



Curriculum Map: Year 10 Subject: GCSE Physics (Combined Science) Exam Board: AQA

<b>Topic</b>	<b>Key Knowledge</b> <i>What will all students KNOW by the end of the topic?</i>	<b>Key Skills</b> <i>What key skills will be learnt/developed by the end of the topic? What will all students be able to DO by the end of the topic?</i>	<b>Assessment Opportunities</b> <i>What are the key pieces of assessment? How will students be assessed?</i>
<b>Atomic Structure</b>	<ul style="list-style-type: none"> <li>- Recap of atoms &amp; isotopes (from start of Year 9 Chemistry &amp; end of year 9 Physics)</li> <li>- Radioactive decay &amp; nuclear radiation</li> <li>- Nuclear equations</li> <li>- Half-lives</li> <li>- Contamination, irradiation &amp; their hazards</li> <li>- Hazards &amp; uses of radioactive emissions</li> </ul>	<ul style="list-style-type: none"> <li>- Recall key terminology including the nature of alpha, beta &amp; gamma decay</li> <li>- Balance nuclear equations</li> <li>- Use graphs &amp; calculations in relation to half-lives</li> <li>- Interpretation of data &amp; application of knowledge to problem solving</li> <li>- Apply their knowledge of nuclear radiation to evaluate the best source of radiation to use in a given situation</li> <li>- Evaluate the perceived risk of using nuclear radiations in relation to given data</li> </ul>	<ul style="list-style-type: none"> <li>- Analysis of practical results</li> <li>- PPQ</li> <li>-Homework</li> <li>- Half-life modelling and graph interpretation</li> <li>- Graph analysis</li> <li>- starter tasks interleaving previous knowledge from last lesson/ year 9 content retrieval</li> <li>- PPQ</li> <li>-AfL throughout lessons</li> <li>- Homework Tasks</li> <li>- Analysis of Risk with Nuclear Power</li> <li>-Assessment 1</li> <li>-Assessment 2</li> <li>-Mocks</li> </ul>
<b>Electricity</b>	Recap of Current Electricity, Resistance from Year 9 <ul style="list-style-type: none"> <li>- Series &amp; parallel circuits</li> <li>- Required practical 4 – IV graphs (in 3 parts – resistor, filament lamp &amp; diode)</li> <li>- Ohm’s law &amp; resistance</li> <li>- Thermistors &amp; LDRs</li> <li>- Mains electricity &amp; the National Grid</li> </ul>	<ul style="list-style-type: none"> <li>-Building simple circuits</li> <li>- Calculations involving current, energy, charge, p.d. &amp; time</li> <li>- Use of models to understand the unobservable</li> <li>- Building more complex circuits &amp; taking measurements</li> </ul>	<ul style="list-style-type: none"> <li>- Analysis of practical results</li> <li>- PPQ</li> <li>- Required Practical Skills</li> <li>- Graph analysis</li> <li>- starter tasks interleaving previous knowledge from last lesson/ year 9 content retrieval</li> </ul>

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	<ul style="list-style-type: none"> <li>- Transferring energy &amp; power</li> </ul>	<ul style="list-style-type: none"> <li>-Plot and draw appropriate graphs selecting appropriate scales for the axes.</li> <li>- Lines of best fit</li> <li>- Method writing and identifying variables</li> </ul>	<ul style="list-style-type: none"> <li>- PPQ</li> <li>-AfL throughout lessons</li> <li>- Homework Tasks</li> <li>- Calculation Questions</li> <li>-Assessment 1</li> <li>-Assessment 2</li> <li>-Mocks</li> <li>-Required Practical 6 – Resistance of Components</li> </ul>
<b>Energy</b>	<ul style="list-style-type: none"> <li>- Calculations using work done, GPE, KE and EPE equations</li> <li>- Energy as a quantity that can be calculated</li> </ul>	<ul style="list-style-type: none"> <li>-Use of increasingly complex formulae in calculations (e.g. squared terms)</li> <li>- Calculations involving rearranging (now including the need to use the square-root function)</li> <li>- Use of correct units</li> </ul>	<ul style="list-style-type: none"> <li>- starter tasks interleaving previous knowledge from last lesson/ year 9 content retrieval</li> <li>- PPQ</li> <li>-AfL throughout lessons</li> <li>- Homework Tasks</li> <li>- Calculation for GPE, KE and EP</li> <li>-Assessment 1</li> <li>-Assessment 2</li> <li>-Mocks</li> </ul>
<b>Waves</b>	<ul style="list-style-type: none"> <li>- Transverse &amp; longitudinal waves</li> <li>- Properties of waves &amp; wave speed</li> <li>- Frequency &amp; Time Period</li> <li>- Required practical 8 -Speed of a wave in a solid &amp; in a ripple tank (in 2 parts)</li> </ul>	<ul style="list-style-type: none"> <li>- Recall key terminology on the anatomy &amp; behaviour of waves</li> <li>- Identify the suitability of apparatus to measure the frequency, wavelength &amp; speed of waves (in the required practical)</li> <li>- Be able to determine the uncertainty in a set of measurements</li> </ul>	<ul style="list-style-type: none"> <li>- Analysis of practical results</li> <li>- PPQ</li> <li>-Homework</li> <li>- Graph analysis</li> <li>- starter tasks interleaving previous knowledge from last lesson/ year 9 content retrieval</li> <li>- PPQ</li> <li>- Calculations of Uncertainty</li> <li>-AfL throughout lessons</li> </ul>

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			<ul style="list-style-type: none"><li>- Homework Tasks</li><li>- Analysis of Risk with Nuclear Forces</li><li>- Assessment 1</li><li>- Assessment 2</li><li>- Mocks</li><li>- Required Practical 8 – Properties of a Wave</li></ul>
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