Callington Community College Curriculum Overview - Year 10 - 2025/26

Year 10	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2	MOCK EXAMINATIONS	WORK EXPERIENCE
English	**Morality - Anthology Poetry and A Christmas Carol**	**Morality - A Christmas Carol**	**Morality - Macbeth**	**Morality - Macbeth**	**Morality - Language Paper 1**	**Morality - Language Paper 1**		
Maths	**Number** Understand different types of numbers, including integers, decimals, and fractions, and perform calculations involving indices, roots, and standard form, applying the laws of indices accurately in various mathematical contexts.	**Algebra** Students recognise and form algebraic rules for linear and quadratic sequences. Expand, factorise quadratics, and solve simultaneous equations algebraically and graphically.	**Number** Performing calculations with fractions, including all four operations, and converting between improper fractions and mixed numbers. Calculating percentages, percentage change, and working with reverse and compound percentages.	**Geometry** Students perform translations, rotations, reflections, and enlargements. Solve problems involving angles, area, perimeter, volume, surface area, and properties of 2D and 3D shapes including nets and cross-sections.	**Geometry.** Students apply formulae to solve problems involving speed, distance, and time; mass, density, and volume. Use trigonometry and Pythagoras' theorem in 2D and 3D geometric contexts.	**Statistics** Construct and interpret statistical diagrams including bar charts, pie charts, histograms and scatter graphs. Analyse data using averages, spread, and identify trends or correlations.		
Science - Biology	**Photosynthesis** Describing the process of photosynthesis using equations. Explaining how light intensity, carbon dioxide concentration, and temperature affect the rate. Interpreting data from experiments measuring oxygen production.	**Respiration** Students describe aerobic and anaerobic respiration using equations. Explain how and why exercise increases breathing rate, heart rate, and lactic acid production. Interpret data on oxygen debt and recovery after exercise.	**Adaptation, interdependence and competition.** Describing how structural, behavioural and functional adaptations help organisms survive. Explaining how competition for food, mates, territory, light, water and space affects survival. Interpreting data on interdependence and population change.	**Organising an ecosystem** Students describe feeding relationships using food chains and food webs. Explain how materials cycle through the living and non-living environment, including detailed understanding of the carbon cycle and decay processes.	**Biodiversity and ecosystem** Students explain biodiversity as the variety of species in an ecosystem. Describe how human activities—deforestation, pollution, and climate change—impact ecosystems and reduce biodiversity, threatening stability and sustainability.	**Genetic variation and evolution** Understanding genetic variation within populations caused by mutation and sexual reproduction. Explaining natural selection as the process driving evolution. Describing and evaluating genetic engineering techniques and their applications in medicine and agriculture.		
Science - Chemistry	**Electrolysis** Students describe electrolysis including ion movement, and electrode reactions. Explain its uses in metal extraction, purification, and electroplating.	**Chemical calculations** Interpreting chemical formulae,calculating relative formula mass, and moles. Balancing equations accurately, interpreting mole ratios, and applying these	**Rates of reactions** Explaining factors affecting reaction rates, including temperature, concentration, surface area, and catalysts. Analysing experimental data to evaluate their	**Equilibrium** Describing reversible reactions and dynamic equilibrium. Explaining how changing conditions affect equilibrium position using Le Chatelier's Principle and predicting effects on	**Crude oil and fuels** Students explain the composition of hydrocarbons in crude oil and describe how fractional distillation is used to separate them.	**Revision** ***Polymers*** *Students describe addition and condensation polymerisation processes. Explain the formation and uses of natural polymers like proteins and DNA, comparing their structures and*		

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	Predict products and analyse experimental results.	concepts to solve quantitative chemistry problems effectively.	impact and calculating rate changes in chemical reactions.	reactants and products.	***Organic reactions*** *Describe the structure and reactions of alkenes and alcohol. Describe the structure of organic compounds.*	*properties*
Science - Physics	**Electricity in the home** Students explain how electricity is transmitted from power stations to homes. Describe how consumers use electricity safely and efficiently, including the roles of transformers, circuits, and energy meters.	**Radioactivity** Describing the discovery of atomic structure and explaining types of nuclear radiation: alpha, beta, and gamma. Evaluating their properties, penetration abilities, and uses in medicine, industry, and dating techniques.	**Forces in balance** Describing how forces cause objects to turn using moments. Calculating moments, identifying the principle of moments, and explaining conditions for equilibrium when forces are balanced. Analysing practical situations involving levers and gears..	**Motion** Students Interpret and analyse distance-time and velocity-time graphs to calculate speed, acceleration, and understand motion patterns and changes over time.	**Force and motion** Applying Newton's laws to calculate forces, acceleration, and motion effects. ***Space*** *Describing the Solar System's formation, structure, and the expanding universe, including galaxies and cosmic background radiation.*	**Wave properties** Students describe wave types, properties, and associated phenomena such as reflection, refraction, and diffraction. ***Force and Pressure*** *Students alculate pressure in solids and fluids, explaining its role in flotation and how force affects pressure on surfaces.*
History	**Early Elizabethan England 1558-88** This GCSE enquiry looks into the monarchy of Queen Elizabeth I. Students will investigate the many problems she faced and how she overcame them, most notably her Religious Settlement and the Spanish conflict. Also included is a study of Elizabethan Society, including education, poverty and exploration. Students will practise explaining the past and making judgements on important events.		**Weimar and Nazi Germany 1918-1939** This enquiry investigates the condition of Germany in the inter-war years, politically, socially and economically. Key features include the post-war collapse of Germany, followed by recovery in the 1920s and the Nazi years. Students use a range of sources and historians interpretations to study this period and reach their own judgements on the events of the past.		**Migration in Britain and Notting Hill** Continued from the summer term of year 10, students will complete their study of migration to Britain. This enquiry considers the reasons for migration, the experiences of the migrants and the impact of migration on Britain. This enquiry also includes a case study of Notting Hill where students use primary sources to better understanding the problems and achievements of migration to this area.	
Spanish	**New Experiences** An introduction to the key grammatical features necessary to be successful in GCSE Spanish. Students will explore a range of texts and languages around the topic of traveling abroad.	**Everyday Life** Students will begin learning a range of more advanced grammatical features and will use them in a wide range of activities about the topic of daily life.	**Life in School** Students will begin analysing in detail all the grammatical features seen so far and apply them to exam style activities. The topic of school will be the main topic to be explored this term.	**Migration and National Identity** Students will begin to practice more complex topics and texts to embed the use of the fundamental grammatical elements seen so far in the course.	**Life in Mexico** A more detailed exploration of irregular forms of verbs, advanced grammatical features and how to combine them all to improve the overall quality of the students' language.	**Challenges in the Current World** Students will continue to apply a range of grammar and vocabulary to exam style questions. Some final, key grammatical features will be introduced that will be applied when talking about the topic of "challenges in the modern world".

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Art	**Foundation Skills and Formal Elements** Students start their coursework portfolio, worth 60% of the GCSE grade. They explore formal elements like line, tone, colour, texture, and shape through drawing, painting, collage, and mixed media. Observational and experimental work develops technical skills, while students learn to annotate sketchbooks and research artists, preparing for a sustained, personal project.	**Thematic Project and Media Exploration** Students continue developing their portfolio around a chosen theme like Identity or Natural Forms. They explore media such as paint, printmaking, and 3D materials, learning advanced techniques like lino printing and acrylic blending. Sketchbooks document artist research, idea development, and experimentation, with work showing a personal direction and building evidence for assessment.	**Personal Response and Portfolio Refinement** Students refine and complete their personal project, selecting portfolio work worth 60% of their final grade. They develop a final outcome through research, experimentation, and reflection, finalising sketchbooks with clear annotation. Focus is on personal expression, presentation, and the creative journey. A timed mock assessment prepares students for the Year 11 external assignment.
Photography	**Introduction to Photography and Camera Techniques** Students explore photography's formal elements—line, texture, shape, and tone—and learn manual camera settings like aperture, shutter speed, and ISO. They study composition techniques such as the rule of thirds, practice digital editing, and research photographers like Ansel Adams. Sketchbooks start with contact sheets, annotation, and reflection..	**Themed Project and Creative Development** Students develop a personal photography project around themes like Identity or Light and Shadow. They experiment with techniques such as depth of field, motion blur, and lighting, and may explore darkroom basics. Advanced Photoshop skills like masking and digital montage are introduced, with focus on planning, refining ideas, and documenting the creative process.	**Portfolio Building and Personal Response** Students refine and finalise one project for their portfolio, showcasing their creative journey from concept to outcome. They demonstrate critical understanding through artist research and reflection, edit photos with advanced Photoshop techniques, and evaluate their work. The term concludes with a timed mock exam to simulate the real assessment.
Food & Nutrition	**Foundations of Food and Nutrition** Students build a strong foundation by combining nutrition theory—covering macronutrients, micronutrients, and their functions—with practical cooking skills like boiling, baking, frying, and knife techniques. This approach prepares them effectively for the NEA and final exam by linking knowledge with hands-on experience.	**Advancing Food Science and Ethical Awareness** Students deepen their understanding of food science by exploring ingredient functions, cooking chemistry, and food safety. Practical lessons introduce advanced techniques such as emulsification and fermentation. They also study diet-related health issues, food provenance, sustainability, and ethical sourcing, learning to adapt recipes for special diets and cultural needs while connecting theory to practice.	**NEA Preparation and Practical Mastery** In Term 3, students consolidate learning with NEA-style tasks that develop planning, time management, and evaluation skills. Theory focuses on exam prep including nutrient analysis, and diet-health links. Practical sessions involve multi-step recipes and presentation, culminating in a mock controlled assessment where students plan, cook, and evaluate dishes under timed conditions.
Design & Technology	**Key Principles and Skills** Students learn core technical principles including material properties of metals, woods, polymers, and composites, forces and stresses, and stock forms. They explore specialist topics like electronic systems, programmable components, mechanical devices, and manufacturing automation. Designing and making	**Practical Projects and Skill Development** **Mini NEA Project: Sweet Dispenser** Students design and make a functional sweet dispenser, practicing research, design development, modelling, manufacturing, and evaluation. They develop skills in CAD, material selection, tool use, and finishing techniques. This project fosters craftsmanship,	

	principles cover user-centered and inclusive design, sketching and CAD, prototyping, material selection for sustainability, manufacturing processes, quality control, and evaluating design decisions and product performance.			critical thinking, and introduces key NEA stages in a manageable format. **Precision Coffee Table Build** Students design and construct a small coffee table using hardwood or manufactured boards, focusing on precision with measurements within ±0.5mm. They apply wood finishing techniques like staining or varnishing and create personalised CAD designs, enhancing their digital design and manufacturing skills. **Outdoor Furniture for a Family of Four** Students develop functional, weather-resistant outdoor furniture based on a client brief. They explore sustainable materials, ergonomic design, and iterative development using sketches, CAD, and prototypes. This project emphasizes creative problem-solving, durability, safety, and user feedback integration.		
Music	Students start GCSE Music by appraising, performing, and composing, developing skills in rhythm, sonority, texture, syncopation, and tempo. They enhance solo and ensemble performance, study dynamics, explore stave notation, and create compositions using music technology and software through guided tasks.		Students refine appraising, performing, and composing skills with critical feedback. They focus on harmony, tonality, chords, cadences, and deepen understanding of melody, rhythm, sonority, texture, including anacrusis, conjunct/disjunct movement, and ornamentation.		Students consolidate musical concepts through appraising, performing, and composing. They enhance solo and ensemble skills, start Free Composition coursework, and strengthen exam technique with practice papers to build confidence and familiarity with the GCSE assessment format.	
Drama	**Introduction to GCSE Drama** In this unit, students learn the GCSE Drama course structure, focusing on building performance confidence and ensemble skills. They perform an icebreaker to develop teamwork, then explore devising theatre techniques inspired by Brecht. They begin studying *An Inspector Calls* for analysis and design, while creating an original devised piece with a rehearsal portfolio.		**Developing and Evaluating Devised Drama** In the spring term, students refine their Component 1: Devising Theatre performances and complete detailed rehearsal portfolios. They focus on communicating creative intentions through voice, movement, and design. Concurrently, they study *An Inspector Calls*, developing exam skills by analyzing character, staging, and design for the written Component 3 paper.		**Completing Component 1 and Introducing Scripted Performance** At the start of the summer term, students perform their devised theatre piece and complete all Component 1 coursework, including their written evaluation. They then focus on revising *An Inspector Calls* for the Component 3 written exam, practicing analytical responses. Students are introduced to Component 2: Performing from a Text, begin script research, and start rehearsals, supported by a summer research project.	
Psychology	**Criminal Psychology** Defining criminal behaviour, explanations of why criminal and anti-social behaviour occurs, explanations of why criminal and	**Research Methods:** Understanding a range of methods and techniques available for doing psychological research as well as demonstrating how different types of data	**Development:** Stages of development, brain development, IQ tests as a measure of intelligence, theories of development, application of Piaget's research, applying	**Psychological problems:** Investigating the prevalence of mental health problems, changes in attitudes towards mental health, effects of mental health problems on individuals and society.	**Psychological problems:** Describing and evaluating psychological and biological theories of schizophrenia and clinical depression	**Preparing for Mock Examinations**

	anti-social behaviour occurs, effects of punishment and deterrents, role of rehabilitation.	can be collected, analysed, and presented, including reliability, validity and bias.	learning theories.			
Computing	Students develop a solid understanding of computer systems, data representation, and processing, covering binary, hexadecimal, file sizes, and encoding of text, images, and sound. They learn Boolean logic, compression, metadata, and system architecture including RAM, ROM, and virtual memory. Alongside theory, students enhance Python skills, focusing on data types, selection, and subprograms through practical coding and problem-solving.		Students deepen knowledge of computer systems and networks, studying CPU components, the Von Neumann model, embedded systems, and performance factors. They develop computational thinking with abstraction, flowcharts, for loops, and subprograms in Python. The term also covers network structures, LANs, WANs, topologies, DNS, and differences between the Internet and World Wide Web, alongside programming while loops, arrays, and string manipulation.		Students investigate how devices communicate across networks, focusing on IP/MAC addressing, protocols, encryption, and layered models. They learn how networks maintain secure, reliable communication. In programming, they develop skills in file handling, loop use, and defensive design, including validation and maintainability. Learners apply structured software design and testing principles to build secure, efficient, and maintainable programs.	
GCSE PE	**THE HUMAN BODY AND MOVEMENT IN PHYSICAL ACTIVITY AND SPORT** **Physical Training – components of fitness and testing** Students learn definitions of health and fitness, explore fitness components, and understand how to conduct and evaluate fitness tests. They analyse data, apply training principles and methods, and study injury prevention, warm-ups, cool-downs, and seasonal training adaptations.		**THE HUMAN BODY AND MOVEMENT IN PHYSICAL ACTIVITY AND SPORT** **Applied Anatomy and Physiology:** Students study the skeleton, joint structure, and muscle groups, exploring types of movement and muscular contractions. They analyse movement at specific joints, apply knowledge of levers, planes, and axes, and link anatomical concepts to sporting performance.		**THE HUMAN BODY AND MOVEMENT IN PHYSICAL ACTIVITY AND SPORT** **The structure and function of the cardio-respiratory System:** Students learn the structure and function of the heart and respiratory system, including gaseous exchange, cardiac cycle, and data on cardiac output and stroke volume. They interpret spirometer traces, compare aerobic and anaerobic exercise, and analyse oxygen debt, recovery, and the short- and long-term effects of exercise on body systems. **Coursework write up** Students to write an analysis (15 marks) and evaluation (10 marks) of a chosen sport.	
Core PE	**Cognitive** - More complex tactics and strategy across a range of sports. A wide range of more complex technical models for skills across a range of sports and activities. **Creative** - Different compositional techniques A range of more advanced discrete skills within each activity. Improvise. Experiment. Invent. Respond creatively. Show originality. **Personal** - The individual is responsible for their own journey and success. Reflection leads to identification of ways to improve. Doing the same thing repeatedly will give the same results. **Physical** - Make adjustments to technique efficiently when required. Perform a wide range of advanced skills with consistency in pressure situations. **Social** - The structure of a physical activity session/event. Methods used to motivate/inspire groups/individuals. Considerations to make when planning a session.					