

Curriculum Overview

Subject: Physics
Year Group: 10



Year 10 & 11 Physics is **academically ambitious**. Throughout Key Stage 4 (KS4) students will extend the **powerful knowledge** already developed in KS3. Each Lesson has a particular **LORIC** and **Career focus** reflecting the school's improvement plan.

With a focus on Key Concepts, Apparatus and Techniques across all topics students will develop the **subject disciplinary knowledge** needed to scrutinise the world around them and communicate their findings effectively. Students will follow the AQA GCSE Physics specification and are required to undertake 10 required practical activities, developing analytical and rational thought processes through planning, experimentation and reflection. Developing extended science writing through the use of long written questions (LWQ) has been identified as a particular area of development. **Interleaving questions** at the beginning of every lesson allow students to spend time recalling previous learning so that **practise** makes permanent.

TERM 1	TERM 2	TERM 3
<p>KNOWLEDGE/SKILLS</p> <p>P5- Electricity in the home (Plugs, power, appliances and efficiency)</p> <p>P6 -Molecules and matter (Density, Change of states, Specific latent heat).</p> <p>P7 – Radioactivity (Density of material, nuclear decay and half-life, Fission and fusion dangers and uses of radiation)</p> <p>Skills:</p> <ul style="list-style-type: none"> • AO1: Demonstrate knowledge and understanding of: scientific ideas; scientific techniques and procedures. • AO2: Apply knowledge and understanding of: scientific ideas; scientific enquiry, techniques and procedures. 	<p>KNOWLEDGE/SKILLS</p> <p>P8- Force in balance (Vectors and scalars, levers, centre of mass,)</p> <p>P9- Motion (Speed, distance, velocity, graph skills)</p> <p>P10- Forces and motion (Acceleration, terminal velocity, momentum, extension, impact and safety)</p> <p>Skills:</p> <ul style="list-style-type: none"> • AO1: Demonstrate knowledge and understanding of: scientific ideas; scientific techniques and procedures. 	<p>KNOWLEDGE/SKILLS</p> <p>P12- Wave properties (reflection, refraction, nature of waves, uses of ultrasound, seismic)</p> <p>Skills:</p> <ul style="list-style-type: none"> • AO1: Demonstrate knowledge and understanding of: scientific ideas; scientific techniques and procedures. • AO2: Apply knowledge and understanding of: scientific ideas; scientific enquiry, techniques and procedures.

<ul style="list-style-type: none"> • AO3: Analyse information and ideas to: interpret and evaluate; make judgments and draw conclusions; develop and improve experimental procedures. 	<ul style="list-style-type: none"> • AO2: Apply knowledge and understanding of: scientific ideas; scientific enquiry, techniques and procedures. • AO3: Analyse information and ideas to: interpret and evaluate; make judgments and draw conclusions; develop and improve experimental procedures. 	<ul style="list-style-type: none"> • AO3: Analyse information and ideas to: interpret and evaluate; make judgments and draw conclusions; develop and improve experimental procedures.
<p>KEY ASSESSMENTS</p> <p>Half term 1: Topic 5 test</p> <p>Half term 2: EOT test</p>	<p>KEY ASSESSMENTS</p> <p>Half term 1: Topic 7/8 test,</p> <p>Half term 2: EOT test</p>	<p>KEY ASSESSMENTS</p> <p>Half term 1: End of year 10 PPE's paper 1</p> <p>Half term 2: QLA assessment.</p>
<p>Extended reading suggestions and external resources:</p> <p>KS4 Bitesize Science https://www.bbc.co.uk/bitesize/subjects/zpm6fg8</p> <p>Oak National Academy Lessons https://classroom.thenational.academy/subjects-by-key-stage/key-stage-4/subjects/physics</p> <p>Chase High Youtube Playlists https://www.youtube.com/channel/UCSK4ImJfi5sPH4UBp7cZtyQ</p> <p>We actively encourage students to read and research about the wider Scientific world- Planet Earth and Perfect Planet both on BBC iPlayer are examples of where students can engage with Science from the safety and comfort of their own homes.</p>		

Curriculum Overview

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Year Group: 11



TERM 1	TERM 2	TERM 3
<p>KNOWLEDGE/SKILLS</p> <p>P15 -Electromagnetism (Fields, motor effect, transformers)</p> <p>P13- Electromagnetic waves (communication, X-rays in medicine)</p> <p>Personalised revision from Year 10 PPE</p> <p>Skills:</p> <ul style="list-style-type: none"> • AO1: Demonstrate knowledge and understanding of: scientific ideas; scientific techniques and procedures. • AO2: Apply knowledge and understanding of: scientific ideas; scientific enquiry, techniques and procedures. • AO3: Analyse information and ideas to: interpret and evaluate; make judgments and draw conclusions; develop and improve experimental procedures. 	<p>KNOWLEDGE/SKILLS</p> <p>P11- Force and pressure (atmospheric, floatation, surfaces)</p> <p>P14- Light (refraction, reflection, lenses)</p> <p>P16- Space (formation, stars, planets/satellites, red shift)</p> <p>Personalised revision from December PPE</p> <p>Skills:</p> <ul style="list-style-type: none"> • AO1: Demonstrate knowledge and understanding of: scientific ideas; scientific techniques and procedures. • AO2: Apply knowledge and understanding of: scientific ideas; scientific enquiry, techniques and procedures. • AO3: Analyse information and ideas to: interpret and evaluate; make judgments and draw conclusions; develop and improve experimental procedures. 	<p>KNOWLEDGE/SKILLS</p> <p>Personalised revision from Easter PPE</p> <p>Skills:</p> <ul style="list-style-type: none"> • AO1: Demonstrate knowledge and understanding of: scientific ideas; scientific techniques and procedures. • AO2: Apply knowledge and understanding of: scientific ideas; scientific enquiry, techniques and procedures. • AO3: Analyse information and ideas to: interpret and evaluate; make judgments and draw conclusions; develop and improve experimental procedures.
KEY ASSESSMENTS	KEY ASSESSMENTS	KEY ASSESSMENTS

Half term 1: Autumn PPE paper 1	Half term 1: Spring PPE paper 2	GCSE's
Half term 2: FIFA focus- Power, waves	Half term 2: QLA Paper 1/ 2	
Extended reading suggestions and external resources:		
<p>KS4 Bitesize Science https://www.bbc.co.uk/bitesize/subjects/zpm6fg8</p> <p>Oak National Academy Lessons https://classroom.thenational.academy/subjects-by-key-stage/key-stage-4/subjects/physics</p> <p>Chase High Youtube Playlists https://www.youtube.com/channel/UCSK4ImJfi5sPH4UBp7cZtyQ</p> <p>We actively encourage students to read and research about the wider Scientific world- Planet Earth and Perfect Planet both on BBC iPlayer are examples of where students can engage with Science from the safety and comfort of their own homes.</p>		