

Curriculum Map Year 13 Physics

Topic Name	Term	Skills developed with link to NC Subject content	Reflection on previous link in the curriculum	Progress to future link in the curriculum
Gravitational and electric fields	Autumn HT1	Understanding of: <ul style="list-style-type: none"> Introducing field lines Gravitational fields Gravitational field strength Newton's law of gravitation Gravitational potential Gravitational potential energy and graphs Orbits Satellites 	Year 10: Energy <ul style="list-style-type: none"> Potential energy and work done Year 11: Forces <ul style="list-style-type: none"> Forces on falling objects Weight mass and gravitational field strength Year 12: Mechanics <ul style="list-style-type: none"> Conservation of energy 	
Nuclear Physics	Autumn HT1	Understanding of: <ul style="list-style-type: none"> The atomic nucleus Nuclear radius and density Properties of nuclear radiation Background radiation and intensity Exponential law of decay Nuclear decay Mass defect and binding energy Fission and fusion Fission reactors 	year 10: Atomic structure <ul style="list-style-type: none"> The atom Background radiation Nuclear equations Half-life and decay Nuclear fission and fusion Year 12: Particles and radiation <ul style="list-style-type: none"> Atomic structure Year 12: Nuclear physics <ul style="list-style-type: none"> The atomic nucleus Nuclear radius and density Properties of nuclear radiation 	
Gravitational Fields and electric	Autumn HT2	Understanding of: <ul style="list-style-type: none"> Electric fields Coulomb's law Uniform and radial electric fields Electric potential Comparing electric and gravitational fields 	Year10: Electricity <ul style="list-style-type: none"> Electric fields Year 12: Electricity <ul style="list-style-type: none"> Current and potential difference 	
Capacitance	Autumn HT2	Understanding of: <ul style="list-style-type: none"> Capacitors Energy stored by capacitors Charging and discharging 	Year 12: Electricity <ul style="list-style-type: none"> Current and potential difference 	
Magnetic fields	Spring HT3	Understanding of: <ul style="list-style-type: none"> Magnetic flux density Forces on charged particles Electromagnetic Induction Lenz's Law and Faraday's Law Alternating current & AC Generators Transformers 	Year 11: Electromagnetism <ul style="list-style-type: none"> Magnetic forces Solenoid and electromagnets Magnetic field strength Electric motors and motor effect Generators and generator effect Transformers 	

Turning Points	<i>Spring HT3</i>	Understanding of: <ul style="list-style-type: none"> ● Discovering electrons ● Specific charge of an electron ● Milikan's oil-drop experiment ● Newton v Hygens ● Electromagnetic waves ● Photoelectric effect ● Wave-particle duality ● Electron microscopes ● Michelson-Morley experiment ● Special relativity 	Year 12: Electromagnetic radiation and quantum phenomena <ul style="list-style-type: none"> ● The photoelectric effect ● Energy levels in atoms ● Wave-particle duality 	
Thermal Physics	<i>Spring HT4</i>	Understanding of: <ul style="list-style-type: none"> ● The three gas laws ● Ideal gas equation ● The pressure of an ideal gas ● Energy and temperature ● Specific heat capacity & specific latent heat ● Development of kinetic theory 	Year 10: Particle model of matter <ul style="list-style-type: none"> ● States of matter ● Internal energy ● Specific heat capacity ● Specific latent heat ● Particle motion in gases ● Pressure of a gas 	
Revision	<i>Spring HT4</i>	Recap and reflection on content learnt during year 12 & 13 Exam question focus Multiple choice question focus Scientific skills focus		
Revision	<i>Summer HT5</i>	Recap and reflection on content learnt during year 12 & 13 Exam question focus Multiple choice question focus Scientific skills focus		
Revision	<i>Summer HT5</i>	Recap and reflection on content learnt during year 12 & 13 Exam question focus Multiple choice question focus Scientific skills focus		
Y13 exams and leaving	<i>Summer HT6</i>			
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