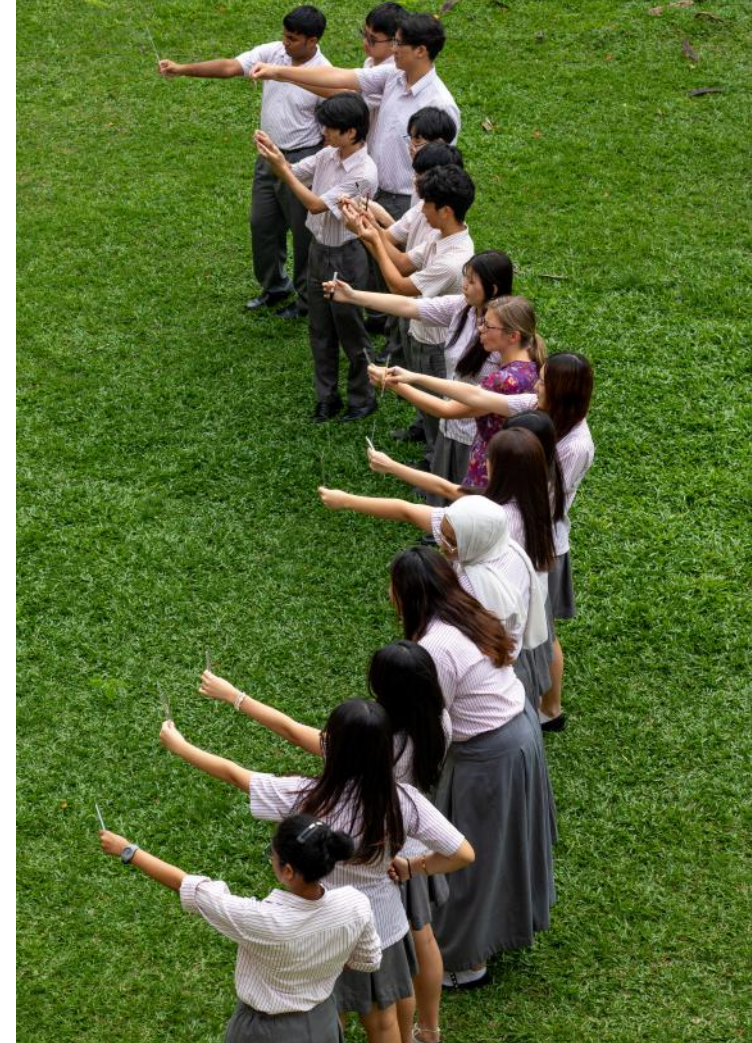




KTJ PRIMARY
SECONDARY
KOLEJ TUANKU JA'AFAR

IGCSE Subject Choices Handbook | 2026-28



Introduction

The IGCSE years mark a significant academic milestone, combining increased subject specialisation with rigorous skill development. Students in Years 10 and 11 follow a vertically and horizontally coherent curriculum, building on prior learning while developing mastery in key academic areas. Strong emphasis is placed on literacy, numeracy, scientific reasoning, and analytical thinking—skills that are not only essential for examination success, but also for navigating a complex global landscape. As global citizens, students are encouraged to think critically about international issues, cultural diversity, and ethical leadership. Throughout the IGCSE journey, learners take greater ownership of their progress, supported by expert teaching and pastoral guidance. This booklet provides parents with a detailed overview of subject content, assessment styles, and the broader educational goals that underpin our curriculum—ensuring each student is equipped to achieve academic excellence and make meaningful contributions to the world.

Curriculum connections and interdisciplinary learning

At KTJ, we believe that deep understanding is nurtured when students can make meaningful connections across subjects. Our curriculum is designed with a whole-school vision in mind, ensuring coherence and collaboration between departments. All staff are aware of the broader curriculum journey, and work together to reinforce key skills—such as analysis, problem-solving, communication, and creativity—across disciplines.

Interdisciplinary learning is enriched through CCAs, educational trips, and carefully planned cross-curricular projects that highlight the real-world relevance of what students learn. Whether exploring environmental themes across Science and Geography, blending History and Literature through shared contexts, or applying mathematical models in Business or Design, students see that knowledge is not confined to subject boundaries. These opportunities help learners view their education as a connected whole, developing flexible thinkers prepared for a complex, global world.



Adaptive teaching

At KTJ, we are deeply committed to delivering an inclusive, high-quality education that meets the needs of every learner. Adaptive teaching sits at the heart of this mission. It ensures that all students—regardless of starting point—can access the full breadth and ambition of our curriculum. Drawing on the latest research, including Tom Sherrington's [Walkthrus](#) and guidance from the [Education Endowment Foundation](#) (EEF), adaptive teaching helps our teachers to respond intelligently and consistently to student needs.

Proactive adaptation: Before the lesson

Effective adaptive teaching begins before the lesson. Teachers analyse data, provision maps, prior knowledge, vocabulary gaps, cultural experiences, and potential misconceptions. This informs lesson planning that includes:

- Use of scaffolding, such as sentence stems or models.
- Accessibility adjustments (font size, visuals, clarity of task).
- Tailored teaching strategies for students with EAL, SEND, or students not attaining levels normally expected.
- Liaison with the SENDCO and planned LSA deployment.
- Designing in opportunities for pre-teaching or retrieval.
- Proactive planning ensures barriers are anticipated, not just reacted to, promoting equity through thoughtful preparation.

Responsive adaptation: During the lesson

Adaptive teaching continues in the moment, using formative assessment to check for understanding and respond in real time. Teachers use strategies such as:

- Cold calling, hinge questions, and mini whiteboards.
- Live modelling and use of analogies or visual prompts.
- Adjusting language, re-explaining tasks, or clarifying success criteria.
- Modifying challenge level and using live feedback.
- Flexible grouping and backward fading to reduce support over time.
- This responsive approach helps close gaps as they arise and ensures that misconceptions do not persist unaddressed.

Conclusion

Adaptive teaching is not about creating separate tasks for every student, but about delivering a high-quality, ambitious curriculum in ways that all learners can access. Through proactive planning and responsive in-lesson actions, teachers at KTJ ensure progress, promote independence, and reduce the need for intervention later.

Assessment

At KTJ, assessment is not simply about tracking outcomes—it is a powerful tool for guiding learning. Our approach prioritises checking for understanding through continuous, low-stakes assessment that allows students to reflect, improve, and develop core knowledge and skills. We create a culture of risk-free learning, where students are encouraged to make mistakes and learn from them, fostering resilience and deep understanding. After all, it is often through mistakes that the most meaningful progress is made.

Live Feedback and Ongoing Assessment

Teachers use live feedback as a central strategy to adapt teaching in real time. This may take the form of hinge questions, cold calling, mini-whiteboard responses, or verbal check-ins—all of which provide immediate insight into student understanding. This allows for agile re-teaching, clarification, or deepening of content in the moment.

Assessment opportunities are often cunningly blended with practice tasks that mirror exam conditions, reinforcing subject-specific skills without compromising student confidence. By doing this regularly, we prepare students not only for summative assessments but also for lifelong learning and reflection.

Subject-Specific Adaptation

Assessment methods are thoughtfully adapted to suit the nature of each subject. For example:

- In Maths and Science, precise written responses and problem-solving are checked frequently for accuracy and process.
- In English and Humanities, analytical thinking and argument construction are modelled and practised, with feedback targeting structure, clarity, and depth.
- In creative subjects, assessment includes peer critique, performances, or portfolios, encouraging reflective improvement.

Informing Future Planning

Regular checks for understanding do more than guide individual lessons—they shape future curriculum planning and assessment design. Teachers analyse patterns in performance to identify gaps, misconceptions, or opportunities for stretch and support. This cyclical process ensures our teaching remains responsive, inclusive, and aspirational.

Linking Pastoral Care to Academic Excellence at KTJ

At KTJ, we believe that wellbeing and academic success go hand in hand. A student who feels safe, supported, and valued is far more likely to thrive intellectually and personally. Our pastoral care system is deeply integrated with our academic structures, ensuring that every learner is seen, known, and nurtured.

There is exceptional communication between House Parents, Form Tutors, and academic staff, allowing us to take a holistic view of each student's progress. Our dedicated counsellors and pastoral support workers collaborate closely with teachers to identify barriers to learning—whether emotional, social, or behavioural—and to develop targeted support plans.

We foster a culture of care and accountability through restorative practice, helping students reflect on challenges and rebuild positive relationships. Co-coaching between pastoral and academic staff strengthens our shared understanding of student needs and promotes consistent, compassionate responses. This integrated approach ensures that every child has the foundation to reach their full potential.

Teaching and learning

At KTJ, we are proud of our vibrant and collaborative teaching culture, where every teacher is both a learner and a leader in the pursuit of excellence. We believe that outstanding teaching and learning are driven by reflection, shared practice, and a commitment to staying abreast of educational research. Our approach ensures that students benefit from consistently high-quality, evidence-informed instruction in every classroom.

A central feature of our professional learning culture is the KTJ Buddy System. Every teacher is paired with a colleague to provide mutual support, encouragement, and reflection. This peer-to-peer model promotes honest dialogue, practical idea-sharing, and continuous professional growth in a safe, respectful environment. It is an essential part of how we build trust and openness within our teaching community.



In addition, our weekly CPD (Continuing Professional Development) sessions offer structured opportunities for staff to engage with current research and emerging best practices. Sessions are aligned with school priorities and focus on all aspects of teaching and learning—from curriculum design and adaptive teaching to effective questioning and formative assessment. These sessions also create space for innovation and exploration, empowering staff to implement new strategies confidently in the classroom.

We are fortunate to have Tom Sherrington as a critical friend, whose guidance, rooted in the Walkthrus model, helps shape our pedagogical approach. His collaboration supports our continued drive for excellence and ensures that our strategies remain deeply anchored in current, high-impact research.

This work is strengthened by the close, strategic partnership between curriculum leaders and leaders of teaching and learning, who operate in perfect symmetry. Together, they ensure that what we teach and how we teach it are perfectly aligned—supporting progression, coherence, and student engagement across the school.

We reinforce these developmental structures through a rigorous but supportive quality assurance system, including learning walks, co-coaching, and developmental observations. These are not about performance management but about identifying and celebrating effective practice while supporting areas for refinement. Staff are encouraged to trial approaches, reflect collaboratively, and take ownership of their professional growth.

Our commitment to exceptional teaching and learning is not static—it is dynamic, evolving, and rooted in a whole-school culture of reflective practice. Through this, we ensure that every student at KTJ benefits from a rich, challenging, and supportive educational experience.

Global Citizenship

At the heart of our curriculum is the development of global citizenship — a vital quality for every young international student in today's interconnected world. Global citizenship is defined through seven key pillars: Ethics, Diversity, Global Issues, Communication, Global Service, Leadership, and Sustainable Lifestyle. These values empower students to think critically, act compassionately, and lead responsibly across cultures and communities.

Each subject area integrates these principles to foster awareness, empathy, and action. From understanding ethical dilemmas in literature to addressing climate change in science, students gain a holistic education that extends far beyond the classroom.

Global citizenship is essential not only for individual growth but for building a more just, peaceful, and sustainable world. By nurturing these qualities early, we prepare our learners to become thoughtful leaders and active contributors to positive global change. Together, we are shaping citizens of the world — ready for tomorrow, rooted in values today.

Intercultural Learning

Intercultural learning is a vital part of our curriculum, distinct from—but closely linked to—global citizenship. While global citizenship focuses on global responsibility and leadership, intercultural learning emphasizes how we understand, respect, and engage with diverse cultures in our everyday lives. It is rooted in four key pillars: Cultural Inclusivity, Anti-bias/Open-mindedness, Conflict Resolution, and Cultural Celebrations.

These pillars guide students to value differences, challenge stereotypes, and build positive relationships across cultures. Through activities, discussions, and real-world applications, students learn to navigate cultural complexities with empathy and respect. Intercultural learning is embedded and tracked across all subjects, with strong inter-disciplinary links encouraging students to make connections between history, language, the arts, and beyond. This fosters deeper understanding and allows for richer classroom experiences.

By nurturing intercultural competence, we prepare students to thrive in diverse environments—empowered not just to live in a global world, but to connect meaningfully within it.

Wellbeing and PSHE

Wellbeing and PSHE (Personal, Social, Health and Economic education) are at the core of our commitment to developing confident, healthy, and resilient learners. Through dedicated PSHE lessons and integration across all subject areas, we explore key themes including: Physical and Mental Health, Growing and Changing, Personal Safety, Relationships and Sex Education, Bullying and Discrimination, Media and Digital Literacy, Money and Careers, and Community and Responsibility.

These areas equip students with essential life skills, emotional intelligence, and the confidence to navigate an ever-changing world. While every subject contributes to a student's personal development, our dedicated PSHE programme ensures focused, age-appropriate learning in a safe, supportive environment.

We believe that when pastoral care and academic learning work hand-in-hand, students thrive. Happy, self-aware learners with high self-esteem not only lead more fulfilling lives but also achieve stronger academic outcomes. Our aim is to nurture well-rounded individuals ready for all aspects of life.

Digital Citizenship

In an increasingly digital and AI-driven world, teaching young people to be responsible, ethical digital citizens is more important than ever. Our digital citizenship curriculum equips students with the knowledge and skills to navigate online spaces safely, respectfully, and thoughtfully. Key themes include Privacy & Security, Cyberbullying, Digital Drama & Hate Speech, Digital Footprint & Identity, Relationships & Communication, News & Media Literacy, and Media Balance & Well-being.

These areas are explored both in dedicated lessons and across subject areas, ensuring students understand how their digital lives connect with the real world. With the rapid development of technology, particularly AI, students must be prepared to engage critically and responsibly with digital tools, platforms, and information.

Digital citizenship goes beyond internet safety—it's about shaping mindful, informed individuals who can lead with integrity in the digital age. As global citizens of the future, our students must be equipped to use technology to build, not divide, the world around them.

Art and Design

Curriculum Roadmap

IGCSE ART Overview

The Cambridge International Art and Design IGCSE fosters creativity through practical and theoretical study across various media. Students develop artistic skills, research artists, and build a personal portfolio. Assessment includes coursework (50% of final mark) and an externally set assignment (50% of final mark), focusing on creativity, technique, and conceptual understanding.

Assessment Objective 1

Assessment Objective 1 focuses on gathering, recording, researching, and investigating visual and contextual sources. Students are expected to explore ideas through observational drawing, photography, and other media while demonstrating an understanding of artists, cultures, and artistic influences. They must show the ability to analyse and document their creative process effectively, using a range of techniques to support their final work.

Assessment Objective 2

Assessment Objective 2 focuses on exploring and developing ideas through experimentation. Students are expected to refine their techniques by testing different media, materials, and processes. They should demonstrate creativity, problem-solving skills, and the ability to evaluate and improve their work. This objective emphasises the development of personal artistic responses through continuous experimentation and refinement.

Assessment Objective 3

Assessment Objective 3 focuses on reflecting, recording, and reviewing ideas. Students must document their creative journey through sketches, notes, and visual research, showing critical thinking and self-evaluation. They should demonstrate an understanding of composition, visual elements, and artistic influences while refining their concepts. This objective emphasises thoughtful reflection and the ability to communicate artistic intentions effectively.

Assessment Objective 4

Assessment Objective 4 focuses on presenting a personal and meaningful response. Students must produce a final artwork that reflects their ideas, research, and experimentation. The work should demonstrate creativity, technical skill, and an understanding of composition and visual impact. This objective emphasises the ability to develop a cohesive and well-executed artistic outcome that effectively communicates the student's intentions.

Art and Design

Assessment

The Cambridge International IGCSE Art and Design assessment consists of two main components: coursework and an externally set assignment. Coursework includes a portfolio of work demonstrating research, experimentation, and development of ideas. The externally set assignment requires students to create a final piece in response to a given theme, supported by preparatory work. Both components are assessed based on four objectives: research and recording, exploration and development, reflection and review, and final presentation. The assessment focuses on creativity, technical skill, and the ability to communicate ideas effectively.

Knowledge and skills

By studying Cambridge International IGCSE Art and Design, pupils develop a range of creative, technical, and analytical skills. They gain proficiency in various artistic techniques, including drawing, painting, printmaking, textiles, photography, and digital media. The course enhances their ability to research and analyse artists, cultures, and artistic movements, fostering a deeper understanding of visual communication. Students also develop critical thinking, problem-solving, and self-reflection skills as they experiment with ideas and refine their work. Additionally, they learn to present a personal and meaningful artistic response, preparing them for further study and creative careers.

Biology

Curriculum Roadmap

Aims

- To enable students to:
- acquire scientific knowledge and understanding;
 - develop a range of experimental skills;
 - use scientific data and evidence to solve problems;
 - communicate effectively using scientific terminology;
 - understand and apply scientific knowledge;
 - and enjoy science and develop an informed interest.

Plant Biology

- Will include topics that cover:
- plant structure and function;
 - photosynthesis;
 - plant transport;
 - plant reproduction;
 - and plant responses and stimuli.

Animal Biology

- Will include topics that cover:
- animal cells and tissues;
 - nutrition and digestion;
 - circulatory system;
 - respiration and gas exchange;
 - nervous and endocrine systems;
 - reproduction and development;
 - homeostasis and excretion;
 - and animal behaviour.

Genetics and Biotechnology

- Will include topics that cover:
- fundamentals of genetics: chromosomes, genes and DNA, mitosis and meiosis;
 - inheritance and genetic diagrams;
 - variation and evolution;
 - genetic modification and biotechnology.

Mathematical skills

- Will include topics that cover:
- basic calculations and formulas - percentages, ratio and average;
 - graph skills;
 - magnification and size calculation;
 - rate calculation;
 - probability in genetics;
 - and unit conversion.

Assessment

- Topical tests
- Common assessments
- Practical assessments
- End of year examination (Year 10) and trial examination (Year 11)

Knowledge and skills

In IGCSE Biology, students will develop a strong foundation in biological science through a balance of theoretical knowledge, practical skills, and real-world applications. The course covers core biological concepts such as cell biology, human physiology, plant biology, genetics and inheritance, ecology, and biotechnology.

Students will gain hands-on experience through microscopy, dissection, experimental design, and data analysis, helping them build essential practical and investigative skills. The course also emphasises transferable skills like critical thinking, scientific literacy, problem-solving, and the application of mathematical techniques to biological contexts.

To support academic success, students will learn effective exam strategies and revision techniques tailored to the IGCSE format. Additionally, they will explore biology's role in addressing global challenges, such as biodiversity loss, disease outbreaks, and sustainability, fostering a well-rounded and internationally relevant understanding of the subject.

Business Studies

Curriculum Roadmap

Understanding business activity

This section introduces the underlying ideas and concepts of business and includes the purpose and nature of business activity and how businesses can be classified. Enterprise and entrepreneurs, and why some businesses grow while others remain small are further important issues. How business size can be measured, types of business organisation, business objectives and stakeholder objectives are the concluding topics.

People in business

The focus is the functional area of human resources and includes the importance and methods of motivating a workforce. How businesses are organised and managed and the methods of recruitment, selection and training of employees are also considered. Finally, the section covers the importance and methods of effective internal and external communication.

Marketing

This section includes the role of marketing, the distinctions between niche and mass markets and the techniques of market segmentation. The methods and importance of market research are covered. The central role of the marketing mix, i.e. the four Ps, is made clear. Marketing strategies to influence consumer decisions at home and in new foreign markets are the final topics in this section.

Operation management

The focus is the functional area of production and includes the meaning and methods of production and how productivity can be increased. The different costs of production and break-even analysis are covered. The section concludes with the importance and methods of achieving quality in the production process and location decisions of businesses.

External influences and financial decisions

Students will examine external influences on business activity, environmental, and ethical issues, and their effects on business functions. They will learn about the international economy, globalisation, multinational businesses, exchange rates, and legal constraints. Accounting and finance will cover business finance needs and sources, cash-flow forecasting, working capital, income statements, financial position statements, and the use and analysis of accounts.

Assessment

- Topical assessments
- Section assessments
- Summative assessments on Paper 1 (short answer and data response) and Paper 2 (case studies)

Knowledge and skills

- **Active reading:** Use resources like online articles, business news, and case studies to see concepts in real-world contexts.
- **Defining key terms:** Understand the nuances of each term and how they relate to each other.
- **Visual aids:** This aids in understanding relationships between different topics.
- **Application and analysis:** Practice analysing case studies by identifying problems, evaluating solutions, and making recommendations.
- **Data interpretation:** Develop the ability to interpret data presented in tables, charts, and graphs.
- **Calculations:** Be comfortable with basic business calculations, such as profit margins, revenue, and break-even points.
- **Evaluation and judgement:** Practice evaluating different perspectives and forming your own opinions.

Chemistry

Curriculum Roadmap

Fundamentals of Chemistry

Students will explore the basic building blocks of matters, including atoms, elements and compounds.

They will understand how atomic structure relates to the periodic table and how different type of chemical bonds (ionic, covalent, metallic) influence the properties of substances.

Chemical reactions and quantitative Chemistry

This section delves into various chemical reactions, including acid-base reactions and redox processes.

Students will learn to perform calculations involving reactants and products, understand factors affecting rates, and explore energy changes during chemical reactions.

Analytical and periodic Chemistry

Students will gain skills in identifying substances through chemical and instrumental analysis techniques.

They will also study the periodic trends and learn how these trends influence the chemical behavior of elements.

Organic Chemistry

This chapter introduces students to the chemistry of carbon-containing compounds.

They will explore different classes of organic compounds, their reactions, and their significance in everyday life.

Practical skills

Students will develop hands-on laboratory skills, learn to design experiment, analyse data, and draw conclusions based on empirical evidence. These skills are crucial for scientific literacy and further studies in science.

Assessment

Students are assessed through Common Assessments covering multiple topics, along with End of Year Exam (For Year 10) and Trial exams (For Year 11) to ensure understanding before the actual IGCSE exams.

Knowledge and skills

Studying Chemistry equips students with a wide range of essential knowledge and skills:

- **Experimental design and practical skills:** Students learn to plan, conduct, and evaluate experiments safely and efficiently, developing strong practical skills while adhering to safety protocols.
- **Data handling and analysis:** They acquire the ability to collect, interpret, and analyse data, drawing valid conclusions and recognising the limitations of scientific models and theories.
- **Scientific inquiry:** Students apply the scientific method, fostering a deep understanding of scientific principles while encouraging curiosity, objectivity, and integrity in their work.
- **Problem-solving and critical thinking:** The course develops critical thinking skills to address complex problems and make sound, reasoned decisions in experimental contexts.
- **Communication skills:** Students gain proficiency in scientific communication, using appropriate terminology and conventions to present their findings clearly and effectively.
- **Mathematical skills:** They also strengthen mathematical skills, particularly in relation to data analysis, measurements, and calculations in chemistry.
- **Environmental and social responsibility:** Chemistry students develop an awareness of their responsibility to society and the environment, promoting sustainable scientific practices.

Chinese: First Language

Curriculum Roadmap

Narrative

This topic focuses on developing students' ability to articulate experiences and express thoughts, feelings, and imagination through storytelling. Students will learn to structure their narratives effectively, using a wide range of vocabulary and correct grammar to engage the reader and convey their message clearly.

Argumentative and discursive

In this topic, students will learn to present and support their opinions on various subjects. They will practise constructing logical arguments, using evidence to back up their points, and addressing counterarguments. This helps develop critical thinking and persuasive writing skills.

Descriptive

This topic aims to enhance students' ability to describe scenes, objects, and experiences vividly. They will learn to use sensory details and figurative language to create rich, immersive descriptions that capture the reader's imagination.

Classical prose

Students will explore classical Chinese texts, gaining an appreciation for the language, style, and cultural context of these works. This topic helps students understand the historical significance of classical prose and its influence on modern Chinese literature.

Directed writing

This topic focuses on practical writing tasks, such as letters, reports, and articles. Students will learn to write for specific purposes and audiences, using appropriate language and tone. This helps develop their ability to communicate effectively in various real-life situations.

Chinese: First Language

Assessment

Assessments are both formal and informal and are conducted throughout two years. Teachers provide live feedback in class and offer help both verbally and in writing, often on a one-to-one basis. Teachers also provide detailed written comments, usually based on the requirements of IGCSE from CAIE.

At the end of Year 10, there will be an end-of-year exam to assess the students' progress through the year. For IGCSE, students will be evaluated on two components: reading and writing, each carrying a 50% weight.

Knowledge and skills

The IGCSE First Language Chinese (0509) syllabus is designed to develop learners' ability to communicate clearly, accurately, and effectively in Chinese. Students will gain a solid foundation in the language, which includes a wide-ranging vocabulary, correct grammar, spelling, and punctuation. They will also develop a personal style and an awareness of the audience being addressed.

Throughout the course, students are encouraged to read widely, both for their own enjoyment and to develop an appreciation of how writers achieve their effects. The syllabus complements other areas of study by encouraging skills of more general application, such as analysis, synthesis, and evaluation.

By the end of the course, students will have honed their skills in reading, writing, speaking, and listening. They will be able to understand and respond to a variety of texts, express themselves effectively in both spoken and written Chinese, and demonstrate a deep understanding of the cultural context of the language.

Chinese: Foreign Language

Curriculum Roadmap

Everyday activities

This area focuses on practical, daily situations. Students develop vocabulary and language skills related to time, food and drink, health, and travel. This includes things like telling time, ordering food, describing illnesses, and asking for directions.

Personal and social life

This topic explores personal interactions and social contexts. Students learn to talk about themselves, their families and friends, home life, clothing, and leisure activities. This includes describing people, discussing hobbies, and talking about daily routines.

The world around us

This section broadens the learner's perspective to include the environment, technology, and the built environment. Students cover topics like geography, weather, communication, and shopping. This includes talking about the weather, using technology, and describing places.

The world of work

This area introduces students to the world of employment. They learn vocabulary and language related to jobs, workplaces, and professional interactions.

The international world

This topic expands the learner's cultural awareness by exploring different countries, nationalities, languages, and cultural practices. Students learn to discuss cultural customs, famous landmarks, and international relations.

Assessment

Assessments are both formal and informal and are conducted throughout two years. Teachers provide live feedback in class and offer help both verbally and in writing, often on a one-to-one basis. Teachers also provide detailed written comments, usually based on the requirements of IGCSE from CAIE.

At the end of Year 10, there will be an end-of-year exam to assess the students' progress through the year. For IGCSE, students will be evaluated on 3 components: speaking, listening, reading and writing, each carrying a 25% weight.

Knowledge and skills

This course provides students with a comprehensive foundation in the Mandarin Chinese language, focusing on practical communication skills across listening, reading, speaking, and writing. Organized around five key topic areas: everyday activities, personal and social life, the world around us, the world of work, and the international world. This course enables students to engage with the language in real-world contexts. Besides, this program emphasizes cultural awareness, fostering an understanding of Chinese customs and society, thereby promoting a global perspective.

Through this program, students gain proficiency in Mandarin Chinese, enabling them to communicate effectively in diverse situations. They develop strong language learning strategies, critical thinking skills, and enhanced interpersonal abilities, preparing them for academic, professional, and personal success. Furthermore, the cultural insights gained through the syllabus equip students with a deeper appreciation for the world's diverse cultures, promoting cross-cultural understanding and communication.

Chinese: Second Language

Curriculum Roadmap

Content overview

Cambridge IGCSE Chinese as a Second Language offers learners the opportunity to develop practical communication skills in listening, speaking, reading and writing. The syllabus will enable learners to become independent users of Chinese and to use Chinese to communicate effectively in a variety of practical contexts.

Topics areas

This course covers key themes that help learners understand everyday life and the wider world. Students explore youth, education, family, health, leisure, and technology, while also learning about global issues such as travel, the environment, pollution, recycling, and global warming. They will also discover cultural diversity through festivals, customs, traditions, and food from different cultures.

Paper 1: Reading and writing

The reading passages and questions are printed in both traditional and simplified characters on the question paper. Candidates may write their answers in either traditional or simplified characters. This paper consist of three reading comprehensions and two written essays.

Paper 2 : Listening

The audio material will be provided in Mandarin Chinese only. The question papers are printed in both traditional and simplified characters. The audio material will be played in the examination room. Candidates hear the spoken material for each exercise twice and appropriate pauses are included on the recording to allow candidates time to read the questions and write their answers.

Component 3 : Speaking

There are three parts of the Speaking Exam:

1. A presentation by the candidate on a chosen topic. The topic should reflect an aspect of life in a Chinese-speaking community or Chinese-speaking culture.
2. A discussion with the examiner about the presentation.
3. A conversation with the examiner about general topics.

Chinese: Second Language

Assessment:

The Cambridge International IGCSE Chinese as a Second Language assessment consists of three main components:

- Paper 1 - Reading and Writing (60%), duration: 2 hours
- Paper 2 - Listening (20%), duration: 35 - 45 minutes.
- Component 3 - Speaking (20%), duration: 13 - 14 mins.

Knowledge and skills:

This course is aimed at enhancing students' Chinese Language proficiency, focusing on the key areas of reading, writing, listening, and speaking. Throughout the curriculum, students will engage with a variety of texts, develop their essay-writing skills, and practice effective communication. The combination of knowledge and skills in Cambridge IGCSE Chinese as a Second Language gives learners a solid foundation for further study. Candidates who achieve grades A* to C are well prepared to follow a wide range of courses including Cambridge International AS & A Level Chinese.

Computer Science

Curriculum Roadmap

Algorithms

These topics introduce how algorithms can be shown using pseudocode and flowcharts and how their efficiency affects problem-solving. Students also learn key searching algorithms like linear and binary search, as well as sorting methods such as bubble, insertion, and merge sort, allowing them to understand and apply these techniques effectively.

Programming

These topics cover key programming concepts, including data types, operations, data structures, input/output and file handling, string and random number processing, subroutines, and structured approaches to programming. Students also explore robust and secure coding practices as well as the classification of programming languages and translators.

Data representation and computer systems

These topics cover how data and instructions are represented and processed in a computer, including number bases, binary arithmetic, character encoding, images, sound, and data compression. Students also study hardware, software, Boolean logic, software classification, and systems architecture. This provides a foundation for understanding how computers store, manipulate, and manage information.

Computer networks and cyber security

These topics focus on how computer networks operate and the importance of protecting them from cyber security threats. Students learn about different types of threats, including social engineering and malicious code, as well as methods used to detect, prevent, and reduce risks. The emphasis is on understanding both technical and human factors in keeping systems secure.

Relational databases and SQL and web page design

These topics include relational databases, database design, SQL, key concepts, and HTML. Students learn how databases store and organise information, how good design prevents errors and redundancy, and how SQL is used to create and manage data. They also explore key ideas behind web technologies and learn how HTML structures and presents content on web pages.

Computer Science

Assessment

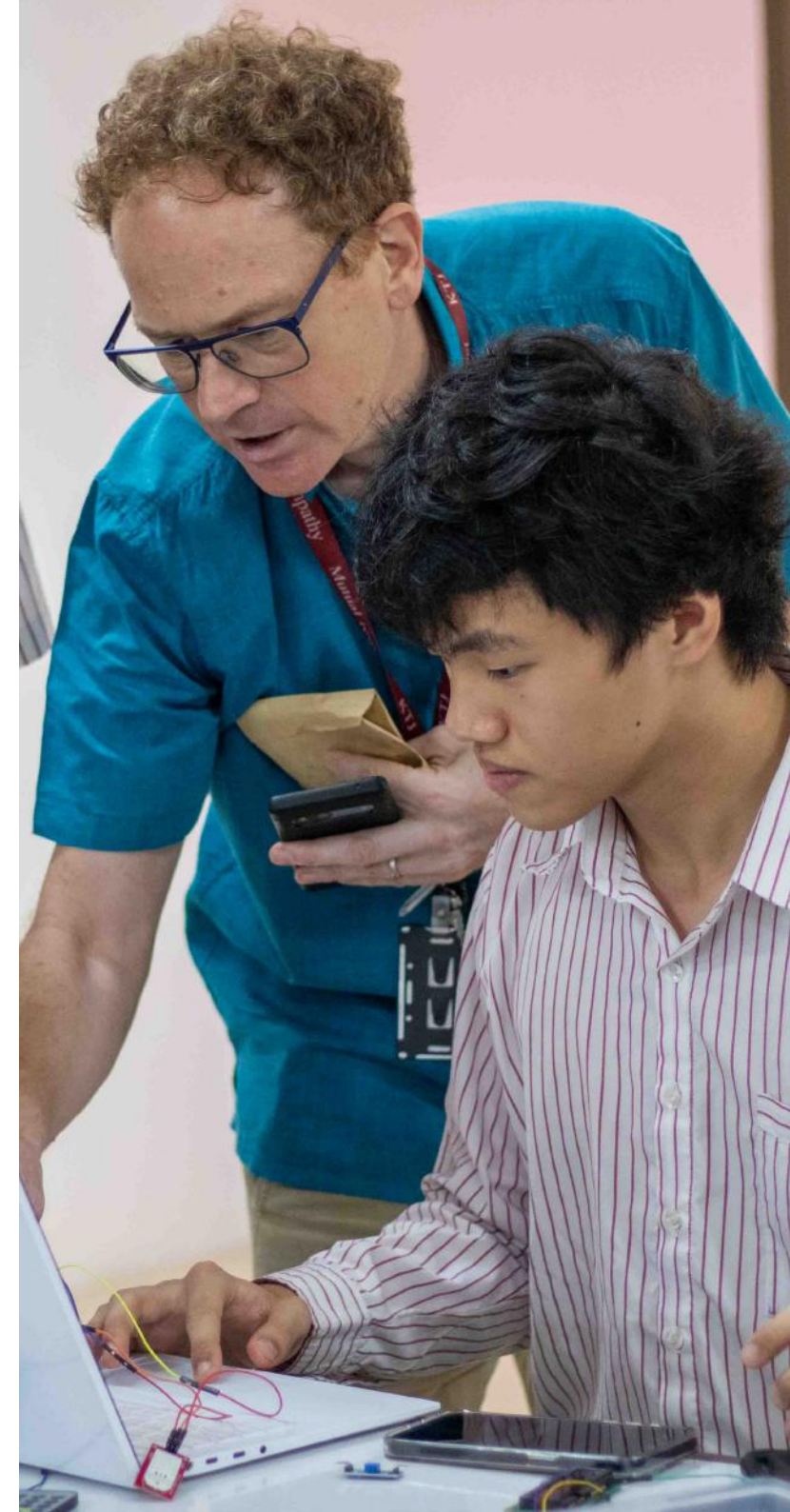
Students will be assessed through end-of-chapter tests, common assessments, question-and-answer sessions with feedback, as well as the end-of-year exam and trial exams leading up to the final exam.

- Paper 1: On-screen programming exam based on a pre-released skeleton program.
- Paper 2 – Concepts and principles of Computer Science.

Candidates will be required to write an algorithm using pseudocode or program code for the context provided.

Knowledge and skills

- **Problem-solving abilities:** Involve identifying issues, developing a systematic approach to brainstorm and apply solutions, and evaluating their effectiveness through practical activities.
- **Critical thinking and analytical skills:** To effectively break down issues, systematically analyse data and provide logical solutions.
- **Communication skills:** To effectively communicate thoughts and solution through clear explanations and productive discussions.



Design and Technology

Curriculum Roadmap

Resistant materials overview

The IGCSE Resistant Materials course focuses on material properties, safe working practices, and tool usage. Students learn to shape materials through techniques like cutting, bending, and finishing, and explore joining methods such as adhesive bonding and welding. The course also emphasizes planning, designing, and presenting projects, ensuring they are functional and durable.

The design process

The design process involves identifying a problem, researching, and generating ideas. A design brief outlines objectives, target users, and constraints. The best idea is developed into a prototype for testing and refinement. After evaluation, the final product is produced and improved through iteration.

Manufacturing processes

Manufacturing processes transform raw materials into finished products using methods like casting, machining, molding, welding, and 3D printing. The choice of process depends on material properties, cost, and efficiency. Practical experimentation, such as testing materials and using CNC machines, helps optimize production and improve product quality.

Planning and design

Planning and designing involve researching the brief, brainstorming ideas, and refining concepts into workable solutions. Tools like SketchUp help visualize designs, while careful planning and structured timelines keep the project on track. Effective organization ensures a smooth transition from concept to production.

Making and evaluating

Making and evaluating involve manufacturing, problem-solving, and tracking progress. During production, challenges are addressed through troubleshooting and adjustments. Documenting each step helps identify improvements and maintain quality. Testing ensures the product meets design specifications and functions correctly. A final evaluation assesses overall performance, usability, and potential refinements.

Assessment

- Practical projects: Students will design and manufacture a product using materials like wood, metal, or plastic, demonstrating their making skills and accuracy.
- Design portfolio: This includes research, idea generation, sketches, CAD models, planning, and evaluations.
- Theory tests: Assessing knowledge of materials, tools, manufacturing processes, and safety procedures.
- Problem-solving tasks: Students will be evaluated on how they adapt and improve designs based on challenges.
- Evaluation and reflection: Students will assess their final product, identifying strengths, weaknesses, and improvements.

Knowledge and skills

Knowledge:

- Understanding different materials (wood, metal, plastic) and their properties.
- Learning about manufacturing processes such as cutting, shaping, joining, and finishing.
- Awareness of health and safety procedures in a workshop environment.
- Introduction to sustainability and environmental impact in material selection and production.
- Understanding how to use CAD (Computer-Aided Design) software like SketchUp for designing.

Skills:

- Practical making skills using hand tools, machines, and power tools.
- Problem-solving and creativity in designing and improving products.
- Measuring and accuracy in marking, cutting, and assembling materials.
- Planning and time management to follow a structured design and manufacturing process.
- Testing and evaluation to assess product functionality and suggest improvements.

Economics

Curriculum Roadmap

The basic economic problem

This section explores economic problems from unlimited wants and limited resources, covering factors of production, opportunity cost, and the Production Possibility Curve (PPC) in resource allocation.

The allocation of resources

This section focuses on how markets allocate resources and how prices adjust to demand and supply, including elasticity. They explore different economic systems and how resources are distributed. This helps them understand real-world economic decision-making and market dynamics.

Microeconomic decision makers

This section covers the role of money and banks, household financial decisions, employment factors, and trade unions' influence. It also examines firms' production, cost and revenue, business objectives, and market structures shaping competition.

Government and the macroeconomy

This section analyses the government's role in economic management, focusing on policies that influence growth, stability, employment, inflation, and purchasing power.

Economic development and international trade

This section explores living standards, poverty, and income distribution, focusing on economic inequality, development, and global disparities. It also examines population growth, sustainable development, specialization and trade, the balance of payments, and exchange rates, analyzing their impact on global transactions. The effects of globalization are assessed alongside a comparison of free trade and protectionism, evaluating the benefits and drawbacks of open markets and trade barriers.

Economics

Assessment

Topic-based tests identify weak areas through multiple-choice and structured questions. Past paper practice improves time management and answer structuring. Mock exams build confidence and exam familiarity. Final revision provides feedback, refines concepts, and strengthens strategies.

Knowledge and skills

Students develop economic knowledge and critical thinking by analysing resource allocation, market dynamics, government policies, and global trade. They enhance problem-solving skills by evaluating economic indicators and comparing economies in real-world contexts.

English: First Language

Curriculum Roadmap

Reading

Students learn how to read and interpret a variety of English texts. They develop a broad vocabulary and learn how to summarise a text effectively. Most importantly they learn how to discern both the implicit and explicit meaning in a text.

Analysis

Students learn how to identify and explain the effect of language devices such as metaphor, simile, personification. They also develop an understanding of the power behind well-crafted syntax. Using point, example and explanation they develop sophisticated analytical skills.

Non fiction writing

Students practise the skills of writing useful everyday texts such as articles, letters, speeches and proposals. They develop the skill to determine the manner and tone that each text should be written in to match the purpose and audience of the text.

Fictional writing

Students develop their skill of structuring and crafting both descriptive and narrative texts that are designed to engage appropriate audiences. This develops their understanding of form, structure, language and tone.

Grammar and syntax

Grammar and syntax are developed throughout the IGCSE two-year course. Appropriate grammar and syntax forms the basis of all good written and spoken communication.

English: First Language

Assessment

This is a two year course and will be assessed through a combination of in-class activities and formal examinations, and external examinations focusing on reading comprehension, writing skills, and language analysis. The final externally marked examinations typically include structured questions on unseen texts and extended writing tasks, while classroom assessments may involve practice essays, comprehension exercises, and spoken language activities to develop critical thinking and communication skills.

Knowledge and skills

This course is designed to hone students' proficiency in English, preparing them for advanced academic endeavors. Students will engage in a wide range of activities that focus on critical reading, effective writing, and articulate speaking. The curriculum covers various topics, including persuasive and argumentative writing, in-depth analysis of diverse texts, and enhancing comprehension skills. Emphasis is placed on building the ability to construct coherent and convincing essays, analyse and interpret literary and non-literary texts, and communicate ideas with clarity and precision. These skills are essential for future academic success, enabling students to excel in higher education and beyond.

English: Second Language

Curriculum Roadmap

Reading

Writing

Speaking

Listening

Grammar and syntax

Students demonstrate understanding of specific factual information the connections between the ideas, opinions and attitudes. They also identify and select details for a specific purpose and demonstrate understanding of implied meaning.

Students communicate information, ideas and opinions, while organising ideas into coherent text using a range of linking words. They use a range of appropriate grammatical structures and vocabulary and develop appropriate register and style for the given purpose and audience.

Students communicate a range of ideas, facts and opinions and demonstrate control of a range of vocabulary and grammatical structures They develop responses and maintain communication and demonstrate control of pronunciation and intonation.

Students demonstrate understanding of specific information and show an understanding of speakers' ideas, opinions and attitudes. They make connections between ideas, opinions and attitudes by identifying what is implied but not directly stated.

Students learn to communicate with the correct grammar needed in spoken and written English, while discerning between semi-formal and formal standard English.

Assessment

This course is assessed throughout the period of two years through quizzes, comprehensions, debates and presentations in class. At the end of the second year the students have an external examination that comprises of a reading and writing papers, a listening assessment and a speaking assessment.

Knowledge and skills

This course is aimed at enhancing students' English language proficiency, focusing on the key areas of reading, writing, listening, and speaking. Throughout the curriculum, students will engage with a variety of texts, develop their essay-writing skills, and practice effective communication. Mastering these skills will not only improve their performance in all subjects but also prepare them for the demands of higher education. Holding a qualification in English as a Second Language opens doors to a broader range of academic opportunities and equips students with the language skills needed for future studies, whether in local or international institutions. This qualification demonstrates their ability to understand, analyse, and communicate complex ideas, making them well-prepared for the next stage of their educational journey.

English Literature

Curriculum Roadmap

Fiction

Drama

Poetry

Unseen

Historical context

Students develop independent reading habits and study one novel in depth. They learn to analyse the writer's choice of form, language and structure, focusing on the use of theme, character and style.

Students study one play in depth and analyse the playwright's intentions through the choice of form, structure and language. They examine the writer's skill at developing dramatic characters and dramatic devices such as dialogue, action, dramatic irony and stage directions.

Students develop a wide appreciation of poetry by studying fifteen poems in detail. They study the effect of structural devices such as rhyme schemes and the importance of poetic meter. Through language and imagery the students develop a deep understanding of how language creates deep and lasting emotions in the reader.

Throughout the two year course, students develop a critical eye and are able to analyse the writer's choice of form, structure and language in unseen texts. This is a skill that will be useful in their academic and working lives that lays the foundations of sophisticated interpretation of fictional texts.

Through the study literature the students learn about the life and times of the writer and the costumes and times of the period in which the text is set. This broadens the students world view and teaches and add nuanced layers to a greater understanding of the present day.

English Literature

Assessment

The students will be informally assessed over this two year course through presentations, debate and essays. They will also be formally assessed on their knowledge of the texts and the content through trial examination and three externally graded examination on poetry and prose, drama open book and unseen texts.

Knowledge and skills

English literature students develop critical thinking, analytical, and interpretative skills by studying novels, plays, poems, and historical contexts, allowing them to understand complex themes, diverse perspectives, and cultural influences. This academic subject is important because it enhances communication, empathy, and creativity, preparing students for various careers while deepening their appreciation of human experiences and societal developments.

Food and Nutrition

Curriculum Roadmap

Culinary techniques and chef skills

Students build precision and independence in a wide range of food - cooking 40+ dishes, including breads, cakes, biscuits, main meals like risotto, fresh pasta and lasagne, desserts like soufflé, cheesecake and panna cotta. They also learn preparation skills, knife techniques, cooking methods, plating, and time and organisation.

Food commodities and meal planning

Students will gain knowledge of ingredients and the role they play in the food we eat including eggs, cereals, dairy, meats, fish, fruit/veg, and be able to select the appropriate ingredients for a range of dishes when cooking. They will learn how to balance, about diet across life stages, and special diets.

Food safety, spoilage and preservation

During the course students will study how to handle food correctly and the storage of foods at correct temperatures. Personal hygiene, contamination of food through bacteria, improper food storage and physical reasons, causes of food spoilage, preservation techniques e.g. freezing, drying, canning, and food packaging and labelling.

Food science and nutrition

Students will study about macronutrients: proteins carbohydrates and fats. micronutrients: vitamins and minerals and fibre: Deficiency diseases, digestion and absorption of food, individual energy requirements based on lifestyle age and gender. and the science behind food reactions e.g. gelatinisation, enzymic browning caramelisation, denaturation, rancidity coagulation, Maillard.

Practical exams, and time planning

Students prepare for the written and practical exams through past paper analysis, practical test simulations, and exam-style time planning. Through solo, pair, and group cooking tasks, they build a diverse recipe repertoire which is documented in their food blogs and reflected upon for skill development. They also develop their food photographic presentation,

Food and Nutrition

Assessment

Paper 1: 2 hours, Theory, 50%, 100 marks.

Paper 2: Practical Test, 50%, 100 marks

Comprises of 2 components: 2 hours 30 minutes to cook and present a range of dishes plus a 1 hour 30 minutes planning session where candidates plan the dishes to cook during the practical test based on their theme.

Knowledge and skills

- AO1: Knowledge with Understanding – Students will use appropriate food-related terminology, demonstrate understanding of nutrition, food science, and meal planning, and explain how social and economic factors influence dietary choices.
- AO2: Handling Information and Solving Problems – Students will interpret and apply information from nutritional data, recipes, and time plans; adapt meals to suit dietary needs; and organise resources efficiently during cooking tasks.
- AO3: Experimental Skills and Investigations – Students will conduct food science investigations, test and compare cooking methods, and evaluate dishes based on texture, flavour, nutritional value, and presentation.



French

Curriculum Roadmap

Everyday activities

In this section, students will study lexical and linguistic structures needed to talk about food and drinks, to discuss health issues and be able to give advice for a healthy lifestyle. They will learn as well how to describe their various routines (at home and school) .

Personal and social life

Students will review and deepen how to talk about and describe themselves, their family and their friends, and their house. They will learn as well how to describe relationship issues. They will explore special occasions and study how to describe family celebrations. They will study as well how to exchange information about their hobbies and holidays.

The world around us

Students will study lexical and linguistic structures to be able to talk about people and places, the natural world, the environment, the climate and the weather, communication and technologies, as well as buildings and services, urban areas and shops.

The world of work

Students will review and deepen lexical and linguistic structures needed to talk about exam preparation and revision, to exchange information and opinion about work experiences, to discuss their choice of further education and career.

The international world

Students will explore facts linked to environment issues (climate change, natural disasters, pollution, endangered animals), charity and humanitarian work, problems in cities (homelessness, poverty, crime), They will explore as well how to understand information about life in other countries and communities.

Assessment

Students oral and written work are evaluated for their vocabulary and grammatical knowledge. Their ability to identify specific information in longer written and aural (listening) passages is as well in detail. Marking schemes used are similar to those of IGCSE from CIE.

At the end of Year 10 there will be an end of year exam to assess the students progress through the year. For IGCSE, students will be evaluated on 4 components: reading, writing, listening and speaking; each carries a 25% weight.

Knowledge and skills

Students will be able to:

- understand and exchange information about themselves, their family and their friends, their house (including housework);
- talk about their daily activities (at home and school);
- talk about healthy lifestyles and health issues;
- mention and describe family members and pets, discuss relationships;
- discuss hobbies and entertainment;
- accept and refuse invitations to go out and give excuses;
- discuss holiday plans;
- discuss about festivals and special occasions;
- seek information about eating out and respond to questions about their food requirements;
- talk about issues (hotel / restaurant booking), express their dissatisfaction, disappointment;
- describe the area they live in, make comparisons between city and countryside lifestyles;
- talk about environment issues;
- and discuss about school life, university and career plans.

Geography

Curriculum Roadmap

Population and settlements

Building on prior learning in KS3, in this opening topic to IGCSE Geography students will look in detail at population dynamics and settlements. Through a number of case studies they will learn about the challenges of over and under population, population distribution and density, migration patterns and the challenges and opportunities urban environments face.

The natural environment

In this topic, students will really begin to delve into the physical processes that shape our planet. We will explore the causes and impacts of volcano and earthquake hazards, the characteristics and landforms associated with coastal and river environments as well as how weather and climate patterns influence global ecosystems.

IGCSE coursework

In this phase of the IGCSE, pupils will develop their river knowledge to approach an independent river enquiry question. Students will visit Janda Baik and collect a range of river data before returning to school and completing a detailed coursework report detailing their objectives, methodology, analysis of results, before then drawing conclusions and evaluating from the experience.

Economic development

Following completion of the coursework, students will return to their Paper 1 studies, unpacking the broad range of topics associated with development. They will study economic indicators, globalisation, the dynamics of food production and industrial production, energy, water, tourism and the threats our environments face.

Map skills

In the final phase of the IGCSE course, students will further develop their map skills with a focus on coordinates, scale, bearings and interpretation of contour lines. They will learn how to investigate maps to understand urban and rural environments as well as developing skills in analysis of photos and geographical written material.

Assessment

- Paper 1: Geographical Themes (45%), duration: 1 hour 45 minutes
- Paper 2: Geographical Skills (27.5%), duration: 1 hour 25 minutes
- Paper 3: Coursework (27.5%)

Knowledge and skills

AO1: Knowledge with understanding

- Demonstrate knowledge of places, environments, concepts, processes, and terminology at a range of scales, from local to global. Show understanding of the interrelationships between people and their environment, and the spatial and temporal characteristics of physical and human processes.
- Recalling case study material; Explaining processes or concepts clearly; Showing understanding of how processes interact or cause specific outcomes.

AO2: Skills and analysis

- Interpret and analyse geographical data and evidence. Use appropriate techniques to show geographical information. Recognise patterns, relationships, and trends in data and draw inferences. Make decisions based on analysis and justify conclusions using geographical evidence.
- Using maps and data to support explanations. Analysing fieldwork results (or data in paper 4).

AO3: Judgement and decision-making

- Assess geographical issues and make reasoned judgements.
- Evaluate potential solutions to problems, considering sustainability and the interplay between human and physical geography.

Justify opinions and conclusions with reference to evidence and wider geographical understanding.

History

Curriculum Roadmap

International relations 1919-1939

Falling under Paper 1, students will learn about the attempts to restore peace and stability following the cataclysm of the First World War. The Paris Peace Treaties, the work of the League of Nations and Hitler's Foreign Policy form the basis of investigation as students enquire why the world collapsed into disaster once more.

The Cold War 1945-1991

From the ashes of the Second World War, a new global conflict emerged. One defined by heightened tensions between the Superpowers - the USA and the USSR. Students will learn about the collapse in relations between the wartime allies, American attempts to contain communism in Korea, Cuba and Vietnam, and Soviet attempts to maintain control of their Empire in Eastern Europe and Central Asia. The Cold War also falls under Paper 1.

The United States 1919-1941

Students will study the social, cultural and economic history of the USA from the Roaring 20s to the Great Depression. The period saw the rise of consumerism and mass production, the Golden Age of Hollywood, prohibition and the rise of gangsterism, the Ku Klux Klan, a new era for women's rights, and the first Red Scare. The 1930s covers the Wall Street Crash, the Depression and the New Deal.

Assessment

Paper 1: 40% Extended writing.

- Section A - Breadth Study. Students complete two questions from a choice of four. These questions are drawn from the International Relations and Cold War topics.
- Section B - Depth Study. Students complete one question from a choice of two. These questions are drawn from the USA topics.

Paper 2: 30% Source analysis.

Students answer a set of six source analysis questions. The questions are based upon one of the six breadth study topics, (International Relations and the Cold War), which rotates each year.

Paper 4 (Alternative to Coursework): 30% Structured essays.

The USA, 1919–41 experienced economic boom and social change in the 1920s, driven by mass production and consumerism. But prosperity was uneven. Roosevelt's New Deal provided relief, recovery and reform but did not end unemployment. Paper 4 skills include explanation, evaluation, supported judgement and precise factual knowledge.

Knowledge and skills

Through the study of key historical events, learners enhance their ability to critically analyse cause and consequence, continuity and change, and similarities and differences. They develop source evaluation skills, learning to interpret, assess reliability, and use evidence to construct well-supported arguments. The course fosters independent thinking, enabling students to formulate and justify historical interpretations. Additionally, learners refine their communication skills, presenting structured, logical arguments in both written and verbal formats. Ultimately, the study of history nurtures curiosity, global awareness, and the ability to engage thoughtfully with complex issues.

Malay as a Foreign Language

Curriculum Roadmap

Listening

This section outlines key listening and reading skills, including understanding main points and key information in simple everyday materials, following clear speech on familiar topics, interpreting descriptions of events and expressions of ideas, opinions, and attitudes in simple texts, and identifying relevant information in predictable texts.

Reading and comprehension

This section emphasises understanding main points and key information in simple everyday materials and authentic factual texts on familiar topics. Learners should be able to interpret descriptions of events, ideas, opinions, and attitudes, as well as identify and select relevant information in predictable texts.

Speaking

This section focuses on developing clear and effective communication in everyday situations, engaging in conversations on familiar topics, and expressing opinions and feelings. Learners are expected to use a range of vocabulary and structures with reasonable accuracy, maintain interaction, and show some control over pronunciation and intonation.

Writing

This section focuses on developing writing skills, including clearly communicating simple factual information for everyday purposes, writing phrases and sentences on familiar topics, producing simple connected texts about events, experiences, opinions, and aspirations, and using a range of basic vocabulary and structures with reasonable accuracy.

Cultural understanding

This topic will cover local history, culture and festivals.

Malay as a Foreign Language

Assessment

- Paper 1: Listening (25%), duration: 50 minutes. Candidates listen to a number of recordings and answer multiple-choice and matching questions.
- Paper 2: Reading (25%), duration: 1 hour. Candidates read a number of texts and answer multiple-choice and matching questions
- Paper 3: Speaking (25%), duration: 10 minutes. Candidates complete one role play and conversations on two topics.
- Paper 4: Writing (25%). Candidates complete one form-filling task, one directed writing task and one task in the format of an email/letter or article/blog.

Knowledge and skills

This section aims to develop students' proficiency in Malay at CEFR level A2, with elements of B1, enabling effective communication and offering insights into Malay-speaking cultures. It fosters awareness of language and language learning, promotes positive attitudes toward other cultures, and provides enjoyment and intellectual stimulation. Additionally, it helps build transferable skills such as memorisation and inference, supporting broader learning and forming a solid foundation for further study or employment.

Additional Mathematics

Curriculum Roadmap

Algebra and functions

- Quadratic functions
- Simultaneous equations
- Equations, inequalities and graphs
- Functions
- Factors of polynomials
- Logarithmic and exponential functions
- Series

Calculus

- Differentiation
- Integration
- Kinematics

Trigonometry

- Trigonometry Functions
- Trigonometry Identities
- Trigonometry Equations

Probability and statistics

- Permutations and Combinations

Vectors and geometry

- Straight-line graphs
- Coordinate geometry of the circle
- Circular measure
- Vectors in two dimensions

Additional Mathematics (0606)

Assessment

- Paper 1: Structured and unstructured questions (50%), duration: 2 hours. Non-calculator paper.
- Paper 2: Structured and unstructured questions (50%), duration: 2 hours. A scientific calculator is required.

Knowledge and skills

The Cambridge IGCSE Additional Mathematics syllabus is designed for students who have a strong interest in mathematics and wish to extend their mathematical knowledge beyond the standard IGCSE Maths curriculum. It covers advanced topics that provide a solid foundation for further studies in mathematics, particularly for those planning to take higher education in mathematics and related fields such as engineering, economics, and physics.

Mathematics

Curriculum Roadmap

Number

- Basic number skills
- Standard form
- Limits of accuracy
- Surds and indices
- Ratio and proportion
- Percentage skills
- Standard form
- Repeated percentage change

Algebra

- Basic algebra skills
- Set notation
- Plotting graphs
- Solving basic quadratics $x^2 + bx + c = 0$
- Solving quadratics $ax^2 + bx + c = 0$
- Completing the square
- The quadratic formula
- Inequalities
- Simultaneous equations
- Sequences
- Change of subject
- Algebraic proof
- Direct and inverse proportion
- Summation of arithmetic series
- Function notation and transformations
- Differentiation

Shape, space and measure

- Properties and areas of shapes
- Trigonometry
- Pythagoras' theorem
- Compound measures (speed, density)
- Sine and Cosine rule
- Sine area of a triangle
- 3D Pythagoras' theorem
- Angles in polygons and circles
- Symmetry
- Constructions
- Volume
- Similarity
- Transformations
- Circle theorems
- Similar area and volume
- Vectors

Handling data

- Basic probability
- Tree diagrams
- Conditional probability
- Histograms
- Statistical measures
- Cumulative frequency diagrams

Assessment

- Paper 1: Calculator (50%), duration: 2 hours.
- Paper 2: Calculator (50%), duration: 2 hours

Knowledge and skills

The Pearson International GCSE qualifications have been designed in collaboration with subject experts, teachers and university professors, to ensure that the content and assessment methods are appropriate and will enable successful progression for learners, including those for whom English is not their first language. Assessments are entirely calculator-based, reflecting the skills needed in the modern world, and allowing students to focus on problem-solving rather than crunching the numbers. Opportunities to develop transferable skills such as problem solving, critical thinking, leadership and collaboration, are integrated throughout the qualification to ensure learners have the skills and knowledge they need to progress onto International A Level, the next level of study.

Music

Curriculum Roadmap

Listening and appraising

This component is organised into seven areas of focus through which students experience a rich mixture of music from different traditions, times and places. They will be taught to listen to the music with careful attention to detail, developing their recognition and understanding of musical features and concepts using appropriate musical terminology.

Solo performance (coursework)

Students must sing or play a solo which may be accompanied or unaccompanied. The performance should last at least two minutes. In all areas, assessment is of the demonstration of skills, rather than the difficulty of the music itself. There is no benefit in performing repertoire which is too difficult. This coursework is internally assessed and externally moderated and contributes 15% to the IGCSE.

Ensemble performance (coursework)

Students must sing or play with other live performers, in a duet or small group. The performance should last at least two minutes, but combined with solo performance, must not last more than ten minutes. The piece chosen should allow the student to demonstrate rhythmic coordination and ensemble awareness. The student's part must not be extensively doubled by any other performers.

Composition 1 (coursework)

Students are required to submit an original composition for assessment. Composition one must be notated using staff notation, in the form of a complete score. A recording must be submitted with the score. This coursework is internally assessed and externally moderated and contributes 15% to the IGCSE.

Composition 2 (coursework)

Students are required to submit an original composition for assessment. Composition two must be written to a candidate-defined brief which relates to one of four areas of study. A recording must be submitted with the score. This coursework is internally assessed and externally moderated and contributes 15% to the IGCSE.

Assessment

IGCSE Music is assessed through a mix of coursework and examinations, focusing on listening, performing, and composing. Students complete four pieces of coursework, including two performances and two compositions, which together account for 60% of their final grade. The listening exam requires students to analyse and critique music from various genres and periods. Throughout the course, student progress is evaluated using a combination of observational, formative, and summative methods. Teachers provide structured guidance for coursework elements, ensuring students understand the requirements and expected outcomes. Regular opportunities are given for students to perform and workshop their compositions, receiving both verbal and written feedback to support their development. Students are encouraged to take instrumental lessons and participate in composition clinics for additional support. Additionally, they are frequently assessed on appraisal material using past paper questions to gauge their understanding and identify areas for improvement.

Knowledge and skills

Students studying IGCSE Music obtain a comprehensive set of knowledge and skills essential for their musical development and academic growth. They develop practical musical skills through performing and composing, completing coursework that includes two performances and two compositions, which account for 60% of their final grade. Instrumental lessons are encouraged to enhance performance skills, and composition clinics provide additional support for coursework. Additionally, students learn to analyse diverse musical genres, identifying musical elements and historical contexts. They master solo and ensemble performances, developing expressive techniques on various instruments. A solid understanding of basic music theory and notation is gained, applied to practical contexts. Students use technology for composition, learning to create music digitally. Critical appraisal skills are developed, enabling students to analyse and critique musical works, enhancing their listening and appraisal abilities. Overall, the IGCSE Music curriculum provides a well-rounded education in music, equipping students with practical, theoretical, and analytical skills valuable for their future studies and careers in music.

BTEC Award/Certificate in Performing Arts

Curriculum Roadmap

Create a performing company

Students will create a performance ensemble as directors, designers and performers. Specialisms in these areas will be encouraged alongside a range of skills in the performing arts, such as the planning and delivery of a large-scale performance project at KLPAC and KTJ.

Introduction to performing and production arts

Students will explore the performing arts industry, developing skills and collaborative working practices. They will have the opportunity to explore a performing arts related discipline, such as acting, dance, musical theatre or production roles, through practical workshops and activities, allowing students to experiment with different techniques for producing a performing arts event.

Research based project

Students will research the creative arts industry and produce a file and presentation based on their findings. Students will be introduced to the professional disciplines, techniques and attitudes needed to succeed in the industry.

Preparation for performance

Students will plan and take part in the preparation for a performing arts production. They will develop the skills needed for a role as either a performer or as part of the production team. Students will need to prepare for the performance in rehearsal, refining material through effective communication. Students will apply personal management skills to undertake the different stages of the process in their assigned roles.

Presenting a performance event

The culmination will be a performing arts event showcasing all disciplines as developed over the duration of the course.

BTEC Award/Certificate in Performing Arts

Assessment

Assessment is on an ongoing basis, based on observation of work in class, both in the planning and performance stages, and on participation in discussion, and description and analysis of work in writing.

- **BTEC Award (equivalent 1 IGCSE):** Students will complete two mandatory units: Introduction to performing and production arts and Performing Arts Production.
- **BTEC Certificate (equivalent 2 IGCSEs):** Students will complete the two mandatory units as detailed above, alongside two further optional units based on their skill focus and expertise.

Knowledge

The BTEC Performing Arts course helps students build confidence, creativity, and insight as performers, theatre-makers, and designers. Through a strength-based approach, they explore different theatrical styles, rehearsal methods, and techniques to shape their own artistic voice while developing skills in their chosen specialism. Students learn about the creative process, the value of learning from mistakes, and the professional disciplines and attitudes needed to produce high-quality performing arts work.

Skills

The BTEC Performing Arts course equips students with strong cognitive, interpersonal and intrapersonal skills, enabling them to think critically, solve complex problems and use technology creatively. They develop effective communication, collaboration, negotiation and self-presentation skills while also building resilience, adaptability and self-management. The course encourages independent, methodical research and gives students the confidence to present their ideas clearly and contribute actively within group settings.

IGCSE Physical Education

Curriculum Roadmap

Skeletal and muscular system

This unit explores the structure and function of the skeleton, including the different types of joints and their movement. Students learn about muscles, how they work together in antagonistic pairs, and the role of different muscle fibre types in movement and exercise.

Circulatory and respiratory system

Students examine the pathway of air through the respiratory system, the process of gaseous exchange, and the mechanics of breathing. The unit also covers breathing volumes and minute ventilation. This unit focuses on the components of blood, the structure and function of the heart, and how cardiac output affects performance and overall health.

Health and wellbeing

This unit focuses on overall well-being, this unit covers the importance of health, fitness, and diet. Students learn about different energy sources, components of fitness, fitness testing, and VO_2 max as a measure of cardiovascular endurance.

Effects of exercise on the body

Students explore how the body produces energy through aerobic and anaerobic respiration, as well as the short- and long-term effects of exercise. The unit also covers recovery processes and their role in fitness and performance.

Simple biomechanics and training

This unit introduces the principles of force, including Newton's Laws, and their application in movement and sport. Students also learn about levers and their role. Students develop their understanding of the principles of training and overload, different training methods, and the importance of warming up and cooling down. The unit emphasizes how structured training improves performance and prevents injury.

Assessment

Students will be assessed through a combination of theoretical and practical components aligned with the CAIE IGCSE PE syllabus.

- **Formative Assessments:** Regular checkpoints, class discussions, skill drills, and peer/self-assessments to track progress.
- **Summative Assessments:** End-of-unit tests, exam type assignments, and practical performance evaluations based on key sports and practical activities.
- **Practical Coursework:** Students will be assessed on their ability to perform and apply skills in a variety of physical activities, demonstrating technical proficiency, tactical understanding, and fitness levels.

Knowledge and Skills

This balanced approach ensures students develop both theoretical knowledge and practical competency in IGCSE physical education.

Core Physical Education

Curriculum Roadmap

Alternative PE

This section focuses on strengthening commitment to fitness, health, and exercise by building positive habits and relationships with activities such as XPT and pickleball. It also supports the development of personal, emotional, and social skills, including leadership, adaptability, resilience, ownership, and accountability.

Game principals

This unit deepens understanding of game principles to enhance tactical awareness and decision-making. It focuses on applying fundamental tactical concepts like depth, cover, support, and creativity; improving positioning, movement, and spatial awareness; and developing adaptability through reading the game, anticipating plays, and adjusting strategies in real time.

Striking and net games

This section focuses on refining skills by transitioning from fundamental movement patterns to sport-specific performance. It emphasizes enhancing motor and cognitive skills such as coordination, agility, and movement efficiency, alongside advancing technical proficiency and tactical awareness through structured and progressive training.

Core Physical Education

Assessment

Students will be assessed as follows:

- Formative assessment: Ongoing feedback through drills, skill progressions, and small-sided games. Summative Assessment: Evaluations based on technical execution, decision-making, and strategic application in competitive scenarios.
- Game performance analysis: Students demonstrate their ability to apply depth, cover, support, compactness, and creativity in live gameplay situations.
- Personalised performance goals: Evaluations based on individual improvement and adherence to structured training plans. Skill-based assessments focusing on serving, shot selection, and positioning.
- Summative assessment: Competitive gameplay evaluations assessing tactical execution and game intelligence.
- Performance analysis: Students demonstrate strategic adaptation, anticipation, and decision-making in live matches.

Knowledge and skills

Students will refine movement skills, agility, and reaction time while mastering sport-specific techniques and tactical awareness. They develop adaptability, decision-making, and resilience in competitive settings. Alternative PE focuses on strength, endurance, flexibility, and injury prevention, promoting lifelong health and sustainable fitness habits. In striking and net games, students enhance technical execution, tactical play, and strategic decision-making, learning to anticipate and adapt in real-time competition.

Physics

Curriculum Roadmap

Foundations of Physics

- **Forces and Their Effects**
 - Forces and interactions
 - Motion
 - Resultant forces, Newton's laws
 - Momentum and safety in transport
- **Energy Basics**
 - Forces and energy
 - Energy transfers and conservation

Waves and particle model

- **Waves**
 - General wave properties
 - Electromagnetic spectrum
 - Sound, ultrasound, and applications
 - Reflection, refraction, TIR
 - Lenses and the eye
- **Particle Model of Matter**
 - Kinetic theory
 - Energy transfers in particles

Electricity and magnetism

- **Electricity**
 - Circuit components, current, voltage, resistance
 - Series and parallel circuits
- **Magnetism**
 - Magnetism and electromagnetism
 - The motor effect
 - Transferring electrical energy (transformers)

Advanced energy and Nuclear Physics

- **Generating Electricity**
 - Power generation (fossil fuels, renewables)
 - Electricity transmission and distribution
 - Household electricity use (safety, cost)
- **Nuclear Physics**
 - Atomic structure
 - Ionizing radiation (alpha, beta, gamma)
 - Nuclear fission/fusion

Space Physics and revision

- **Space Physics**
 - Solar system and orbital motion
 - Life cycle of stars
 - Red shift and the expanding universe
- **Comprehensive Revision**
 - Past paper practice
 - Key concept consolidation

Assessment

Year 10 (application and foundation for IGCSE):

- Unit tests at the end of each major topic.
- End of Year examination covering multiple topics with structured and multiple-choice questions.
- Practical investigations: Hands-on experiments, graph plotting, and data analysis.
- Homework and quizzes: Reinforce understanding and problem-solving skills.

Year 11 (exam preparation and mastery):

- Unit tests: Focus on advanced topics.
- Trial exams
- Practical skills assessment

Knowledge and skills

Year 10:

- Deep understanding of forces, energy, waves, and electrical circuits.
- Application of physics principles in problem-solving.
- Developing experimental techniques and data interpretation.
- Strengthening mathematical skills for physics equations.

Year 11:

- Mastery of advanced topics: Electromagnetic effects, Nuclear Physics, Space Science.
- Higher-level analytical and critical thinking skills.
- Refine experimental evaluation and planning skills.
- Exam confidence through structured revision and past paper practice.

Snapshot Jigsaw PSHE 11-16



(Updated August 2025)

Shows the summary of subject content in each Puzzle (unit)

Year/ Age	Being Me in My World	Celebrating Difference	Dreams and Goals	Healthy Me	Relationships	Changing Me
Year 7 (11-12)	Unique me, differences and conflict, my influences, gateway emotions, belonging to a group, peer pressure, child-on-child abuse, online safety, consequences of sharing personal images, online legislation, online identity.	Bullying, prejudice and discrimination (positive and negative). Equality Act, bystanders, stereotyping, challenging influences, negative behaviour and attitudes, assertiveness, importance of being included.	Celebrating success, identifying goals, employment, learning from mistakes, overcoming challenges, planning skills, safe & unsafe choices, substances, gangs, control over your life, exploitation, emergency first aid.	Stress and anxiety, managing physical activity and mental health, effects of substances, legal consequences, nutrition, sleep, vaccination and immunisation, importance of information on making health choices, physical illness and medicine, mindfulness.	Characteristics of healthier relationships, consent, relationships and change, emotions and conflict within friendships, child-on-child abuse, rights and responsibilities, being discerning, assertiveness, social media vs real life, fake news, authenticity.	Puberty changes, reproduction facts, menstrual cycle, responsibilities of parenthood, IVF, types of committed relationships, media and self-esteem, self-image, brain changes in puberty, factors affecting moods, sources of help and support.
Year 8 (12-13)	Self-identity, influences, family and identity, stereotypes, personal beliefs and judgements, managing expectations, first impressions, marriage and the law, beliefs and religions, protected characteristics, online and offline identity, active listening.	Positive change made by others, how positive behaviour affects feelings of wellbeing, social injustice, inequality, community cohesion and support, multi-culturalism, diversity, race and religion, stereotypes, prejudice, bullying, hate crime, fear and emotions, stand up to bullying, the golden rule.	Long-term goals, skills, qualifications, careers, money and happiness, ethics and mental wellbeing, budgeting, variation in income, positive and negative impact of money, online safety and legal responsibilities, gambling issues.	Types of health, nutrition and exercise, cardiovascular health and diabetes. Risks, illegal and legal substances, dental health, skin health, vaccinations, peer pressure, teenage brain.	Positive relationship with self, social media, managing a range of relationships, child-on-child abuse, personal space, online etiquette, online privacy, bullying and personal safety, social media issues and the law, coercion, unhealthy balance of power in relationships, sources of support.	Types of close intimate relationships, legal status of relationships, behaviours in healthy and unhealthy romantic relationships, What makes a healthier relationship? Explicit materials and the law, dealing with unwanted messages. Alcohol and the law.
Year 9 (13-14)	Perceptions about intimate relationships, consent, sexual exploitation, peer approval, child-on-child abuse, grooming, radicalisation, risky experimentation, positive and negative self-identity, groups, influences, social media, abuse and coercion, coercive control in groups, fitting in.	Protected characteristics, Equality Act, phobic and racist language, legal consequences of bullying and hate crime, sexism, ageism, positive and negative language, banter, child-on-child abuse, bullying in the workplace, direct and indirect discrimination, harassment, victimisation. Prejudice, discrimination and stereotyping.	Personal strengths, health goals, SMART planning, the world of work, links between body image and mental health, non-financial dreams and goals, mental health and ill health, media manipulation, self-harm, self-esteem, stigma, anxiety disorders, eating disorders, depression.	Misperceptions about young peoples' health choices, physical and psychological effects of drugs and alcohol, alcohol and the law, alcohol and drug poisoning, addiction, smoking, vaping, drug classification, supply and possession legislation, emergency situations, first aid, CPR, substances and safety, sources of advice and support, mental health first aid.	Healthy relationships, power and control in intimate relationships, risk in intimate relationships, importance of consent, assertiveness skills, sex and the law, explicit materials and stereotypes, contraception choices, age of consent, family planning, consequences of unprotected sex, STIs, support and advice services.	Mental health stigma, triggers, support strategies, managing emotional changes, resilience and how to improve it, importance of sleep in relation to mental health, reflection on changes, benefits of relaxation, self expression, influences, body image.



Year 10 (14-15)	<p>Human rights, societal freedom, understanding safety in MY and beyond, ending relationships safely, stages of grief, loss and bereavement, child-on-child abuse, social media and culture, use of online data, threats to online safety, online identity, assessing and managing risk, the law and social media risk and emergency contacts, positive and negative relationships, GDPR/PDPA, managing screentime, sharing/ enhancing of images, managing different types of relationships.</p>	<p>Equality in the workplace, in society, in relationships, Equality Act, disability and hidden disability, workplace expectations, rights and responsibilities, power and control in relationships, coercive control, benefits of multi-cultural societies, equality and inequality, my health.</p>	<p>Impact of physical and mental health in reaching goals, resilience, work-life balance, connections and impact of mental health. Balanced diet, vital organs, blood donation, benefits of helping others. Online profile and impact on future goals and employability.</p>	<p>Improving health, mental health, sexual health, blood-borne infections, self-examination. Diet and long-term health, misuse of prescription drugs, substances and the body. Common mental health disorders, positive impact of volunteering. Common threats to health including chronic disease. Epidemics, misuse of antibiotics, organ donation, stem cells.</p>	<p>Sustaining long-term relationships, intimacy, healthy relationship with self, attraction, love, lust. Relationship choices, ending relationships safely, consequences of relationships ending, explicit materials vs real life, relationships and the media, discernment, healthier and less healthy relationships, coercion, abuse and the law, acceptable and unacceptable behaviours.</p>	<p>Impact of societal change on young people, role of media on societal change, reflection on change so far and how to manage it successfully. Decision-making, stereotypes in romantic relationships, sexual identity and risk, physical and emotional changes, family change, sources of support, personal safety, cycling, water safety, alcohol, transport.</p>
Year 11 (15-16)	<p>Becoming an adult, age limits and the law, relationships and the law, consent, coercive control, child-on-child abuse, domestic abuse, honour-based, violence, arranged and forced marriages, the Equality Act, possession of drugs.</p> <p>The law on internet use and explicit materials, social media concerns, sexting keeping safe, emergency situations, key advice, first aid, scenarios and consequences.</p>	<p>Anxiety, solution focused thinking, sleep, relaxation, aspirations on; career, finances, budgeting, borrowing. Skills identification, realistic goals, gambling, financial pressure, debt, dream jobs, skills set, employment, education and training options. Long term relationship dreams and goals, parenting skills and challenges. Resilience, what to do when things go wrong.</p>	<p>Managing anxiety and stress, self-worth, identity, sleep, nutrition, exercise and mental health.</p> <p>Relationships and consent, being ready for loving relationships, coercion, sexual harassment and violence. Puberty, hormones, fertility, testicular checks, menstrual cycle, IVF. Contraceptives and sexual health. Pregnancy choices including adoption, abortion, bringing up a baby. Health choices, mental, physical, sexual health.</p>	<p>Stages of intimate relationships, positive and negative connotations of intimacy.</p> <p>Balance of power in relationships, addressing stereotypes, challenging harmful social and cultural norms.</p> <p>Staying true to yourself in a relationship</p>		







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