

Physics BTEC Student Learning Journey and Progress Record

The course includes 3 coursework tasks, each worth 25% of the student's marks, and examined content that is assessed at the end of year 11.

Coursework lessons include some teaching of new ideas and content and some guided independent student work in ICT rooms.

Year 10

Coursework 1: Ionising Radiation

- The structure of nuclei
- Alpha, beta and gamma radiation
- Effects of different radiations on living cells
- Uses of ionising radiation
- Radioactive decay and half life
- Nuclear Fission and Nuclear Fusion
- Environmental issues of nuclear energy

Coursework 1 Result _____

Coursework 2: Green Electricity

- Electric circuits and circuit symbols
- Current, Voltage and Resistance
- Series and Parallel Circuits
- $V = IR$
- Direct and Alternating Current
- Batteries
- Solar Cells
- Generators
- Renewable and Non renewable energy sources
- Electrical Power
- The national grid and transformers

Coursework 2 Result _____

Year 11

Coursework 3: The final frontier

- The structure of the Universe
- The changing nature of the Universe
- What is the Solar System and what is in it
- How the Solar System formed
- Observing the Universe
- Different types of telescopes
- Space probes
- What is the Big Bang Theory
- What is the evidence for the Big Bang?

Coursework 3 Result _____

Examinable content: Energy stores, transfers and transformations

- Forms of energy and their uses
- Energy stores and their uses
- Energy transfers (from one place to another)
- Power and the cost of electricity
- Efficiency
- Sources and storage of energy

Test on Energy section: _____

Examinable content: Waves

- Wave characteristics (amplitude, frequency, wavelength and wavespeed)
- Wave calculations
- The Electromagnetic Spectrum
- Uses of Electromagnetic Radiation
- Dangers of Electromagnetic Radiation

Test on Waves section: _____

The rest of year 11 will be spent revising the examinable content and completing past paper questions in class.

Assessment at end of Year 11: 1 hour Science exam that will contain 18 marks of Physics content.