

**Exam Board:** AQA  
**Qualification:** 8464  
**Assessment Information:** 2 exams, each 1h15  
[Link to official specification](#)

**Department Information:**  
*Physics, Biology and Chemistry are popular and successful subjects at Furze Platt. The Department aims to provide a supportive, stimulating, dynamic and academically challenging experience for all students. Over recent years, the Department has gone from strength to strength, and standards and students' results are high. In Year 10, those students studying the combined Physics GCSE course will receive 3 hours of teaching each fortnight. Students sit the AQA exam board for GCSE Science examinations.*

**ACHIEVE in the curriculum:**  
**Ambitious** – aiming for the highest grades possible, and giving opportunities for students to celebrate their own successes. Regular inclusion of careers and higher education information in lessons  
**Collaboration** – making use of the scientific method and grouped practical work.  
**Versatility** - students will develop their versatility through the use of class practical activities, as well as through paired and group theory work.  
**Integrity** – students develop integrity through their completion of independent home learning and through self-marking and peer-marking their work.  
**Endurance** – students taught valuable revision strategies and repetition and a route to success at GCSE

**Curriculum Aims & Intent:**  
*The GCSE Physics curriculum is designed to foster an appreciation and understanding of the role of Physics in every aspect of our lives, and a sense of awe at the wider foundational ideas of Physics.  
 The curriculum aims to allow students to develop their scientific skills particularly through practical tasks, as well as enhancing their maths skills to allow them to complete the subject beyond GCSE.  
 The key aspects of the Year 10 curriculum are to allow students to understand how electric circuits work and can be used domestically, the core ideas of radioactivity, and how waves behave in different substances*

**Resources:**  
*Textbooks and revision guides: Oxford University Press GCSE Chemistry textbook (available online via Kerboodle), Oxford University Press GCSE Chemistry revision guide, Oxford University Press GCSE Chemistry workbook (Foundation and higher tier editions available).  
 Websites: BBC Bitesize, GCSEPod, Focus eLearning, Physics and Maths Tutor*

**How we keep parents informed:**  
*Year 10 - Progress reports are published 4 times per year, in October, November, March and July, with a face-to-face parents' evening in March.*

**How parents can help their child:**  
*Regularly check Class Charts to keep track of homework that has been set and make sure that test dates are noted  
 Assist with homework where possible and make sure that students are revising for tests using revision guides, Kerboodle and BBC Bitesize  
 Encourage the completion and marking of past paper questions  
 Liaise with teachers and attend Parents' evening*

<b>What we study and when:</b>					
<b>Term</b>	<b>Unit, Topic Or Summary Of Work Covered</b>	<b>Knowledge, Understanding &amp; Skills Developed</b>	<b>ACHIEVE / Personal Development Focus</b>	<b>How The Work Is Assessed</b>	<b>Careers Links</b>
<b>1</b>	P4 Electric circuits	<ul style="list-style-type: none"> <li>Define electric current and potential difference</li> <li>Interpret circuit diagrams of both series and parallel circuits</li> <li>Define resistance and Ohm's law</li> <li>Recall and apply various electrical equations</li> </ul>	Collaboration – complete required practical using group work	P4 six-mark question  P4 end of topic assessment	Drawing and using electric circuits in electrical engineering
<b>2</b>	P5 Electricity in the home	<ul style="list-style-type: none"> <li>Identify different parts of the plug and explain their purpose</li> <li>Explain the purpose of the National grid and transformers</li> <li>Recall and apply various electrical equations</li> <li>Explain and calculate efficiency of various devices</li> </ul>	Versatility – evaluate the advantages and disadvantages of nuclear radiation	P5 six-mark question  P5 end of topic assessment	Drawing and using electric circuits in electrical engineering
<b>3</b>	P7 Radioactivity	<ul style="list-style-type: none"> <li>Describe the properties of Alpha, Beta and Gamma decay</li> <li>Explain the uses of Alpha, Beta, and Gamma radiation</li> <li>Explain the dangers of Alpha, Beta and Gamma radiation</li> <li>Explain the evidence that led to the discovery of the atomic nucleus by Rutherford, and the refutation of the plum pudding model</li> <li>Complete nuclear equations</li> <li>Compare nuclear fission and nuclear fusion</li> <li>Explain how a nuclear reactor works</li> </ul>	Versatility – evaluate the advantages and disadvantages of nuclear radiation	P7 six-mark question  P7 end of topic assessment	Nuclear engineer is someone who knows how a nuclear power station works  Particle physicist discovers new particles, like Rutherford
<b>4</b>	P12 Waves	<ul style="list-style-type: none"> <li>Name examples of waves</li> <li>Identify key features of waves</li> <li>Compare transverse and longitudinal waves</li> <li>Calculate frequency and speed of a wave</li> <li>Describe and explain reflection and refraction of a wave</li> <li>Explain how ultrasound help us in medicine</li> <li>Explain how seismic waves can be used to determine information about the Earth</li> </ul>	Collaboration – complete required practical using group work	P12 six-mark question  P12 & P13 End of topic assessment	Seismologists use information about seismic waves to study earthquakes and develop early warning systems  Sonographers use ultrasound scans in hospitals to check progress of a foetus

5	P13 Electromagnetic waves	<ul style="list-style-type: none"> <li>Name the 7 parts of the Electromagnetic spectrum</li> <li>Describe the uses of each part of the Electromagnetic spectrum</li> <li>Describe the dangers the short wavelength parts of the Electromagnetic spectrum</li> <li>Explain how radio waves are produced and detected in communications</li> </ul>	Endurance – focus on revision for assessments (inc. PPEs)	P13 six-mark question  P12 & P13 End of topic assessment	Radiographers use radiation in hospitals to diagnose and treat cancers
6	P15 Electromagnetism	<ul style="list-style-type: none"> <li>Identify when permanent magnets will attract or repel each other</li> <li>Draw magnetic fields around permanent magnets and electromagnets</li> <li>Define induced magnetism</li> <li>Explain uses of solenoids and electromagnets</li> <li>Use Fleming's left hand rule</li> <li>Describe factors affecting the size of the force experienced in the motor effect</li> </ul>	Ambitious – students research complex uses of magnets	P15 six-mark question  P15 end of topic assessment	Magnet engineer, using large electromagnets in MRI machines in hospitals