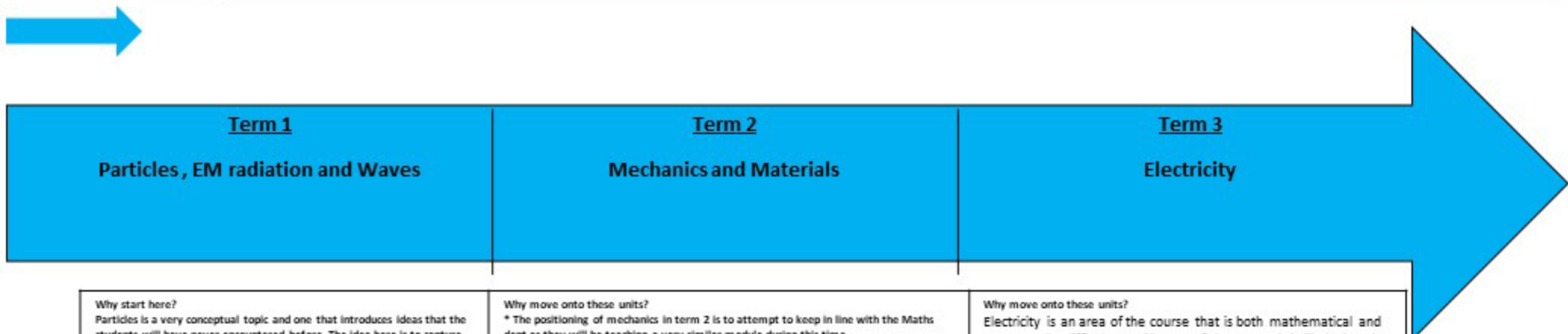




Mastery:

# Y12 Physics Curriculum Sequence

Intent: To embed knowledge and understanding in AQA A level Physics and supervise practical work to enable students to achieve Practical competency



## Term 1

Particles, EM radiation and Waves

## Term 2

Mechanics and Materials

## Term 3

Electricity

<p><b>Why start here?</b> Particles is a very conceptual topic and one that introduces ideas that the students will have never encountered before. The idea here is to capture their interest from the start.</p>	<p><b>Why move onto these units?</b> * The positioning of mechanics in term 2 is to attempt to keep in line with the Maths dept as they will be teaching a very similar module during this time</p>	<p><b>Why move onto these units?</b> Electricity is an area of the course that is both mathematical and conceptually difficult. By this part of the course it is likely that the students will have developed their skills in both Maths and Physics</p>
<p><b>Spec links:</b> 1.2 Particles and radiation The section introduces students both to the fundamental properties of matter, and to electromagnetic radiation and quantum phenomena. Teachers may wish to begin with the topic to provide a new science and knowledge dimension beyond GCSE. Through a study of these topics, students become aware of the way ideas develop and evolve in physics. They will appreciate the importance of international collaboration in the development of new experiments and theories in the area of fundamental research. 1.8 Waves GCSE studies of wave phenomena are extended through development of knowledge of the characteristics, properties, and applications of travelling, wave and stationary waves. Topics treated include refraction, diffraction, superposition and interference.</p>	<p><b>Spec links:</b> 3.4 Mechanics and materials Vectors and their treatment are introduced followed by development of the student's knowledge and understanding of forces, energy and momentum. The section continues with a study of materials considered in terms of their bulk properties and tensile strength. As with earlier topics, this section and also the following section Electricity would provide a good starting point for students who prefer to begin by consolidating work.</p>	<p><b>Spec links:</b> 3.5 Electricity This section builds on and develops earlier study of these phenomena from GCSE. It provides opportunities for the development of practical skills at an early stage in the course and lays the groundwork for later study of the many electrical applications that are important to society.</p>
<p><b>Teaching these topics here supports:</b></p> <ul style="list-style-type: none"> <li>The ability to understand quantum behaviour before addressing the idea of nuclear energy transitions</li> <li>Introduction into Physics without the initial requirement for mathematics</li> <li>Year 13 radioactivity</li> </ul>	<p><b>Teaching these topics here supports:</b></p> <ul style="list-style-type: none"> <li>A level maths mechanics</li> <li>Year 13 further mechanics</li> </ul>	<p><b>Teaching these topics here supports:</b></p> <ul style="list-style-type: none"> <li>Year 13 electric fields</li> <li>Year 13 capacitors</li> </ul>
<p>These topics feed from: GCSE radioactivity GCSE waves</p>	<p>These topics feed from: GCSE forces and motion GCSE maths</p>	<p>These topics feed from: GCSE electricity</p>