Physics Trilogy Science			
Year 10			
All students are taught in mixed ability teaching groups recording their work on their iPads using their lab books for note taking in practical work. Note- all KS3 links refer to the current year 9 course that was previously studied by this year group			
Term 1 content and skills	**Term 2 Content and skills**	**Term 3 Content and Skills**	**Extended Curriculum (trips/visits/afterschool activities)**
Modules 1 ,2 and 3 taught on rotation in year 10 due to availability of resources in the autumn term **Module 1: Energy 1** (Links to KS3 T10 and T23) • Changes in energy stores and conservation of energy • Energy and work • Gravitational potential energy • Kinetic energy • Elastic potential energy • Power and Efficiency **Module 1: Energy 2** (Links to KS3 T10 and T23) • **Energy transfer** • Specific heat capacity **Required practical-** Specific heat capacity • National and global energy resources. **Module 2 Electric Circuits** (Links to KS3 T27 and T30) • Electrical charges and fields • Current and charge • P.D and resistance • **Required Practical** How does resistance of a wire depend on its length? • Ohms law **Required Practical** Use circuit diagrams to construct appropriate circuits to investigate the I–V characteristics of a variety of circuit elements including a filament lamp, a diode and a resistor at constant temperature. • LDRs and thermal resistors			• IOP Careers • Isaac Physics • Medtech challenge – links to engineering, design + tech, business skills. Provide industry mentor. • Stem Club • Launchpad- working with Form the Futures and local industry • Engineering Club • STEM leaders

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- Series and parallel circuits
- National grid and plugs
- Electric power
- Generators

Module 3: Particle Model of Matter (Links to KS3 T3 and T26)

- Density of materials

Required practical

Use appropriate apparatus to make and record the measurements needed to determine the densities of regular and irregular solid objects and liquids.

- Changes of state and specific latent heat,
- Particle model and pressure

Taught in Term 3

Module 4 Atomic Structure and radioactivity (Links to KS3 T3 and T12)

- Atoms and isotopes (Links the Chemistry GCSE module 1)
- History of the atom (same content as chemistry)
- Nuclear decay and nuclear equations
- Half life
- Uses and risks of radiation
- Radioactive contamination

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<tr><td colspan="3">Assessment: A key skills set task per topic (based on practical work, numeracy, data analysis or literacy), end of topic test (which can be open book or closed book). Additionally low stakes testing (eg Microsoft forms quizzes, exam questions etc) are used within lessons.</td><td></td></tr>
<tr><td>Assessment: End of term closed book written test</td><td>Assessment: End of term closed book written test</td><td>Assessment: End of term paper 1 exam</td><td></td></tr>
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Physics Trilogy Science			
Year 11			
All students are taught in mixed ability teaching groups recording their work on their iPads using their lab books for note taking in practical work.			
Term 1 content and skills	**Term 2 Content and skills**	**Term 3 Content and Skills**	**Extended Curriculum (trips/visits/afterschool activities)**
Module 5 5 Forces Part 1 (links to T19 to maths curriculum) • Scalar and vector quantities • Acceleration • Distance and time graphs • Velocity and time graphs • Contact and non-contact forces • Resolving forces- Newtons 1st law • Newtons 2nd Law **Required Practical** Investigate the effect of varying the force on the acceleration of an object of constant mass and the effect of varying the mass of an object on the acceleration produced by a constant force • Stopping (breaking) distances • Weight and Gravity • Resultant forces • Terminal velocity	**Topic 6 Waves part 1** (Links to T13) • Properties of a wave • Wave calculations **Required Practical** Make observations to identify the suitability of apparatus to measure the frequency, wavelength and speed of waves in a ripple tank and waves in a solid and take appropriate measurements. **Module 6 Waves part 2** (Links to T16) • EM spectrum • Emission and absorption of infrared radiation **Required Practical** Investigate how the amount of infrared radiation absorbed or radiated by a surface depends on the nature of that surface	**Topic 7 Magnetism and Electromagnetism** (Links to T30) • Magnets and poles • The motor effect • Fleming's left-hand rule (H) • Electric Motors (H)	• IOP Careers • Isaac Physics • Stem Club • Engineering Club

Module 5 Forces part 2 (Links to T19) • Momentum (H) • Conservation of momentum (H) • Newtons 3rd Law			
Assessment: A key skills set task per topic (based on practical work, numeracy, data analysis or literacy), end of topic test (which can be open book or closed book). Additionally low stakes testing (eg Microsoft forms quizzes, exam questions etc) are used within lessons.			
Assessment: Interim exam on paper 1 content	**Assessment:** Mock exam on Paper 2 content	**Assessment:** GCSE exams	