluids.
14. All objects emit thermal energy by infrared radiation.
15. The hotter an object the more infrared radiation it emits.
16. Heat transfer by Infrared radiation does not require particles.