Subject: Physics

Physics Lead: Pam Sutliff

Exam Board: AQA

Qualification type: GCSE

Intent

Principles of the Physics Curriculum

The United Curriculum for Physics is built upon the core United Curriculum principles available **here**.

Physics is all about understanding the world around us. It involves the study of the Universe, from huge galaxies to the smallest subatomic particles. The subject leads to great discoveries and technologies which change our lives – from treating cancer to developing sustainable electricity generation.

We aim to provide a high-quality Physics curriculum to engage students and instil a sense of excitement and curiosity about physical phenomena. Our intent is to develop the students' skills and knowledge so that they can question the world around them, provide reasoned responses to unfamiliar concepts, so that they have the possibility of one day making their own future discoveries.

The rationale behind the sequencing of lessons:

The sequencing of lessons builds successively on the knowledge acquired in the previous topics. Energy, having been taught in the latter part of year 9, forms a focal point around which all discussions in Physics take place and this knowledge is refreshed and revisited as new learning is introduced.

Implementation

In Key Stage 4 the Physics curriculum is implemented as follows:

Years 10 & 11

The year 10 Physics curriculum builds on the National Curriculum for KS3 and covers the KS4 GCSE content. Students learn through direct instruction, modelling, practical work and independent research. Required practicals are an important part of the exam assessment and allow students to learn through hands on exploration while developing working scientifically skills including planning, recording data, graph skills, analysis and evaluation. Homework is integral to our curriculum and provides a structured opportunity for students to consolidate their learning through the use of Sparx Science.

Impact

The careful sequencing of the curriculum – and how concepts are gradually built over time – is the progression model. If pupils keep up with the curriculum, they are making progress. Formative assessment is prioritised and is focused on whether pupils are keeping up with the curriculum.

In general, this is done through:

- Questioning in lessons. Teachers check understanding so they can fill gaps and address misconceptions as required.
- Pupil conferencing with books. Subject leads and SLT talk to pupils about what they have learnt – both substantive and disciplinary knowledge – and how this connects to the vertical concepts that they have been developing in previous years and other subjects.
- Post-learning quizzes at the end of each unit. These give teachers an understanding of the knowledge that pupils can recall at the end of the unit and can be used to identify any remaining gaps to be filled.
- Pre-learning quizzes at the start of each unit. These assess pupils' understanding of the prior knowledge that is required to access the new content in the unit. These are used to identify gaps to be filled prior to teaching the new unit.