

2023-2024 Year 11 Curriculum and Assessment Plan for Trilogy Combined Science (Physics)

The curriculum and assessment of pupils at this stage of education has been carefully designed to enable students to express physical laws and models in mathematical forms.					
<p>Half Term 1:</p> <p>All pupils will know: The Topic Atoms and Isotopes as outlined by the AQA Trilogy Specification page 138-143 GCSE Combined Science: Trilogy Specification Specification for first teaching in 2016 (aqa.org.uk)</p> <p>All pupils will be assessed: By short recall activities, electronic automatically marked homework's and longer answer short tests focussed on the topics. There will also be a longer exam as part of the data gathering for the whole year group twice a year.</p> <p>Impact - Why do we teach this? Ionising radiation is hazardous but can be very useful. Although radioactivity was discovered over a century ago, it took many nuclear physicists several decades to understand the structure of atoms, nuclear forces and stability. Early researchers suffered from their exposure to ionising radiation. Rules for radiological protection were first introduced in the 1930s and subsequently improved. Today radioactive materials are widely used in medicine, industry, agriculture and electrical power generation.</p>	<p>Subject specific skills being developed:</p> <ul style="list-style-type: none"> • Reading skills • Vocabulary skills • Investigative skills • How science works • STEM • Math skills <p>Reading Skills needed for this unit:</p> <p>Key Vocabulary: Atom, nucleus, proton, neutron, electron, atomic number, mass number, alpha particle, beta particle, gamma ray, penetration, ionisation, half-life</p> <p>Opportunity for cross-curricular skill development</p> <ul style="list-style-type: none"> • Graph drawing • Calculations • Algebra 	<p>Half Term 2:</p> <p>All pupils will know: The Topic Waves as outlined by the AQA Trilogy Specification page 155-159 GCSE Combined Science: Trilogy Specification Specification for first teaching in 2016 (aqa.org.uk)</p> <p>All pupils will be assessed: By short recall activities, electronic automatically marked homework's and longer answer short tests focussed on the topics. There will also be a longer exam as part of the data gathering for the whole year group twice a year.</p> <p>Impact - Why do we teach this? Wave behaviour is common in both natural and man-made systems. Waves carry energy from one place to another and can also carry information. Designing comfortable and safe structures such as bridges, houses and music performance halls requires an understanding of mechanical waves. Modern technologies such as imaging and communication systems show how we can make the most of electromagnetic waves</p>	<p>Subject specific skills being developed:</p> <ul style="list-style-type: none"> • Reading skills • Vocabulary skills • Investigative skills • How science works • STEM • Math skills <p>Reading Skills needed for this unit:</p> <p>Key Vocabulary: Longitudinal, transverse, oscillation, displacement, amplitude, frequency, time period, electromagnetic wave,</p> <p>Opportunity for cross-curricular skill development</p> <ul style="list-style-type: none"> • Graph drawing • Calculations • Algebra 	<p>Half Term 3:</p> <p>All pupils will know: The Topic Magnetism and Electromagnetism as outlined by the AQA Trilogy Specification page 159-162 GCSE Combined Science: Trilogy Specification Specification for first teaching in 2016 (aqa.org.uk)</p> <p>All pupils will be assessed: By short recall activities, electronic automatically marked homework's and longer answer short tests focussed on the topics. There will also be a longer exam as part of the data gathering for the whole year group twice a year.</p> <p>Impact - Why do we teach this? Electromagnetic effects are used in a wide variety of devices. Engineers make use of the fact that a magnet moving in a coil can produce electric current and also that when current flows around a magnet it can produce movement. It means that systems that involve control or communications can take full advantage of this.</p>	<p>Subject specific skills being developed:</p> <ul style="list-style-type: none"> • Reading skills • Vocabulary skills • Investigative skills • How science works • STEM • Math skills <p>Reading Skills needed for this unit:</p> <p>Key Vocabulary: magnetic poles, repel, permanent, induced, electromagnetism, solenoid,</p> <p>Opportunity for cross-curricular skill development</p> <ul style="list-style-type: none"> • Graph drawing • Calculations • Algebra
<p>Half Term 4:</p> <p>Revision of concepts from GCSE Combined Science: Trilogy Specification Specification for first teaching in 2016 (aqa.org.uk)</p> <p>All pupils will be assessed: By short recall activities, electronic automatically marked homework's and longer answer short tests focussed on the topics. There will also be a longer exam as part of the data gathering for the whole year group twice a year.</p>	<p>Subject specific skills being developed:</p> <ul style="list-style-type: none"> • <p>Reading Skills needed for this unit:</p> <p>Key Vocabulary:</p>	<p>Half Term 5:</p> <p>Revision of concepts from GCSE Combined Science: Trilogy Specification Specification for first teaching in 2016 (aqa.org.uk)</p> <p>All pupils will be assessed: By short recall activities, electronic automatically marked homework's and longer answer short tests focussed on the topics. There will also be a longer exam as part of the data gathering for the whole year group twice a year.</p>	<p>Subject specific skills being developed:</p> <ul style="list-style-type: none"> • <p>Reading Skills needed for this unit:</p> <p>Key Vocabulary:</p>		

	<p>Opportunity for cross-curricular skill development</p> <ul style="list-style-type: none"> • 		<p>Opportunity for cross-curricular skill development</p> <ul style="list-style-type: none"> • 		
<p>Ensuring this curriculum meets the needs of all pupils: this curriculum has been designed to ensure pupils from all starting points will develop the key curriculum skills and knowledge identified. The curriculum design ensures that each unit forms part of the overall learning journey and there are opportunities for revisiting skills and linking together key pieces of knowledge. Whole Academy policies and practices are followed to tailor the delivery of the curriculum for individuals and groups of students. For example SEND students have individual learning profiles that outline needs/strategies to be used, Whole group RPs are in place to identify key teaching strategies that will be used with individual teaching groups. Ongoing formative assessment and clear summative assessment points allow individual staff and departments to identify misconception and adjust curriculum appropriately.</p>					
<p>Enrichment opportunities:</p> <ul style="list-style-type: none"> • 					
<p>Career opportunities/ links:</p>					