Highclare School

U5 Curriculum Plan

This curriculum plan includes an outline of the topics and themes studied in each subject throughout the year. U5 pupils study 9 or 10 GCSE subjects (dependent on Science option); in addition they have recreational PE lessons and PSHCE.

The table below shows the time allocated to each subject per week:

Subject	Hours
English Language English Literature	4
Mathematics	4

Subject	Hours
Science: Biology Chemistry Physics	6

Subject	Hours
Option A	2.5
Option B	2.5
Option C	2.5
Option D	2.5

Subject	L5
Physical Education	1.5
PSHCE	0.5

Usually mock examinations are held in January of the U5 and all external GCSE examinations are taken in May and June of the U5. Where subjects have non-examination assessment (NEA) this will be referred to in the plan.

This year we have added an additional, slightly reduced round of exams in November, to compensate for where exams were unable to be sat at the end of L5.

Subjects students will take at GCSE

Core Subjects (courses to be followed by all):

- Maths
- English Language & English Literature (taught in parallel in English lessons)
- Three Sciences (either in triple or combined science form)
- Modern Foreign Language* (French, German or Spanish)

  *Pupils who receive learning support, or for whom it can be argued that their interests are best served by not studying a language, may seek permission to be exempted from this expectation.

Plus a selection of 3 more options from the following list:

- Business Studies, History, Geography, Art, Craft & Design, Photography, D&T, Computer Science, Creative IMedia, RS, Food & Nutrition, Drama, GCSE PE

We hope that you find the plan informative and useful.

Mr M Coles
Deputy Head of Senior School: Academic

Subject	Autumn term	Spring term	Summer term
Art, Craft & Design	Continuation of Component 1 – coursework Planning and preparing for final outcome of coursework (final piece) Assessment: Mock examination to create final outcome - AO4	Component 2- externally set assignment A4 sketchbook Project work based on a generic theme set by the examination board Guided work exploring the chosen interpretation of theme Recording ideas, mindmapping etc Critical/contextual references and artist/photographer research Developing drawing from primary and secondary sources Final outcome planning	Component 2- externally set assignment Consolidate and complete A4 sketchbook Assessment: Produce a final outcome for the project in a 10-hour timed external examination Component 1 – coursework Consolidate and complete A3 sketchbook Preparation for final exhibition
Biology	**Reproduction:** The difference between sexual and asexual reproduction is examined, making links to the hormonal response of reproductivity. **Variation and evolution:** Students will examine the role of DNA in forming the genome. **Genetics and evolution:** Students will examine evidence leading to the development of the theory of evolution. **Coordination and response:** This unit looks at the role that hormones plays in the regulation of blood-glucose levels as well as the female reproductive system. GCSE Biologists also learn about plant hormones, as well as human hormones controlling water and nitrogen levels. Students will also learn about the brain.	**Ecology (Ecosystems):** This extensive topic aims to review and consolidate prior learning students will have made at KS3, whilst elevating their technical language to explain links between organisms within ecosystems. Students will learn about the biotic and abiotic factors that influence an organism's survival chances as well as the adaptations increasing their reproductive success. **Ecology (Recycling):** This unit actually focuses on the cycling of carbon and nitrogen through ecosystems and our atmosphere as well as looking at how society can take a more sustainable approach to living. Students taking GCSE Biology will apply this learning in the context of food production.	**Examination preparation:** Students will have a bespoke revision curriculum based on analysis and review of their January mock examinations.

Subject	Autumn term	Spring term	Summer term
Business	Business growth Changes in aims & objectives Globalisation Ethics & the environment Business calculations Understanding business performance Making marketing decisions Business calculations	Business operations Stock Working with suppliers Quality The sales process Organisational structure Recruitment Training and development Motivation	Revision and examination practice
Chemistry	**Rates and Equilibrium:** This practical-heavy unit allows students to investigate the factors that affect the rate of a reaction, as well as learning the methodology. Students will look at reversible reactions; specifically the Haber process and the Contact process. **Organic chemistry:** This topic provides students the opportunity to learn about hydrocarbons as fuels and the processes that purify and process them (fractional distillation and cracking). Students will learn about the derivatives of hydrocarbons and their reactions and uses including alcohols, carboxylic acids and esters **Chemical Analysis:** Students will learn about detection methods to analyse molecules. GCSE Chemists will learn about spectroscopic methods in this unit, which combined students do not.	**The Earth's Atmosphere:** How our atmosphere has changed over the Earth's lifetime, is explored in this remarkable unit. Students will examine evidence on climate change as well as review methodology for how the Earth 'traps' the suns energy. **Chemistry for resources:** This final chemistry unit looks at renewable and finite resources and gives students the opportunity to understand about carbon footprints and reviewing and assessing a products 'life cycle'. Students will also learn about water as a resource. Triple scientists also learn about polymers, composites and ceramics.	**Examination preparation:** Students will have a bespoke revision curriculum based on analysis and review of their January mock examinations.

Additional Info - Completion of required practicals and examination practice questions.

Subject	Autumn term	Spring term	Summer term
Combined Science: Biology	**Coordination and response:** This unit looks at the role that hormones plays in the regulation of blood-glucose levels as well as the female reproductive system. **Reproduction:** The difference between sexual and asexual reproduction is examined, making links to the hormonal response of reproductivity. **Variation and evolution:** Students will examine the role of DNA in forming the genome. **Genetics and evolution:** Students will examine evidence leading to the development of the theory of evolution.	**Ecology (Ecosystems):** This extensive topic aims to review and consolidate prior learning students will have made at KS3, whilst elevating their technical language to explain links between organisms within ecosystems. Students will learn about the biotic and abiotic factors that influence an organism's survival chances as well as the adaptations increasing their reproductivity success. **Ecology (Recycling):** This unit actually focuses on the cycling of carbon and nitrogen through ecosystems and our atmosphere as well as looking at how society can take a more sustainable approach to living.	**Examination preparation:** Students will have a bespoke revision curriculum based on analysis and review of their January mock examinations.
	Additional Info - Completion of required practicals and examination practice questions.		
Combined Science: Chemistry	**Rates and Equilibrium:** This practical-heavy unit allows students to investigate the factors that affect the rate of a reaction, as well as learning the methodology. Students will look at reversible reactions; specifically the Haber process and the Contact process. **Organic chemistry:** This topic provides students the opportunity to learn about hydrocarbons as fuels and the processes that purify and process them (fractional distillation and cracking). Students will begin to look at the mechanism of a reaction involving an alkene. **Chemical Analysis:** Students will learn about detection methods to analyse molecules.	**The Earth's Atmosphere:** How our atmosphere has changed over the Earth's lifetime, is explored in this remarkable unit. Students will examine evidence on climate change as well as review methodology for how the Earth 'traps' the suns energy. **Chemistry for resources:** This final chemistry unit looks at renewable and finite resources and gives students the opportunity to understand about carbon footprints and reviewing and assessing a products 'life cycle'. Students will also learn about water as a resource.	**Examination preparation:** Students will have a bespoke revision curriculum based on analysis and review of their January mock examinations.
	Additional Info - Completion of required practicals and examination practice questions.		

Subject	Autumn term	Spring term	Summer term
Combined Science: Physics	**Wave properties:** Students learn about longitudinal and transverse waves and look at the properties of waves specifically in relation to the 7 “regions” of the electromagnetic spectrum. **Electromagnetism:** This unit covers the principles of magnetism as well as the role of the Earth’s magnetic field. Students will also learn about induced magnetism and electromagnetism (including Flemming’s left and right hand rules) and challenge themselves to explore the motor affect.	**Electricity:** Students will review the topic of electricity in relation to current, potential difference and resistance. Students will then look at the national grid and mains electricity. **Particle model:** Once consolidating and reviewing their work so far, students will learn more about pressure. **Forces:** Revising their Lower Fifth curriculum content, students will concentrate their focus on Newton’s laws on motions.	**Examination preparation:** Students will have a bespoke revision curriculum based on analysis and review of their January mock examinations.
	Additional Info - Completion of required practicals and examination practice		
Computer Science	**1.5 – Systems software** 1.5.1 Operating systems 1.5.2 Utility software **1.6 – Ethical, legal, cultural and environmental impacts of digital technology** 1.6.1 Ethical, legal, cultural and environmental impact **2.2 – Programming Fundamentals** 2.2.3 Additional Programming Techniques **2.3 - Producing Robust Programs** 2.3.1 Defensive Design 2.3.2 Testing **2.4 - Boolean Logic** 2.4.1 Boolean logic Python Programming Techniques	**2.5 - Programming languages and Integrated Development Environments** 2.5.1 Languages 2.5.2 The Integrated Development Environment Revision, past paper practice and examination techniques Python Programming Techniques	Revision, past paper practice and examination techniques Python Programming Techniques

Subject	Autumn term	Spring term	Summer term
Creative iMedia	Working on the NEA for R096 **Unit R096: Animation with audio** **Topic Area 1:** Plan animation with audio 1.1 Features and conventions of animation with audio 1.2 Resources required to create animation with audio 1.3 Pre-production and planning documentation and techniques for animation with audio	Working on the NEA for R096 **Unit R096: Animation with audio** **Topic Area 2:** Create animation with audio 2.1 Techniques to obtain, create and manage assets 2.2 Techniques used to create animation with audio 2.3 Techniques to save and export animation with audio	Working on the NEA for R096 Submit NEA for R096 **Unit R096: Animation with audio** **Topic Area 3:** Review animation with audio 3.1 Techniques to test/check and review animation with audio 3.2 Improvements and further development
Design & Technology	NEA Responding to design brief The NEA is intended to be an iterative process so the learning activities will be directed by the student and will depend on their project.	NEA	Revision for written examination.
Drama	Devising Unit 1 internal assessment Creating a 15 minute performance based around a stimulus set by OCR. Studying exam text – Missing Dan Nolan Watching live theatre – Blood Brothers	Performance exam – Unit 2 Choosing 2 extracts to perform in a group for a visiting examiner Learning Lines Staging Continuing studying set text – Missing Dan Nolan	Revision for written examination Blood Brothers and Missing Dan Nolan.

Subject	Autumn term	Spring term	Summer term
English	*An Inspector Calls* by J B Priestley AQA Power and Conflict poetry GCSE Language Paper 1 and 2 *Romeo and Juliet* by William Shakespeare	AQA Power and Conflict poetry *Romeo and Juliet* by William Shakespeare GCSE Language Paper 1 and 2 Revision of *The Sign of Four* by Arthur Conan Doyle	Revision of all the set texts. Examination practice for language and literature. .
	Additional Info - Learning key quotations of the set texts. Language skills. Examination practice.		
Food & Nutrition	NEA 1 – Food investigation task – released 1st September (10 hours) Research Investigation Analysis and evaluation NEA 2 – Food preparation task- released 1st November (20 hours) Research Demonstrating technical skills Revision	Mock examinations Continue with NEA 2 Demonstrating technical skills Planning for final menu Making the final dishes (3 hours) Analyse and evaluate Begin revision for final examination Food nutrition and health Diet, nutrition and health Cooking of food and heat transfer Functional and chemical properties of food Food spoilage and contamination	Revision continued Principles of food safety Factors affecting food choice British and International cuisine Environmental impact and sustainability of food Examination practice
	Additional Info - NEA tasks 1 and 2 carried out in class during Autumn term and Spring term		
French	**Travel and tourism** Holidays and travel Types of accommodation Weather and activities **Current and future study and employment:** My studies Life at school and college Education post-16 Jobs and career choices	**Global Issues:** The Environment Poverty & homelessness **Social Issues:** Charity / voluntary work Healthy & unhealthy living Issues facing young people	Revision Examination practice Speaking Tests

Subject	Autumn term	Spring term	Summer term
German	**Travel and tourism** Holidays and travel Types of accommodation Weather and activities **Current and future study and employment:** My studies Life at school and college Education post-16 Jobs and career choices	**Global Issues:** The Environment Poverty & homelessness **Social Issues:** Charity / voluntary work Healthy & unhealthy living Issues facing young people	Revision Examination practice Speaking Tests
Geography	**Living World** Hot deserts **The challenge of natural hazards** Natural hazards Tectonic hazards Weather hazards Climate change	**The changing economic world** Economic development and quality of life. Reducing the global development gap. Economic development in Nigeria Economic change in the UK	Pre-release material and Paper 3 preparation Revision and examination practice
History	The Cold War The beginnings of the Cold War, 1945-49 The arms race and crises over Berlin and Cuba The Hungarian Revolution, the building of the Berlin Wall, the Prague Spring and the impacts of all these events on international relations Detente in the 1970s and the second Cold War of the early 1980s Gorbachev and the end of the Cold War	Crime and Punishment, 1000- present day How crimes were committed and punished plus how law & order was maintained in …. Medieval England, 1000-1500 The early modern period, 1500-1700 The 18th and 19th centuries The modern era, 1900-today Depth study on Whitechapel and Jack the Ripper	Revision Revision lessons on all topics studied Lessons focused on examination skills and technique

Additional Info - Examination-style questions will be set as homework throughout the year.

Subject	Autumn term	Spring term	Summer term
Mathematics **Higher**	Unit 10: Probability Unit 11: Multiplicative reasoning: direct and inverse proportion, relating to graph form for direct, compound measures, repeated proportional change Unit 12: Similarity and congruence in 2D and 3D Unit 14: Statistics and sampling, cumulative frequency and histograms Unit 16: Circle theorems and circle geometry Unit 13: Sine and cosine rules, (1/2)absinC, trigonometry and Pythagoras' Theorem in 3D, trigonometric graphs, and accuracy and bounds	Unit 15: Quadratics, expanding more than two brackets, sketching graphs, graphs of circles, cubes and quadratics Unit 17: Changing the subject of formulae (more complex), algebraic fractions, solving equations arising from algebraic fractions, rationalising surds, proof Unit 18: Vectors and geometric proof Unit 19: Direct and indirect proportion: using statements of proportionality, reciprocal and exponential graphs, rates of change in graphs, functions, transformations of graphs Unit 13: Trigonometric graphs	Revision for GCSE examination
Foundation	Unit 11: Ratio and Proportion Unit 13: Probability Unit 14: Multiplicative reasoning: more percentages, rates of change, compound measures Unit 15: Constructions: triangles, nets, plan and elevation, loci, scale drawings and bearings Unit 16: Algebra: quadratic equations and graphs	Unit 17: Perimeter, area and volume 2: circles, cylinders, cones and spheres Unit 18: More fractions, reciprocals, standard form, zero and negative indices Unit 19: Congruence, similarity and vectors Unit 20: Rearranging equations, graphs of cubic and reciprocal functions and simultaneous equations	Revision for GCSE examination

Subject	Autumn term	Spring term	Summer term
Music	Preparation and recording of Solo performance with instrumental teacher Begin work on brief Composition Continued set work analysis – fusions and enhance wider listening understanding Preparation for Mock Exam	Complete final Composition(s) and performances ready to submit by Easter. Continued set work analysis – recapping vocal music understanding and placing set work in context	Revision of all Areas of Study in preparation for the Listening paper
Photography	Continuation of Component 1 – coursework Planning and preparing for final outcome of coursework (final piece) Assessment: Mock examination to create final outcome - AO4	Component 2- externally set assignment A4 sketchbook Project work based on a generic theme set by the examination board Guided work exploring the chosen interpretation of theme Recording ideas, mindmapping etc Critical/contextual references and artist/photographer research Developing drawing from primary and secondary sources Final outcome planning	Component 2- externally set assignment Consolidate and complete A4 sketchbook Assessment: Produce a final outcome for the project in a 10-hour timed external examination Component 1 – coursework Consolidate and complete A3 sketchbook Preparation for final exhibition

Subject	Autumn term	Spring term	Summer term
Physical Education GCSE	Health, fitness and wellbeing Ethical and socio-cultural issues Sports psychology Mock revision & study skills Additional Info - Practical performance in selected activities	Analysing and evaluating performance (AEP) task based NEA Practical moderations	Practical moderations Revision of all areas of study
Physical Education (recreational)	Netball Hockey Badminton Basketball Football Rugby	Netball Hockey Basketball Volleyball Health and Fitness Football Rugby	Rounders Cricket Softball
Physics	**Wave properties:** Students learn about longitudinal and transverse waves and look at the properties of waves specifically in relation to the 7 “regions” of the electromagnetic spectrum. In this unit, triple science students will also learn about and investigate reflection and refraction of waves, as well as lenses, visible light and black bodies. **Electromagnetism:** This unit covers the principles of magnetism as well as the role of the Earth’s magnetic field. Students will also learn about induced magnetism and electromagnetism (including Flemming’s left and right hand rules) and challenge themselves to explore the motor affect. Triple scientists will also learn about transformer and how a loudspeaker and microphone functions.	**Space:** This topic teaches the theory of the Big Bang, evidence for an expanding universe in the form of red shift, as well as specifics such as star formation. **Electricity:** Students will review the topic of electricity in relation to current, potential difference and resistance. Students will then look at the national grid and mains electricity. Triple scientists look at how static electricity occurs in relation to the movement of charged particles (electrons). **Particle model:** Once consolidating and reviewing their work so far, students will learn more about pressure. **Forces:** Revising their Lower Fifth curriculum content, students will concentrate their focus on Newton’s laws on motions.	**Examination preparation:** Students will have a bespoke revision curriculum based on analysis and review of their January mock examinations.

Subject	Autumn term	Spring term	Summer term
PSHCE	Inclusion Body image and self-esteem Staying safe - Dressing appropriately and being aware of risks E safety - Social networking and staying safe online; risk awareness and the importance of using it correctly and within the law	Democracy and the freedom to vote Caring for the community both local and international Inclusion and isolation … and the potential dangers of extremism as a result Identity and diversity	Staying safe in a relationship - Peer pressure, respect and the age of consent. Why is this the law? Contraception and STI's Sexuality - Lesbian, gay bisexual and transgender information; arranged marriage; FGM; CSE Cascaid Kudos – exploring careers. Pupils study pathways into their chosen career. 'What Career Live' – pupils will receive information on different careers and attend talks from a variety of agencies and universities offering help and guidance through their chosen pathway. CV – developing a curriculum vitae.

Subject	Autumn term	Spring term	Summer term
Religious Studies	Islamic Beliefs and Teachings Angels Predestination Life after death Prophethood and Adam Ibrahim Muhammad Qur'an Akhirah. Islamic Practices Five Pillars in detail Pilgrimages The Mosque Life as a Shi'a	Religious, philosophical and ethical studies Theme A: Relationships and families Sexual relationships Marriage and divorce Remarriage Gender equality Theme B: Religion and life The origins and value of the universe The origins and value of human life	Revision Examination practice
Spanish	**Travel and tourism** Holidays and travel Types of accommodation Weather and activities **Current and future study and employment:** My studies Life at school and college Education post-16 Jobs and career choices	**Global Issues:** The Environment Poverty & homelessness **Social Issues:** Charity / voluntary work Healthy & unhealthy living Issues facing young people	Revision Examination practice Speaking Tests