

Year 11 Physics

Learning Programme 4

<p>The LORIC skill focus for his LP is: INITIATIVE. The Moral Virtues focus for this LP are: INTEGRITY and GRATITUDE.</p> <p>Integrity - Having strong moral principles. I will show integrity by taking responsibility for my actions. Gratitude - Feeling and expressing thanks. I will show gratitude by saying please and thank you.</p> <p>What will I be learning about in this Learning Programme? The properties of magnetic fields, the interaction between magnets and currents (the motor effect), and the principles of electromagnetic induction used in generators and transformers. The space physics topic explores the life cycle of stars, the organization of our solar system, and the evidence for the expanding universe provided by red-shift and the Big Bang theory.</p> <p>Where have I seen this learning before? Magnetism was studied at KS3 and develops the understanding of the electricity topics covered in year 10. Space was last studied at KS3 and brings in understanding of nuclear fusion from year 10.</p> <p>What could I use it for? Careers in astronomy, engineering, radiography and music technology</p>		<p>Literacy Non-Negotiables:</p> <ul style="list-style-type: none"> • Capital letters must be used at the start of sentences and for the first letter of proper nouns • Full stops must be used at the end of a sentence • Question marks must be used at the end of a question • Apostrophes should only be used for possession or omission • Days of the week and months must be spelled correctly • Key words must be spelled correctly • Vocabulary to be taught using the Frayer model
<p>In LP4.1, I will know: 09/03/26 - (WK 2)</p> <p>Complete Mock assessments</p>	<p>Frayer Model Words</p> <p>electromagnet</p>	<p>Homework</p> <p>Sparx Science homework task.</p>
<p>In LP4.2, I will know: 16/03/26 - (WK 1)</p> <p>how to describe sound waves, ultrasound and its uses in medicine; how to describe infrasound and the propagation of seismic P and S waves through the earth; how to describe the difference between convex and concave lenses. Calculate magnification. Complete ray diagrams for both convex and concave lenses, identifying the nature of the image formed.</p>	<p>Frayer Model Words</p> <p>solenoid</p>	<p>Homework</p> <p>Sparx Science homework task.</p>
<p>In LP4.3, I will know: 23/03/26 - (WK 2)</p> <p>how to draw magnetic field lines and describe permanent and induced magnets; how to describe how the magnetic effect of an electromagnet;</p> <p>Extended Task.</p>	<p>Frayer Model Words</p> <p>Fleming's Left Hand Rule</p>	<p>Homework</p> <p>Sparx Science homework task.</p>
<p>In LP4.4, I will know: 13/04/26 - (WK 1)</p> <p>how use Fleming's left-hand rule to explain the Motor Effect HT; my strengths and weaknesses following the mock exam assessments; how to explain how the generator effect is used in an alternator to generate ac and in a dynamo to generate dc HT.</p>	<p>Frayer Model Words</p> <p>generator</p>	<p>Homework</p> <p>Sparx Science homework task.</p>
<p>In LP4.5, I will know: 20/04/26 - (WK 2)</p> <p>how the motor effect and generator effect can be used to create sound waves in a moving-coil loudspeaker and or electric currents in microphones HT; how to explain the effect of an alternating current in one coil in inducing a current in another is used in transformers HT.</p>	<p>Frayer Model Words</p> <p>satellite</p>	<p>Homework</p> <p>Sparx Science homework task.</p>
<p>In LP4.6, I will know: 27/04/26 - (WK 1)</p> <p>how to describe the life cycle of a star; how to explain how fusion processes lead to the formation of new elements; how to describe the similarities and distinctions between the planets, their moons, and artificial satellites.</p> <p>Extended Task.</p>	<p>Frayer Model Words</p> <p>red shift</p>	<p>Homework</p> <p>Sparx Science homework task.</p>
<p>In LP4.7, I will know: 04/05/26 - (WK 2)</p> <p>how to describe that the light from most distant galaxies is red-shifted — the wavelength of the observed light is greater than it should be; how to describe the Big Bang theory of the beginning of the universe; My strengths and weaknesses following the Magnetism and Space assessment.</p>	<p>Frayer Model Words</p> <p>Cosmic Microwave Background Radiation</p>	<p>Homework</p> <p>Sparx Science homework task.</p>
<p>Resources to support learning: BBC bitesize, www.physicsandmathstutor.com, revision guide, Synergy, Sparx Science.</p>		
<p>FFET Award Challenge for this Learning Programme: Complete a practice paper independently.</p>		

