
PHYSICS

Week 1: Topic 1a: Energy Transfers (Pages 22-29)

- Energy Stores and Transfers
- Kinetic and Potential Energy Stores

Week 2 (Pages 30-34)

- Specific Heat Capacity
- Power

Week 3 (Pages 35-42)

- Conduction and Convection
- Reducing Unwanted Energy Transfers
- Efficiency

Week 4: Topic 1b: Energy Resources (Pages 47-54)

- Energy Resources and Their Uses
- Wind, Solar and Geothermal
- Hydroelectricity, Waves and Tides

Week 5 (Pages 55-59)

- Biofuels and Non-renewables
- Trends in Energy Resource Use

Week 6: Topic 2a: Circuits (Pages 62-69)

- Circuits, Current and Potential Difference
- Resistance and I/V Characteristics

Week 7 (Pages 70-78)

- Series Circuits
- Parallel Circuits

Week 8 (Pages 79-84)

- Investigating Resistance
- LDRs and Thermistors

Week 9: Topic 2b: Domestic Electricity (Pages 89-95)

- Electricity in the Home
- Power and Energy Transfer
- The National Grid

Week 10: Topic 2c: Static Electricity and Electric Fields (Pages 99-104)

- Static Electricity
- Electric Fields

Week 11: Topic 3: Particle Model of Matter (Pages 106-12)

- Density and States of Matter
- Internal Energy and Changes of State

Week 12 (Pages 113-16)

- Specific Latent Heat

- Particle Motion in Gases

Week 13: Topic 4: Atomic Structure (Pages 120-9)

- The History of the Atom
- The Structure of the Atom
- Radioactivity

Week 14 (Pages 130-41)

- Activity and Half-life
- Irradiation and Contamination
- Background Radiation
- Risks and Uses of Irradiation
- Nuclear Fission and Fusion

Week 15: Topic 5a: Force Basics (Pages 147-56)

- Contact and Non-Contact Forces
- Weight, Mass, and Gravity
- Resultant Forces
- Work Done

Week 16: Topic 5b: Forces and Their Effects (Pages 159-68)

- Forces and Elasticity
- Investigating Springs
- Moments

Week 17 (Pages 169-73)

- Fluid Pressure

- Upthrust

Week 18: Topic 5c: Forces and Motion (Pages 186-93)

- Distance, Displacement, Speed and Velocity
- Acceleration
- Distance-Time Graphs

Week 19 (Pages 186-93)

- Velocity-Time Graphs
- Terminal Velocity

Week 20 (Pages 194-98)

- Newton's First Law
- Newton's Second Law and Inertia

Week 21 (Pages 196-02)

- Investigating Motion
- Newton's Third Law

Week 22: Topic 5d: Car Safety and Momentum (Pages 208-14)

- Stopping Distances
- Graphs of Stopping Distance
- Reaction Times

Week 23 (Pages 215-21)

- Braking and Energy Transfer

- Momentum
- Changes in Momentum

Week 24: Topic 6a: Properties of Waves (Pages 224-31)

- Wave Basics
- Features of Waves
- Wave Speed

Week 25 (Pages 232-38)

- Refraction of Waves
- Reflection of Waves
- Investigating Light

Week 26: Topic 6b: Electromagnetic Waves (Pages 242-52)

- What are Electromagnetic Waves?
- Radio Waves
- More EM Waves and Their Uses
- Dangers of EM Radiation

Week 27 (Pages 253-61)

- Visible Light and Colour
- Infrared Radiation
- Black Bodies and Radiation

Week 28: Topic 6c: Lenses (Pages 266-76)

- Lenses and Images
- Ray Diagrams

- Magnification

Week 29: Topic 6d: Other Waves (Pages 279-86)

- Sound Waves
- Ultrasound
- Seismic Waves

Week 30: Topic 7: Magnetism and Electromagnetism (Pages 289-98)

- Magnetic Fields
- Electromagnetism
- The Motor Effect

Week 31 (Pages 299-12)

- Using the Motor Effect
- The Generator Effect
- Transformers

Week 32: Topic 8: Space Physics (Pages 318-23)

- The Life Cycle of Stars
- The Solar System and Orbits
- Red-shift and the Big Bang

Week 36-39

- Revision, Practice Papers