

Year 10 Combined Physics Curriculum Overview

What is the Year 10 Physics curriculum aiming to achieve?

What do we want our Year 10 Scientists to be like?	How are we building on prior learning?	How can parents/carers support their child's learning?
<ul style="list-style-type: none"> • Be excited and enthusiastic about the scientific world around us • Be safe and competent practical scientists • Be able to make links between observations and scientific theory • Be good verbal and written communicators using key terms • Have furthered their understanding of key concepts in Physics 	<ul style="list-style-type: none"> • We will make links to and build on the Physics topics from KS3 • We will build on our working scientifically skills in the areas of analysis, communication, enquiry and problem solving 	<ul style="list-style-type: none"> • Talk to the pupils about what they are learning about in lesson • Be curious about the world around you and discuss with your child • Support your child with homework tasks • Help your child consolidate their school learning e.g. using BBC Bitesize or watching scientific documentaries • Purchase CGP revision guide and encourage use of GCSE Pod

How are we organising the Year 10 Physics curriculum?

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Topics	Atomic Structure	Current Electricity	Current Electricity continued and Mains Electricity	Energy Calculations	Waves and their Properties	Waves and their Properties
Threshold Concepts	Atoms and radiation Half-Life Dangers of Nuclear Radiation	Current, potential difference, charge and resistance. V, I and R behaviour in series and parallel circuits	IV characteristics and circuit investigations AC & DC electricity, plugs and the National Grid	Rearrange and use equations for kinetic, elastic and gravitational potential energy.	Types of waves and their properties (absorption reflection, refraction)	Electromagnetic spectrum and the use of waves.
Skills	Variables, recording results, graphs and equipment resolution	Analysing data and drawing conclusions	Interpreting oscilloscope images	Rearranging equations, converting units. Multi-step calculations	Drawing ray diagrams	Describing complex practical methods
Enrichment within the curriculum	<p>Students are directed to relate their learning in the electricity topic to their use of electricity in the home and key safety issues are addressed.</p> <p>The uses of EM waves will give them the opportunity to see a range of career options that involve Physics, from communications specialist to radiographer.</p>					
Cross curricular links	<ul style="list-style-type: none"> • Maths – rearranging of equations, interpreting graphs • Biology – cancer treatment • Engineering – circuit building 					
Extra-curricular opportunities	<p>GCSE Pod is excellent, and there are hundreds of pods to support you if you are on AQA Combined (Trilogy) or Separate Physics. The CPG revision guides are a good starting point if revising for tests / exams or need some help with homework tasks. These are available on Parent Pay and you can collect your guides if you bring a copy of your receipt to the Science workroom.</p> <p>Helpful websites</p> <p>1. BBC Bitesize Physics : https://www.bbc.co.uk/bitesize/examspecs/zsc9rdm</p>					

Combined Physics Trilogy : <https://www.bbc.co.uk/bitesize/topics/zqw77p3>

2. Seneca learning

Physics : <https://app.senecalearning.com/classroom/course/fe56ca00-05aa-11e8-9a61-01927559cfd5/section/0ea7b6b0-0823-11e8-9af8-abc41ec56055/session>

Combined Physics Trilogy:

Foundation : <https://app.senecalearning.com/classroom/course/f4627c20-1e1d-11e8-b99c-3168302284a4/section/933275d0-1e1e-11e8-b99c-3168302284a4/session>

Higher : <https://app.senecalearning.com/classroom/course/e7813ccb-376e-4375-9477-e8badd262ba/section/28ce1e8a-b64d-4608-b39a-fb26de54dabf/session>

What are the intended outcomes of the Year 10 Physics curriculum?

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Opportunities to show progress (Assessments)	CTG task and Homework Tasks	End of topic test Atomic Structure	End of topic test Electricity CTG task and Homework	End of topic test Energy Calculations. Homeworks	Year 10 PPE	End of topic test Waves
Impact on personal development (SMSC)	<p><i>Students are becoming responsible for their own safety so it is important they have an understanding of the electricity topic to strengthen the rules they abide by around electricity.</i></p> <p><i>A large number of students will be linked to someone that has cancer so having an understanding of radiotherapy may help them feel less confused about cancer treatment.</i></p>					
Preparation for the next stage of education	<p><i>All paper 1 and paper 2 topics for GCSE.</i></p> <p><i>All these topics are revisited and expanded on in A level Physics.</i></p>					