

Physics
Year 13 curriculum map

Year 13 Teacher one	T1	T2	T3	T4	T5	T6
Content / Topic for Term	Gravitational fields	Electric fields	Capacitors	Magnetic fields	Magnetic fields Revision and consolidation time	Exams
Key Knowledge for acquisition, recall and application in assessment or exam	Gravitational fields <ul style="list-style-type: none"> • gravitational field strength • orbits 	Electric fields <ul style="list-style-type: none"> • electric potential • comparing electric and gravitational fields 	Capacitors <ul style="list-style-type: none"> • energy stored by capacitors • dielectrics • charging and discharging • time constant and time to halve 	Magnetic fields <ul style="list-style-type: none"> • magnetic flux density • investigating force on a current carrying wires • force on charged particles • electromagnetic induction • investigating flux linkage • faradays and Lenz's law 	Magnetic fields(cont) <ul style="list-style-type: none"> • alternating current • transformers 	
Key skills to apply in assessment or exam	<ul style="list-style-type: none"> • Using key scientific terminology • Explaining • Describing • Exam style questions • Complex scientific ideas 	<ul style="list-style-type: none"> • Using key scientific terminology • Respond to written questions • Articulating complex scientific ideas • Calculations (Maths) 	<ul style="list-style-type: none"> • Using key scientific terminology • Explaining observations • Respond to written questions • Identifying equipment • Conclusion 	<ul style="list-style-type: none"> • Using key scientific terminology • Explaining observations • Respond to written questions • Identifying equipment • Conclusion 	<ul style="list-style-type: none"> • Using key scientific terminology • Respond to written questions • Presentations of information • Understanding models 	<ul style="list-style-type: none"> • Using key scientific terminology • Explaining • Describing • Exam style questions • Calculations (Maths)

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	<ul style="list-style-type: none"> • Calculations (Maths) 	<ul style="list-style-type: none"> • Explaining • Describing 	<ul style="list-style-type: none"> • Evaluation • Graphs • Calculations (Maths) 	<ul style="list-style-type: none"> • Evaluation • Graphs • Calculations (Maths) 	<ul style="list-style-type: none"> • Articulating complex scientific ideas • Calculations (Maths) 	
Title of Knowledge Organiser	Gravitational fields	Electric fields	Capacitors	Magnetic fields	Magnetic fields	Gravitational fields Electric fields Capacitors Magnetic fields

Year 13 Teacher two	T1	T2	T3	T4	T5	T6
Content / Topic for Term	Further mechanics	Thermal Physics Intro to self- study optional unit	Nuclear Physics	Nuclear Physics	Revision and consolidation Time	Exams
Key Knowledge for acquisition, recall and application in assessment or exam	Further mechanics <ul style="list-style-type: none"> • circular motion • centripetal force and acceleration • simple harmonic motion • calculations with simple harmonic motion • mass spring system as a 	Thermal Physics <ul style="list-style-type: none"> • thermal energy transfer • the three gas laws • ideal gas equation • kinetic theory and pressure of an ideal gas • kinetic energy of gas molecules 	Nuclear Physics <ul style="list-style-type: none"> • Rutherford scattering • measuring nuclear radius • nuclear radius and density 	Nuclear Physics (cont) <ul style="list-style-type: none"> • properties of nuclear radiation • background radiation and intensity • exponential law of decay • half-life and its applications 		

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	<ul style="list-style-type: none"> simple harmonic oscillator • simple pendulum and other types SHO • free and forced vibrations 	<ul style="list-style-type: none"> • development of theories <p>Optional Topics</p> <ul style="list-style-type: none"> • astrophysics • medical physics • engineering physics • turning points in physics 		<ul style="list-style-type: none"> • nuclear decay • mass defect and binding energy • nuclear fission and fusion • nuclear fission reactors 		
Key skills to apply in assessment or exam	<ul style="list-style-type: none"> • Using key scientific terminology • Explaining • Identify scientific equipment • Making observations • Collecting and handling data • Graphs • Calculations (Maths) 	<ul style="list-style-type: none"> • Using key scientific terminology • Respond to written questions • Understanding models • Articulating complex scientific ideas • Graphs • Calculations (Maths) 	<ul style="list-style-type: none"> • Using key scientific terminology • Making observations 	<ul style="list-style-type: none"> • Using key scientific terminology • Explaining observations • Respond to written questions • Models • Graphs • Calculations (Maths) 	<ul style="list-style-type: none"> • Using key scientific terminology • Respond to written questions • Presentations of information • Understanding models • Articulating • Past paper questions 	<ul style="list-style-type: none"> • Using key scientific terminology • Explaining • Describing • Exam style questions
Title of Knowledge Organiser	Further Mechanics	Thermal Physics	Nuclear Physics	Nuclear Physics	Further mechanics Thermal Physics Nuclear Physics	Further mechanics Thermal Physics Nuclear Physics