Physics GCSE — Key Stage 4 Curriculum Plan — Year 11 Physics (Separate)

Exam Board:	*AQA*
Qualification:	*8463*
Assessment Information:	*2 exams, each 1h45*
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 11, those students studying the separate Physics GCSE course will receive 4 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 we as enhancing their maths skills to allow them to complete the subject beyond GCSE.
The key aspects of the Year 11 curriculum are to allow students to understand Newton's laws and how they explain the motion of different objects, pressure on different surfaces, and how electromagnetism can be explained

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:

Delete as appropriate:
Year 11 - Progress reports are published 4 times per year, in October, December, February and March, with a face-to-face parents' evening in October.

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

What we study and when:					
Term	**Unit, Topic Or Summary Of Work Covered**	**Knowledge, Understanding & Skills Developed**	**ACHIEVE / Personal Development Focus**	**How The Work Is Assessed**	**Careers Links**
1	P8 Forces in balance & P9 Forces in motion	• Define vectors and scalars • Identify scalar and vector quantities • Use vectors to represent forces, in the same plane and at right angles • Recall and apply Newton's first & third laws to different scenarios • Define a moment, and make calculations involving moments in equilibrium • Define centre of mass • Describe the effect of gears • Recall and use equations to calculate velocity and acceleration • Draw and interpret features of distance-time graphs • Draw and interpret features of velocity-time graphs	Versatility – the focus of this topic is on applying laws of forces to a variety of different situations	P8 six-mark question P8&9 end of topic assessment	Civil engineers and architects regularly use ideas of forces to build and maintain import structures
2	P10 Forces and motion	• Recall and apply Newton's first & third laws to different scenarios • Explain why an object reaches constant speed – terminal velocity • Identify and explain the effect of different factors on a vehicle's stopping distance • Recall and use the equation for momentum • Define conservation of momentum, and make calculations based on this involving collisions between moving objects • Calculate impact forces between objects • Describe the relationship between force applied and extension of elastic objects (Hooke's law) • Recall and use Hooke's law equation	Collaboration – complete required practical using group work	P10 six-mark question P10&11 end of topic assessment	Automotive engineers use crash test data to ensure cars are designed to reduce impact force on passengers as much as possible
3	P11 pressure	• Define pressure on a surface • Recall and use the equation for pressure exerted normal to a surface • Explain why pressure increases with depth in a fluid • Use an equation to calculate pressure in a fluid • Explain why pressure decreases with altitude	Ambitious – synoptic links between different topics explored in the pressure topic	P10&11 end of topic assessment	Oceanographer needs to use ideas about pressure in a liquid to make successful dives to explore ocean habitats

		• Explain the origins of upthrust in a fluid			
4	P15 Electromagnetism	• Identify when permanent magnets will attract or repel each other • Draw magnetic fields around permanent magnets and electromagnets • Define induced magnetism • Explain uses of solenoids and electromagnets • Use Fleming's left hand rule • Describe factors affecting the size of the force experiences in the motor effect • Describe the generator effect, and its use in generators • Explain how loudspeakers and generators work • Explain how transformers work in the National grid • Use transformer equations to calculate p.d., current, or number of turns on a transformer	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
5	GCSE revision	Students will attempt practice of exam questions, and develop their exam technique and revision skills to maximise recollection and understanding of the course in preparation for their final examinations.	Endurance – focus on revision for assessments (inc. PPEs)	Paper 2 PPE sat in March	
6					