

# Curriculum Map

Subject: Physics



Year: 11

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<p><b>Content</b></p> <p><b>Knowledge</b></p>	<p><b>Electromagnetic Waves:</b></p> <ul style="list-style-type: none"> <li>The electromagnetic spectrum</li> <li>Infra-red, Microwaves, Radiowaves</li> <li>Ultraviolet, X-rays, gamma rays</li> <li>X-rays in medicine</li> </ul>	<p><b>Light:</b></p> <ul style="list-style-type: none"> <li>Reflection of light</li> <li>Refraction of light</li> <li>Light and colour</li> <li>Lenses</li> </ul> <p><b>Required Practicals:</b></p> <ul style="list-style-type: none"> <li>Investigating the reflection and refraction of light</li> </ul>	<p><b>Electromagnetism:</b></p> <ul style="list-style-type: none"> <li>Magnetic fields</li> <li>Magnetic fields and electric currents</li> <li>Electromagnets in devices</li> <li>The motor effect</li> <li>The generator effect</li> <li>The alternating-current generator</li> <li>Transformers and power stations</li> </ul>	<p><b>Space:</b></p> <ul style="list-style-type: none"> <li>Formation of the Solar System</li> <li>The life cycle of a star</li> <li>Planets, satellites and orbits</li> <li>The beginning and expanding universe</li> </ul>	<p><b>Space:</b></p> <ul style="list-style-type: none"> <li>Formation of the Solar System</li> <li>The life cycle of a star</li> <li>Planets, satellites and orbits</li> <li>The beginning and expanding universe</li> </ul>	<p><b>Revision</b></p> <ul style="list-style-type: none"> <li>To focus on recapping key knowledge and re-address common misconceptions</li> <li>Embed additional exam practice for each chapter</li> <li>Focus on key aspects of required practicals</li> </ul>
<p><b>Skills</b></p>	<ul style="list-style-type: none"> <li>To recall and identify correct scientific knowledge</li> <li>To be able to compare and contrast differences in uses for various sections of the EM spectrum</li> </ul>	<ul style="list-style-type: none"> <li>To recall and identify correct scientific knowledge</li> <li>To be able to use ray boxes, glass prism and lenses correctly and appropriately</li> </ul>	<ul style="list-style-type: none"> <li>To recall and identify correct scientific knowledge</li> <li>To be able to describe both the generator and motor effect clearly and concisely</li> <li>To be able to use and manipulate the transformer equations correctly</li> </ul>	<ul style="list-style-type: none"> <li>To be able to recall and describe the respective stages in the life cycle of a star</li> <li>To be able to recall and describe key evidences for Big Bang model.</li> <li>To be able to compare and contrast evidences for both the Big Bang and Steady State Model</li> </ul>	<ul style="list-style-type: none"> <li>To be able to recall and describe the respective stages in the life cycle of a star</li> <li>To be able to recall and describe key evidences for Big Bang model.</li> <li>To be able to compare and contrast evidences for both the Big Bang and Steady State Model</li> </ul>	<ul style="list-style-type: none"> <li>Recalling important information</li> <li>Exam Technique</li> <li>Spacing</li> <li>Interleaving</li> <li>Elaboration</li> </ul>
<p><b>Key</b></p>	How do mobile phones	How do corrective lenses	How does an electric motor	How did our universe	How did our universe form?	

<p><b>Questions</b></p>	<p>send signals to one another?  How does your TV remote connect to your TV?</p>	<p>improve your eyesight?</p>	<p>work?  How can we send electricity across the entire country safely and efficiently?</p>	<p>form?  How are stars and planets formed?</p>	<p>How are stars and planets formed?</p>	
<p><b>Assessment</b></p>	<p>Diagnostic test on P13 ReACT tasks P13 End of Chapter Test</p>	<p>Diagnostic test on P14 ReACT tasks P14 End of Chapter Test</p>	<p>Diagnostic test on P15 ReACT tasks P15 End of Chapter Test</p>	<p>Diagnostic test on P16 ReACT tasks P16 End of Chapter Test</p>	<p>Diagnostic test on P16 ReACT tasks P16 End of Chapter Test</p>	
<p><b>Literacy/numeracy/SMSC/Character</b></p>	<p><b>Key words:</b> Infrared, ultraviolet, radiowaves, gamma, white light, optical fibres, charge-coupled device (CCD)</p>	<p><b>Key words:</b> Reflection, angle of incidence, angle of refraction, normal, specular reflection, diffuse reflection, virtual image, principal focus, magnification, real image</p> <p><b>Numeracy:</b> Calculating the magnification of an image and order of magnitude</p>	<p><b>Key words:</b> Magnetic field, induction, electromagnet, Fleming's Left Hand Rule, motor effect, generator effect, transformer</p> <p><b>Numeracy:</b> Calculating current and voltage in a transformer and order of magnitude</p>	<p><b>Key words:</b> solar system, main sequence star, protostar, neutron star, black hole, red giant, white dwarf, supernova, centripetal force, red-shift, cosmic microwave background radiation</p>	<p><b>Key words:</b> solar system, main sequence star, protostar, neutron star, black hole, red giant, white dwarf, supernova, centripetal force, red-shift, cosmic microwave background radiation</p>	
<p><b>Enrichment opportunities and futures</b></p>	<p>Visiting the Science Museum in Central London Visiting local power stations and asking about how transformers work</p>					