

Year 10 Curriculum Plans

Core Subjects	Autumn Term					
Biology	Homeostasis - Explore the process of homeostasis and the endocrine system.			Nervous System - Investigate the structure of the nervous system and reflex actions.		
Chemistry	Rates of Reaction - Investigate the reactivity of chemicals and explore the variables that can be manipulated in order to speed them up or slow them down. Reversible reactions and dynamic equilibrium- investigating the forward and backward nature of some chemical reactions.			Crude oil and Hydrocarbons - Investigate why the chemistry of carbon compounds is so important that it forms a separate branch of chemistry.		
English Language	Descriptive Writing - Students will develop their descriptive and narrative writing skills using the poems from the Unseen Anthology as a springboard for creative tasks, for example: war descriptions.			Explorations in Reading - Students will complete fiction comprehension style questions using extracts from 'A Christmas Carol'. This will support with their ability to analyse language and structure closely for their English Language Paper 1.		
English Literature	Unseen Poetry - Students will explore a selection of poems. They will build on their skills developed in year 9 in order to analyse poems in detail, considering the writer's message and how this is conveyed through language and structural features.			A Christmas Carol: Students will be introduced to the novella, with a primary focus on plot and character development. Students will naturally explore themes and motifs within this.		
Maths – Foundation	Unit 1 Transformations – Students will learn to construct, recognise and describe translations, rotations, reflections and enlargements (positive and fractional scale factors only) on a coordinate grid.		Unit 2 Sequences – Students will be able to work fluently with sequences including finding a generalised rule for the nth term and continuing sequences represented as diagrams or integers.		Unit 3 Averages 2 – Students will learn to find the mean, median, mode and range from grouped frequency tables. Student will learn to solve reverse mean questions.	
					Unit 4 Inequalities – Students will learn to solve linear inequalities in one variable and represent the solution on a number line.	
Maths – Higher	Unit 1 Accuracy and Bounds – Students will learn to calculate upper and lower bounds of any number and work fluently with these using the four		Unit 2 Perimeter, area and circles – Students will learn to work with the area and		Unit 3 Fractions and Percentages 2 – Students will learn how to	
					Unit 4 Volume and Surface Area – Students will learn to find the surface area of prisms and other 3D shapes	
					Unit 5 Transformations, Loci and Constructions Students will learn to construct, recognise	
					Unit 6 Surds – Students will learn to work fluently with numbers written	

	operations. Students will be able to write the error interval of any number.	circumference of sectors and arcs leaving answers in terms of π .	convert between recurring decimals and fractions. Students will learn to calculate a reverse percentage.	using a sketch of its net to visualise its faces. Students will learn to convert between metric units of capacity.	and describe translations, rotations, reflections and enlargements (positive and fractional scale factors only) on a coordinate grid. Students will learn the standard ruler and compass constructions.	in a surd format including; calculating with the four operations and rationalising a denominator.
Core PE	Students will know - prior skills, how to evaluate their own performance, how to evaluate the performance of others, how to apply rules and tactics. Based on this knowledge students will choose a pathway that best suits them. They will also know the importance of the key life skills for post 16 physical education	Students will show in performance - prior skills, how to evaluate their own performance, how to evaluate the performance of others, how to apply rules and tactics. They will also know the importance of the key life skills for post 16 physical education	Pupils will start to understand the importance of these fundamental life skills, and how important they are as they continue their physical journey post 16. They have developed skills, knowledge, application, tactics, knowledge of rules and evaluation. Now they will understand why these life skills will help if they want to go and join a new club/team/activity.			
Physics	Energy Applications – Exploring the mathematical aspects of the Energy Stores learned within Year 9. Developing mathematical skills such as rearranging and unit conversion.					

Option Subjects	Autumn Term
Art & Design	Component 1: Portfolio - Zoo project – Students will explore the theme “Zoo” they will develop drawing, painting, mark making and printing skills, develop and refine their ideas making links to the work of artists.

Computer Science	<p>Unit 2.4 Boolean Logic – In this unit students will learn about Boolean logic exploring logic diagrams and truth tables and will apply logic to solve problems.</p> <p>Unit 1.2 Memory and Storage - In this unit students will learn about primary and secondary storage. They will develop their understanding of units and data storage in the form of numbers, characters, images, and sound. Students will gain an understanding of the purpose and types of compression.</p>	<p>Unit 2.2 Programming Fundamentals - In this unit students will develop their programming skills making use of variables, constants, operators, inputs, and outputs. Students will develop programs using sequence, selection and iteration making use of common arithmetic and Boolean operators.</p>
Drama	<p>‘Blood Brothers’ (part 1) by Willy Russell (for 2022 only): Students study a full and substantial play text, focusing on elements including social, cultural, historical elements, as well as characterisation, plot structure and vocal and physical skills to communicate meaning. A focus will also be on written critiquing of the play, including performance skills and design elements.</p>	<p>‘Blood Brothers’ (part 2) by Willy Russell (for 2022 only): In small groups, students will choose, rehearse and finally perform two contrasting scenes from the play text as part of their end of term assessment point.</p>
Music	<p>Theory Focusing on more advanced look into the elements of music.</p> <p>Performances Solo performances (main instrument) establishing standards and setting targets: first practical solo assessment</p> <p>Composition- Starting to write own composition and record into logic pro x</p>	<p>Theory Introduction to area of study 1: Forms and Devices with terminology as appropriate:</p> <p>Performing - establishing standards and setting targets: first practical group assessment.</p> <p>Composition – Continuing with composition on logic pro x</p>
Food	<p>Students will produce a wide range of products using a range of complex cookery skills such as making pasta and sauce, making short crust, puff and choux pastry. Presentation skills are developed.</p> <p>Students will learn about the functional and chemical properties of food and the nutrition of the key ingredients used to make their dishes. (Macro nutrients). They will be aware of Food safety when making, buying and storing food.</p> <p>We will explore seasonal food, food miles, reducing food waste.</p> <p>In the second half of the term, they will explore the importance of micronutrients and their function within the body.</p>	
Geography	<p>‘Urban Issues and challenges’ – A study of our ever-urbanising world, with a focus on Lagos Nigeria and London students will look</p>	<p>Urban issues and challenges continued, students then start ‘The challenge of natural hazards’ - A study of tectonic hazards,</p>



	at issues such as urban growth, traffic, pollution, waste, inequality, and housing.	atmospheric hazards, extreme weather in the UK and climate change.
History	Why did medical understanding barely change in the years 1250-1500? Did the Renaissance period, 1500 - 1700, actually change medicine that much?	Was Pasteur's discovery of 'Germ Theory' the biggest turning point in the history of medicine? How have changes in government attitudes, science and technology improved medicine since 1900?
GCSE PE	Practical Netball Football Badminton	Theory Students study the roles of components of fitness and principles of training, as well as studying the roles of bones and muscles in movement of the body.
RE	Component 2: Christian Beliefs and teachings. Students will study the main beliefs and teachings in Christianity such as the nature of God and beliefs about Jesus.	Component 3: Islam Beliefs. Students will study the main beliefs and teachings in Islam such as the oneness of Allah, prophethood and angels.
Sports Studies	R185 – Sports performances and leadership- Students learn what it takes to be a good performer and leader and then apply their knowledge in leading a specific sports session and to also perform in at least 2 sports as a performer.	
Spanish	<p>Students will learn: vocabulary and language to describe usual, past and recent holidays, including the weather, activities, accommodation and travel types and the vocabulary for potential problems or issues that may have occurred. They will learn about features of a hotel and accommodation types and practise using and understanding questioning words.</p> <p>Later in the first term students will recap on the language for describing school facilities, subjects, teachers, activities and rules, including the uniform.</p> <p>Students will know how to: ask and answer questions about school and opinions. Express opinions in a variety of views and extend answers to include reasons and justifications for their opinions. They will start to know how to extend their sentences to provide more depth, detail and interest in their descriptions of school life.</p>	

Core Subjects	Spring Term	
Biology	Inheritance & Variation - Explore genetics and investigate how the genetic code gives rise to variation.	Evolution - Explore the origins of natural selection and Darwinism
Chemistry	Chemical Analysis - Explore how analysts have developed a range of qualitative tests to detect specific chemicals.	The Atmosphere - Investigate the Earth's dynamic and forever changing atmosphere and how scientists can predict changes in weather and climate.

English Language	Explorations in Reading and Writing: Through independent study using their homework booklet, students will practice their approach to fiction comprehension. They will complete regular assessments in-class for each question type.			
English Literature	Macbeth - Students will develop their understanding of plot and character. They will build on their analysis of language, structure and form from their study of literature in year 9. Students will also explore contextual links in order to enhance their understanding Shakespeare's intentions as a playwright.		Poetry Anthology: Re-capping of poetry skills from Autumn 1. Students will explore the following poems on the theme of <i>Power</i> - Hawk Roosting, London, Ozymandias. They will consider key quotations, messages and the context of each poem.	
Maths – Foundation	Unit 5 Volume and Surface Area – Students will learn to identify and find the surface area and volume of prisms and other 3D shapes.	Unit 6 Fractions and Percentage Calculations – Students will learn to use percentages and fractions to solve problems including comparisons.	Unit 7 Construction, Loci, Bearings, Plans and Elevations - students will learn the standard ruler and compass constructions. Students will learn to understand, draw and measure bearings. Students will learn how to interpret and draw 2D representations of 3D shapes.	Unit 8 Proportion – Students will learn to identify proportion from a table of values calculating its scale factor (k). Students will understand and use compound measure.
Maths – Higher	Unit 7 Pythagoras and Trigonometry 2 – Students will extend and deepen their understanding of Pythagoras and trigonometry linking this to 3D problems.	Unit 8 Proportion 2 – Students will explore direct and inverse proportion within formal notation. Students will calculate fluently with speed, distance, time and density, mass volume.	Unit 9 Quadratics including graphs – Students will learn to solve quadratic equations by factorising, completing the square and using the quadratic formula. Students will learn to plot the graphs of quadratic, cubic and other equations.	Unit 10 Functions – Students will learn to use function notation and find composite and inverse functions. Students will learn to recognise and transform graphs of functions.
Core PE	Students will know - prior skills, how to evaluate their own performance, how to evaluate the performance of others, how to apply rules and tactics. Based on this knowledge students will choose a pathway that best suits them. They will also know the	Students will show in performance - prior skills, how to evaluate their own performance, how to evaluate the performance of others, how to apply rules and tactics. They will also know the importance of the key life skills for post 16 physical education.	Progression- Pupils will start to understand the importance of these fundamental life skills, and how important they are as they continue their physical journey post 16. They have developed skills, knowledge, application, tactics, knowledge of rules and evaluation. Now they will understand why these life skills will help if they want to go and join a new club/team/activity.	

	importance of the key life skills for post 16 physical education.	
Physics	Nuclear Radiation – Cross curricular links with Chemistry I.e. Atomic Structure and Models before challenging misconceptions and developing knowledge of Nuclear Radiation and its properties.	Forces in Action - Investigate and analyse forces, accelerations and Newton’s Laws of motion. Students explore and develop their knowledge of new equations and understanding of fundamental Physics principles.

Option Subjects	Spring Term	
Art & Design	Component 1: Portfolio - Zoo project – Students will continue to explore the theme “Zoo” they will develop drawing, painting, mark making and printing skills, develop and refine their ideas making links to the work of artists.	
Computer Science	<p>Unit 2.2 Programming Fundamentals - In this unit students will develop their programming skills making use of data types and will start to explore additional programming techniques including basic string manipulation and file handling operations.</p> <p>Unit 2.3 Producing Robust Programs - In this unit students will develop their understanding of producing robust programs by exploring defensive design techniques and look at the importance of different testing methods.</p>	Unit 2.1 Algorithms - In this unit students will develop their understanding of algorithms, studying key computational thinking techniques, they will design, create and refine algorithms. Students will gain an awareness of how and why we complete searching and sorting algorithms.
Drama	Component 1: Understanding Drama- students will practise questions and then complete a practice paper response to the play text (‘Blood Brothers’) in preparation for the final GCSE written examination paper (Understanding Drama- 20% of GCSE).	GCSE- Component (part 1): Devising Drama Students will extensively explore devised work from a variety of stimuli in preparation for Component 2 (40% of overall GCSE), working in small groups as an actor or designer to develop and shape a devised performance (10% of GCSE) from a given stimulus. Process also includes continuation of a written log (30% of GCSE)
Music	<p>Theory Introducing area of study 2: Music for ensemble</p> <p>Performances Solo performances (main instrument) 2nd assessment.</p>	<p>Theory Introduction to area of study 3: Film Music, with devices and terminology:</p> <p>Performances Group performances (main instrument) 2nd assessment.</p>

	Composition- Continuing to write own composition and record into logic pro x	Composition- Continuing to write own composition and record into logic pro x
Food	Students will know the difference between primary and secondary processing of commodities. They will conduct food investigations such as gluten formation. They will learn about the plasticity of fats and emulsification. Raising agents will be investigated and experiments conducted.	
Geography	The challenge of natural hazards continued then 'The changing economic world' - The study worldwide development and measurements with a focus on Nigeria as an in-depth case study, the unit then looks at the UK's changing economy.	'The changing economic world' - The study worldwide development and measurements with a focus on Nigeria as an in-depth case study, the unit then looks at the UK's changing economy.
History	The British sector of the Western Front - wounds, injuries and treatments, 1914-1918.	Early Elizabethan England - how successful was Elizabeth's religious settlement? Threats to Elizabeth from home and abroad - how secure was Early Elizabethan England?
GCSE PE	Practical Handball AEP Fitness Tests	Theory Students study the location of muscles, the role of muscles in different movement types, antagonistic pairs, planes, axes, levers. Structure and function of the cardiovascular systems and respiratory systems as well as the short- and long-term effects of exercise on these systems.
RE	Component 1: Issues of relationships. This theme requires learners to consider characteristics of relationships, marriage and family life. Through a study of beliefs and teachings, questions relating to issues of relationships in the twenty-first century will be considered, including same sex relationships and gender roles.	
Sports Science	R185 – Sports performances and leadership- Students learn what it takes to be a good performer and leader and then apply their knowledge in leading a specific sports session and to also perform in at least 2 sports as a performer.	
Spanish	Students will learn: vocabulary for different activities we do with different family members, relationships, key modal verbs, physical descriptions, social networks and technological activities, social activities, reading types and preferences and making arrangements. Students will know how to: discuss their hobbies and activities in the present tense to say what they do and the present continuous tense to say what they are doing right now. They will start to use key infinitive verbs with "in order to..." and understand more complex language and detailed descriptions. Students will also develop their ability to talk about what others do in different time frames.	

Core Subjects	Summer Term				
Biology	Ecosystems- Investigate the delicate and intricate balance of ecosystems.		Biodiversity - Explore how humans are threatening biodiversity as well as the natural systems that support it. Synoptic review of the curriculum.		
Chemistry	Sustainable Development - Explore how environmental chemists study how human activity has affected the Earth's natural cycles, and how damaging effects can be minimised. Synoptic review of the curriculum.				
English Language	Writer's Viewpoints and Perspectives- Through independent study using their homework booklet, students will practice their approach to writing for a particular purpose as well as reading non-fiction comprehension. They will complete regular assessments in-class for each question type.				
English Literature	Poetry Anthology: Students will explore the following poems on the theme of <i>Conflict</i> - Dulce et Decorum Est, The Manhunt, The Soldier, Mametz Wood, A Wife in London. Following this, students will explore the theme of <i>Love/Relationships</i> - Valentine, Sonnet 43, She Walks in Beauty, Cozy Apologia. The focus will be on students' understanding of the key quotations, messages and context of each poem.				
Maths – Foundation	Unit 9 Pythagoras and Trigonometry - Students will learn how to use and apply Pythagoras and trigonometry in right angled triangles.	Unit 10 Quadratics - Students will revisit expanding binomials extend this to fluently factorise a quadratic in the form x^2+bx+c . Students will learn how to plot quadratics and use the graph to find the roots.	Unit 11 Circle and Cylinders – Students will learn how to find the area and circumference of circles and parts of circles. Students will extend their learning of volume and surface area to find the surface area and volume of cylinders.		
Maths – Higher	Unit 11 Sequences and Iteration – Students will learn to continue and find the generalised nth term rule for quadratic sequences.	Unit 12 Simultaneous Equations – Students will learn to solve simultaneous equations involving quadratics. Students will learn to solve simultaneous equations (both linear and quadratic) graphically.	Unit 13 Inequalities – Students will learn to solve quadratic inequalities both algebraically and graphically.	Unit 14 Cumulative Frequency and Histograms – Students will learn to draw and interpret cumulative frequency, histograms and box plots exploring the relationship between these graphs and the averages and measures of spread.	Unit 15 Probability 2 – Students will learn to draw and interpret probability trees.

Core PE	Students will know - prior skills, how to evaluate their own performance, how to evaluate the performance of others, how to apply rules and tactics. Based on this knowledge, students will choose a pathway that best suits them. They will also know the importance of the key life skills for post 16 physical education.	Students will show in performance - prior skills, how to evaluate their own performance, how to evaluate the performance of others, how to apply rules and tactics. They will also know the importance of the key life skills for post 16 physical education.	Pupils will start to understand the importance of these fundamental life skills, and how important they are as they continue their physical journey post 16. They have developed skills, knowledge, application, tactics, knowledge of rules and evaluation. Now they will understand why these life skills will help if they want to go and join a new club/team/activity.
Physics	Forces in Action - Students go on to apply Newton's three laws, with examples where appropriate. Estimate stopping distances and reaction times. Explain the dangers caused by large decelerations and describe and explain examples of momentum in an event, such as a collision.		Magnets and Motors - The topic starts with recall of Year 8 magnetic fields and builds up to linking magnetic fields to the generation of alternating currents. Students also investigate electromagnetism and how electromagnetic effects are used in a wide variety of devices. This learning is applied to the understanding of transformers. Students can link to earlier topics such as Electricity in the Home from Year 9.

Option Subjects	Summer Term
Art & Design	<p>Component 1: Portfolio - Zoo project – Students select and refine their ideas so far to complete an independent final piece for their Zoo project.</p> <p>Students are introduced to the student lead project “People and Places” they start their creative journey by generating and exploring possible ideas and starting points.</p>
Computer Science	<p>Unit 1.1 Systems Architecture - In this unit students will explore the architecture of the CPU and factors which affect CPU performance. Students will gain an understanding of embedded systems.</p> <p>Unit 2.2 Programming Fundamentals - In this unit students will develop their programming skills making use of arrays and sub programs as well as being able to randomise user input. Students</p> <p>Unit 2.5 Programming Languages and Integrated Development Environments - In this unit students will explore various programming languages while developing an understanding of the tools and facilitates available in an Integrated Development Environment (IDE).</p> <p>Consolidation of Year 10 units – Students will review the work studied during the academic year.</p>

	will also gain an awareness of the use of records to store data and how to search data using SQL.	
Drama	GCSE Devising Drama (part 2)- Students will finalise their work for performance, then respond to- post performance- the success of their original artistic intentions. Students will finalise their written logs.	Component 1: Understanding Drama- students will watch and study a pre-recorded live theatre performance in preparation for a practice written examination (20% of overall GCSE). Students will study theatre roles, responsibilities and staging in preparation for section A of the final GCSE written examination.
Music	Revisiting topics from year 10 using different pieces as examples. Complete composition project (of choice) and submit.	Working on ensemble and solo performances. Refining composition ready to have finished before the end of the year. Revising topics ready for mock exam.
Food	Students will investigate food choice, special dietary needs and food science Practical challenges will include Filleting fish and students will learn how to make fish pie and fish cakes. Nutrition studies will continue looking at minerals and vitamins Food and the effect on the environment will be investigated.	
Geography	Physical landscapes in the UK – Rivers, a study of river processes, landforms created by erosion and deposition, flooding, and flood management.	Fieldwork – During final half term students will bring knowledge learnt in urban issues and challenges and the rivers units by taking part in 2 field trips, one to a river site and one in Liverpool city centre. They will also complete the write up and presentation of the data they gathered.
History	Why did the English defeat the Spanish Armada? What was life like in Early Elizabethan England - poverty, sport and pastimes, education.	Why was there a boom in exploration during the reign of Elizabeth? Why did attempts to colonise Virginia fail?
GCSE PE	Practical Athletics Badminton Basketball	Students will study what the characteristics of a skill are, how to appropriately set goals, mental preparation techniques, types of guidance and types of feedback. They will also apply these skills to several sporting contexts.
RE	Component 1: Issues of life and death. This theme requires learners to consider religious and non-religious beliefs about the nature of life and death and the origins and value of the universe and human life.	Component 3: Islam Practices. Students will continue with the theme of Islam but this time they will see how believers put their faith into action through practices such as the 5 pillars of Islam, festivals and jihad.
Sports Science	R186- Students study the role that the media plays in sport, learning about the diverse types of media and the positive and negative impacts that they play	



Spanish	<p>Students will learn: vocabulary for different sports and leisure activities such as film types, internet uses, sports, entertainment types and their opinions of role-models.</p> <p>Students will know how to: use irregular verbs in the present tense such as “stem-changing” verbs, adjectives, using new expressions such as “to usually...” and “to have just...” to express present and past tenses.</p>
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