

Physics



Unit 1 : Energy

Students will study the following:

- Energy stores and systems
- Changes in energy
- Energy changes in systems
- Power
- Conservation and dissipation of energy
- Efficiency
- Natural and global energy sources

Unit 2: Electricity

Students will study the following:

- Current, potential difference and resistance
- Electrical charge and current
- Resistors
- Series and parallel circuits
- Domestic uses and safety
- Mains electricity
- Static electricity
- Electric fields

Unit 3 : Particle Model of Matter

Students will study the following:

- Changes of state
- Changes of heat and latent heat
- Particle motion in gases
- Pressure in gases
- Increasing the pressure of a gas

Unit 4 : Atomic Structure

Students will study the following:

- Atoms and isotopes
- Mass number and isotopes
- The development of the model of the atom
- Atoms and nuclear radiation
- Nuclear equations
- Half lives and the random nature of decay
- Contamination

Unit 5 : Forces and Waves

Students will study the following:

- Scalar and vector quantities
- Contact and non-contact forces
- Gravity
- Energy transfer
- Elasticity
- Pressure and pressure differences
- Atmospheric pressure
- Transverse and longitudinal waves
- Properties of waves
- Sound waves
- Waves for detection and exploration

Unit 6 : Magnetism and Electromagnetism

Students will study the following:

- Poles of a magnet
- Fleming's left hand rule
- Electric motors
- Microphones
- Transformers

Unit 7 : Space Physics

Students will study the following:

- The life cycle of a star
- Orbital motion and artificial satellites
- Red-shift