

Year 10

Timing	Unit Title	Key Question	Knowledge	Assessing understanding
Autumn	Waves	<p>What are waves and how do we measure them?</p> <p>What is the Electromagnetic Spectrum and How do we use it?</p>	<ul style="list-style-type: none"> ● Waves Basics, Features of transverse and longitudinal waves including the basics of reflection and refraction ● Wave Equation ● Required Practical 8 - speed of wave in ripple tank and Speed of waves in solids ● How we hear sound. ● Uses of waves in imaging, sonar and developing theories on the structure of the Earth 1 ● More about Earth quake waves ● The Electromagnetic Spectrum ● Infra red and Black body radiation ● required practical 10 silver and black cans ● X-rays ● Light ● reflection ● refraction ● Required practical 9 reflection and refraction from different substances ● diffraction ● Colour and how we see it ● Convex and concave lenses ● Ray diagrams 	<p>How understanding is assessed</p> <p>Students will be assessed on their ability to:</p> <ul style="list-style-type: none"> ● Recall the knowledge covered ● Explain the Physical processes covered. ● Interpret graphical and experimental data ● Plan and describe valid experiments ● Evaluate experimental procedures and results <p>Skills</p> <ul style="list-style-type: none"> ● Description ● Explanation ● Evaluation ● Comparison ● Planning and carrying out investigations ● Manipulating Mathematical Formulae <p>Assessment point information</p> <p>Based on:</p> <ul style="list-style-type: none"> ● Home works during the term ● Test on Energy from Year 9 ● Test on Waves

Spring	Atomic Structure and Space Physics	<p>What is Radioactivity and how can we use it safely?</p> <p>How do we generate the electricity that we use?</p> <p>How are stars formed?</p>	<ul style="list-style-type: none"> ● Structure of the atom ● The discovery of the atom 1 ● The discovery of the atom 2 ● Nature and properties of alpha, beta and gamma radiation ● Nuclear decay equations for alpha and beta decay. ● Determination of half-life using calculations and graphical methods. ● Safety with radioactivity ● Background radiation and sources of it. Medical and other Uses of radiation ● Nuclear fission. ● Nuclear fusion. ● Global Energy resources ● Life cycle of a star ● Solar System ● History and Future of the Universe 	<p>How understanding is assessed Students will be assessed on their ability to:</p> <ul style="list-style-type: none"> ● Recall the knowledge covered ● Explain the Physical processes covered. ● Interpret graphical and experimental data ● Plan and describe valid experiments ● Evaluate experimental procedures and results <p>Skills</p> <ul style="list-style-type: none"> ● Description ● Explanation ● Evaluation ● Comparison ● Planning and carrying out investigations ● Manipulating Mathematical Formulae <p>Assessment point information Based on:</p> <ul style="list-style-type: none"> ● Home works during the term
Summer	Electricity	What can we measure in electric circuits	<ul style="list-style-type: none"> ● Electrostatics ● Electricity introduction 	<p>How understanding is assessed Students will be assessed on their ability to:</p> <ul style="list-style-type: none"> ● Recall the knowledge covered ● Explain the Physical processes covered.

	<p style="text-align: center;">Electricity</p>	<p>and how are these things related?</p> <p>What can we measure in electric circuits and how are these things related?</p> <p>How do we access electricity at home?</p>	<ul style="list-style-type: none"> ● Current ● Potential Difference and Resistance and Ohms Law ● Test Circuits (Electrical Component properties) ● I-V Graphs (Electrical Component Graphs) ● Circuit Rules (Theory: Series vs Parallel circuits) ● Circuit Rules: (Required Practical 4: Series vs Parallel circuits) ● Required Practical 3 Use circuit diagrams to set up and check appropriate circuits to investigate the factors affecting the resistance of electrical circuits. ● Electrical Power ● Energy Transfers in circuits ● National Grid ● Plugs and Wiring ● Fuses and Circuit Breakers ● AC vs DC and measuring 	<ul style="list-style-type: none"> ● Interpret graphical and experimental data ● Plan and describe valid experiments ● Evaluate experimental procedures and results <p>Skills</p> <ul style="list-style-type: none"> ● Description ● Explanation ● Evaluation ● Comparison ● Planning and carrying out investigations ● Manipulating Mathematical Formulae <p>Assessment point information</p> <p>Based on:</p> <ul style="list-style-type: none"> ● Home works during the term ● End of Year Exam
--	---	--	--	---