

YEAR 9 PHYSICS

Curriculum Content

The following topics are taught in this Year.

The topics are:

- Properties of light – shadows, eclipses, reflection, image in a plane mirror, dispersion and colour.
- Energy – Types of energy, energy changes, conservation of energy, efficiency, Sankey diagrams, electrical energy, paying for electricity, the national grid.
- Heat transfer – Processes of conduction, convection and radiation and their application to heat transfer processes in everyday life. E.g. vacuum flask, preventing heat loss from houses.
- Mechanics – density and its measurement, moments and the law of moments, mass and weight.
- Electronics – introduction to AND, NOT and OR gates and their uses to solve simple problems. Block diagrams

Knowledge, skills and understanding

Experimental skills

Practical work is designed to develop the following practical skills:

- *Variables:* being able to recognise the differences between categoric, discrete or continuous variables, understand the need for control variables and what they are in specific experiments.
- *Obtaining and presenting evidence:* following written instructions, working safely and using equipment to measure and observe results. Recording results in labelled tables and drawing line graphs of the results. Recognising the sensitivity of the instruments used and how this affects on the precision of the readings.
- *Analysing results:* using tables and graphs to find patterns in the results and draw a conclusion for an investigation.

Assessment Opportunities

The experimental skills are developed and assessed by practical work including practical investigations.

Knowledge and recall are assessed by tests at the end of each topic and by the examination at the end of the year.

Understanding and the ability to process information are assessed by homework exercises and by the examination at the end of the year.