Physics Department KS4 Curriculum Rationale

KS4 Physics

Building on fundamental ideas, met at KS3, the GCSE Physics curriculum is designed to provide students with a solid foundation in the fundamental principles of physics, which is a fundamental part of science and technology. The study of physics enables students to develop an understanding of the natural world, and provides them with the skills necessary to investigate and solve problems in a wide range of scientific and technical fields.

The study of GCSE Physics aims to develop scientific skills, including the ability to design and conduct experiments, collect and analyse data, and communicate scientific ideas effectively. These skills are essential for a wide range of careers, including medicine, engineering, and scientific research.

In addition, the GCSE Physics curriculum provides students with an understanding of the key concepts and principles of physics, including forces, energy, waves, electricity, magnetism and the origins of the universe. This understanding enables students to apply their knowledge to real-world situations and to appreciate the importance of physics in our everyday lives.

Overall, the GCSE Physics curriculum equips students with the knowledge, skills, and understanding they need to succeed in further study and in a wide range of careers, as well as to develop a lifelong interest in science our natural world and beyond.

Pedagogy within the classroom

High expectations of all students regarding behaviour for learning and outcomes

Pace - Every lesson matters. Lessons are well planned and purposeful. **"**Do now" activities will be followed by brisk and timed activities.

Challenge - All students are challenged in order for them to make the best possible progress from their individual starting points.

Questioning will be effective in developing student knowledge and understanding**,** assessing progress and informing teacher planning.

Progression - All learning builds towards an end point. Learners are being prepared for their next stage of education, training or employment at each stage of their learning.

Links to School Improvement Plan

Increase the use of low stakes assessments, revision tools and consolidation resources so that students increase in confidence and remember the content they have been taught in the longer term.

Ensure that incisive feedback is in place and that students are given opportunities to respond to it so that students learn from mistakes, close gaps in their learning and ultimately take more responsibility for their own progress.

Literacy - Promote a passion for reading and a thirst for knowledge. Any gaps in reading to be addressed rapidly.

Skill Progression

Students build on prior knowledge and skills to help them prepare for the next stage of their education.

Skills are consolidated from one year to the next, providing the foundation for increasing challenge.

Work given to students to be more demanding and to match the aims of the ambitious curriculum.

SEN

Working to increase our own knowledge of different areas of SEN and how to differentiate appropriately.

Understanding the SEN needs of all students on the SEN register in the class.

Being flexible and adaptable in teaching approaches to meet the needs of all students, not just those with no SEN.

Not seeing the "label" but seeing the child.

Having as high expectations of lower-ability as we do for the highest; recognising that these students may need even more knowledge to plug gaps in their learning than their peers, not less.

Creating a "no-excuses" culture: never letting a child's SEN become an excuse for inadequate or poor-quality work.