



| Subject | Global Perspectives |
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| Class | EnglishE |
| School Year | 2024-25 |
| Teacher | Adrián Estévez Cebreiro |
| <p>Learning objectives</p> <p>What do we want to learn this year?</p> | <p>The aims are to enable students to:</p> <ul style="list-style-type: none"> • become independent and empowered to take their place in an ever-changing, information-heavy, interconnected world • develop an analytical, evaluative grasp of global issues and their causes, consequences and possible courses of action • enquire into, and reflect on, issues independently and in collaboration with others from different cultural perspectives • work independently as well as part of a team, directing much of their own learning with the teacher as an active facilitator • consider important issues from personal, local and/or national and global perspectives and understand the links between these • critically assess the information available to them and support judgements with lines of reasoning • communicate and empathise with the needs and rights of others. |
| <p>Teaching Strategies</p> <p>How will we learn? - Organisation and practice</p> | <p>Cambridge IGCSE Global Perspectives candidates will have opportunities to acquire and apply a range of skills to support them in these challenges, including:</p> <ul style="list-style-type: none"> • researching, analysing and evaluating information • developing and justifying a line of reasoning |

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| | <ul style="list-style-type: none"> • reflecting on processes and outcomes • communicating information and reasoning • collaborating to achieve a common outcome. |
| <p>Cross-curricular activities:</p> <p>Connections with other subjects?</p> | <p>The programme develops the skills of research, analysis, evaluation, reflection, collaboration and communication. It strengthens the links across English as a first or second language, mathematics, science and ICT Starters.</p> |
| <p>Assessment</p> <p>How will we know what we have learned?</p> | <p>Formative Assessment:</p> <p>Formative assessment can be conducted through a variety of methods, such as targeted questioning, exit questions and recap starter activities, or peer and self-assessment that promotes reflection and the sharing of knowledge.</p> <p>Summative Assessment:</p> <p>Cambridge Written Examinations.</p> <p>Team project (Reflective paper).</p> |
| <p>Materials/ other remarks:</p> | <p>More info at: https://www.cambridgeinternational.org/Images/662457-2025-2027-syllabus.pdf</p> |

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| Subject | French |
| Class | Foreign Language French |

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| School Year | 2024-25 |
| Teacher | Merete Brydensholt Christiansen |
| Learning objectives What do we want to learn this year? | <p>This course follows the Cambridge IGCSE programme.</p> <p>The four key concepts in the language learning programme are as follows:</p> <ul style="list-style-type: none"> • Linguistic competence • Knowledge about language • Creativity • Intercultural understanding <p>The students will continue to develop both their spoken and written language and they will continuously acquire new knowledge about France and French speaking countries. There will be a balanced coverage of the four skills: listening, speaking, reading and writing.</p> |
| Teaching Strategies How will we learn? - Organisation and practice | <ul style="list-style-type: none"> - Engage with authentic texts and multimedia resources. - Phonics teaching to improve literacy. - Participation in language competitions. - Interactive activities for basic vocabulary and grammar. - Role-playing, dialogues, and interactive exercises for real-life scenarios. |
| Cross-curricular activities: | Cross-curricular links with Art (describing paintings), Geography (Francophone countries), and History (French culture). |

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| Connections with other subjects? | |
| <p>Assessment</p> <p>How will we know what we have learned?</p> | <p>Formative assesment</p> <p>Formative assessment can be conducted through a variety of methods, such as targeted questioning, exit questions and recap starter activities, or peer and self-assessment that promotes reflection and the sharing of knowledge.</p> <p>Summative assesment</p> <p>Cambridge Written Examinations.</p> |
| Materials/ other remarks: | <p>Cambridge IGCSE French (Hodder)</p> <p>TV5 monde and other web based materials</p> <p>Short texts, fiction and non fiction</p> <p>Songs</p> <p>Key topics:</p> <ul style="list-style-type: none"> • Everyday activities • Personal and social life • The world around us • The world of work • The international world |

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| Subject | English |
| Class | EE |
| School Year | 2024-25 |
| Teacher | Caroline Rahbek |
| Learning objectives | Skills covered are reading, writing and speaking and listening |
| What do we want to learn this year? | <p>Reading:</p> <p>To demonstrate understanding of written texts, and of the words and phrases within them.</p> <p>Summarise and use material for a specific context.</p> <p>Develop, analyse and evaluate facts, ideas and opinions.</p> <p>Recognise and respond to linguistic devices, figurative language and imagery.</p> <p>Writing:</p> <p>To organise and convey facts, ideas and opinions effectively.</p> <p>To demonstrate a varied vocabulary appropriate to the context.</p> |

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| | <p>To demonstrate an understanding of audience, purpose and form.</p> <p>To demonstrate accuracy in spelling, punctuation and grammar.</p> <p>Speaking and listening:</p> <p>To describe and reflect on experience, and express what is thought, felt and imagined.</p> <p>To organise and convey facts, ideas and opinions effectively.</p> <p>To communicate with clarity, focus and purpose</p> |
| <p>Teaching Strategies</p> <p>How will we learn? - Organisation and practice</p> | <p>Appropriate use of formative and summative assessment</p> <p>Direct instruction</p> <p>Questioning techniques and thinking skills</p> <p>Differentiation</p> <p>A combination of whole class activities, some led by the teacher involving responses to both fiction and non-fiction texts, group work (including drama) and individual responses.</p> <p>Blended learning with the use of technology</p> |

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| Cross-curricular activities: | Global Perspectives |
| Connections with other subjects? | History Art |
| Assessment | Formative - Formative – assessment of tasks completed in class. Questioning and discussions. |
| How will we know what we have learned? | Summative – Cambridge examinations at appropriate level – first or second language |
| Materials/ other remarks: | A variety of fiction of different genres, poetry, plays and short stories. Non- fiction, such as biographies and articles. Film clips. Past papers and Cambridge guides. |

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| Subject | History |
| Class | EE |
| School Year | 2024-25 |
| Teacher | Caroline Rahbek |

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| <p>Learning objectives</p> <p>What do we want to learn this year?</p> | <p>Skills: Analysis and evaluation of source material and historical interpretations. Writing a response to a debatable question.</p> <p>Content:</p> <p>To what extent was the League of Nations a success? For paper 2, document question.</p> <p>Depth study: Germany, 1918 –1945</p> <p>The Revolution of 1918 and the establishment of the Republic • The Versailles Settlement and German reactions to it • The Weimar Constitution, the main political divisions, the role of the army • Political disorder, 1919–23:– threats from the left and the right– economic crises and hyper-inflation– the occupation of the Ruhr • The Stresemann era:– economic achievements– foreign policy achievements • Cultural achievements of the Weimar period • The early years of the Nazi Party:– Nazi ideas and methods– the Munich Putsch– the roles of Hitler and other Nazi leaders • The impact of the Depression on Germany:– political, economic and social crisis of 1930–33– reasons for the Nazis’ rise to power– Hitler takes power– the Reichstag Fire and the election of 1933 • Nazi rule in Germany:– the Enabling Act– the Night of the Long Knives– the death of Hindenburg– the removal of opposition– methods of control and repression– use of culture and the mass media • Economic policy including rearmament • Different experiences of Nazi rule:– women and young people– anti-Semitism– persecution of minorities– opposition to Nazi rule • Impact of the Second World War on Germany and the Final Solution.</p> |
| <p>Teaching Strategies</p> <p>How will we learn?- Organisation and practice</p> | <p>Appropriate use of formative and summative assessment</p> <p>Direct instruction</p> <p>Questioning techniques and thinking skills</p> |

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| | <p>Source work analysis and evaluation</p> <p>Group presentations</p> <p>Differentiation</p> <p>Blended learning with the use of technology</p> |
| <p>Cross-curricular activities:</p> <p>Connections with other subjects?</p> | <p>English</p> <p>Global Perspectives</p> <p>Art</p> |
| <p>Assessment</p> <p>How will we know what we have learned?</p> | <p>Formative – checking of classwork, responses to questions, discussion</p> <p>Summative – Cambridge written exams.</p> |
| <p>Materials/ other remarks:</p> | <p>Textbooks, primary and secondary sources, journal articles, fiction, films and past papers.</p> |

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| Subject | Art & Design |
| Class | EE |
| School Year | 2024-25 |
| Teacher | Jonathan Bauer |
| Learning objectives | Year 9 |
| What do we want to learn this year? | <p>Experiencing</p> <ul style="list-style-type: none"> • Encounter, sense, experiment with and respond to a wide range of sources, including a range of art from different times and cultures. • Explore media, materials, tools, technologies and processes. • Gather and record experiences and visual information. <p>Making</p> <ul style="list-style-type: none"> • Learn to use a range of media, materials, tools, technologies and processes with increasing skill, independence and confidence. • Select appropriate media, materials, tools, technologies and processes for a purpose. <p>Reflecting</p> <ul style="list-style-type: none"> • Celebrate artistic experiences and learning. • Analyse, critique and connect own and others' work as part of the artistic process. |

Thinking and Working Artistically

- Generate, develop, create, innovate and communicate ideas by using and connecting the artistic processes of experiencing, making and reflecting.
- Embrace challenges and opportunities, working with growing independence.
- Review and refine own work.

Years 10 & 11

Record

- record their own experiences and observations from first-hand and secondary resources and personal research
- collect, record and respond to visual information using a range of techniques
- select, give context to and organise the information they collect in a coherent way

Explore

- effectively use a wide range of resources and use the information to develop their practice
- make personal investigations

Develop

- apply a range of skills to produce art and design work
- Present
- evaluate their own work, review and edit
- reflect, refine and adapt

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| <p>Teaching Strategies</p> <p>How will we learn? - Organisation and practice</p> | <p>Units designed to connect to individually chosen topics</p> <p>Class and one to one guidance</p> |
| <p>Cross-curricular activities:</p> <p>Connections with other subjects?</p> | <p>Art combined with History and Global Perspectives with pertinent cultural and societal connections</p> |
| <p>Assessment</p> <p>How will we know what we have learned?</p> | <p>Frequent formative feedback throughout the year</p> <p>Peer to peer critiques</p> <p>Assignments for IGCSE Art & Design:</p> <p>Component 1 – Coursework This is an internally set assignment which is marked by Cambridge International. There is no question paper for this component. There are two parts to this component:</p> <ul style="list-style-type: none"> • a portfolio and • a final outcome <p>Component 2 – Externally Set Assignment This is an externally set assignment which is marked by Cambridge International. There is a question paper for this component. You may download the question paper from</p> |

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| | <p>Cambridge International and give it to candidates as soon as it is released. Refer to the Cambridge Handbook for the year of examination for more information. There are two parts to this component:</p> <ul style="list-style-type: none"> • supporting studies created during the preparation period and • a final outcome, produced during a supervised test of 8 hours' total duration. |
| Materials/ other remarks: | Art instruments such as pencils, brushes, plasticene, wax, paper, mixed media, photography and a variety of online and print resources |

| Subject | |
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| Class | Mathematics |
| School Year | 2024-25 |
| Teacher | Itziar Ochoa de Alaiza Gracia |
| Learning objectives What do we want to learn this year? | <p><u>Stage 9</u></p> <p>1. Number</p> <ol style="list-style-type: none"> a. Integers, powers and roots <ol style="list-style-type: none"> i. 9Ni.01 Understand the difference between rational and irrational numbers. ii. 9Ni.02 Use positive, negative and zero indices, and the index laws for multiplication and division. iii. 9Ni.03 Understand the standard form for representing large and small numbers. iv. 9Ni.04 Use knowledge of square and cube roots to estimate surds. b. Place value, ordering and rounding |

- i. 9Np.01 Multiply and divide integers and decimals by 10 to the power of any positive or negative number.
- ii. 9Np.02 Understand that when a number is rounded there are upper and lower limits for the original number.
- c. Fractions, decimals, percentages, ratio and proportion
 - i. 9Nf.01 Deduce whether fractions will have recurring or terminating decimal equivalents.
 - ii. 9Nf.02 Estimate, add and subtract proper and improper fractions, and mixed numbers, using the order of operations.
 - iii. 9Nf.03 Estimate, multiply and divide fractions, interpret division as a multiplicative inverse, and cancel common factors before multiplying or dividing.
 - iv. 9Nf.04 Use knowledge of the laws of arithmetic, inverse operations, equivalence and order of operations (brackets and indices) to simplify calculations containing decimals and fractions.
 - v. 9Nf.05 Understand compound percentages.
 - vi. 9Nf.06 Estimate, multiply and divide decimals by integers and decimals.
 - vii. 9Nf.07 Understand the relationship between two quantities when they are in direct or inverse proportion.
 - viii. 9Nf.08 Use knowledge of ratios and equivalence for a range of contexts.

2. Algebra

- a. Expressions, equations and formulae
 - i. 9Ae.01 Understand that the laws of arithmetic and order of operations apply to algebraic terms and expressions (four operations and integer powers).
 - ii. 9Ae.02 Understand how to manipulate algebraic expressions including:
 - expanding the product of two algebraic expressions
 - applying the laws of indices
 - simplifying algebraic fractions.
 - iii. 9Ae.03 Understand that a situation can be represented either in words or as an algebraic expression, and move between the two representations (including squares, cubes and roots).
 - iv. 9Ae.04 Understand that a situation can be represented either in words or as a formula (including squares and cubes), and manipulate using knowledge of inverse operations to change the subject of a formula.

- v. 9Ae.05 Understand that a situation can be represented either in words or as an equation. Move between the two representations and solve the equation (including those with an unknown in the denominator).
 - vi. 9Ae.06 Understand that the solution of simultaneous linear equations:
 - is the pair of values that satisfy both equations
 - can be found algebraically (eliminating one variable)
 - can be found graphically (point of intersection).
 - vii. 9Ae.07 Understand that a situation can be represented either in words or as an inequality. Move between the two representations and solve linear inequalities.
- b. Sequences, functions and graphs
- i. 9As.01 Generate linear and quadratic sequences from numerical patterns and from a given term-to-term rule (any indices).
 - ii. 9As.02 Understand and describe nth term rules algebraically (in the form $an \pm b$, where a and b are positive or negative integers or fractions, and in the form n/a , n^2 , n^3 or $n^2 \pm a$, where a is a whole number).
 - iii. 9As.03 Understand that a function is a relationship where each input has a single output. Generate outputs from a given function and identify inputs from a given output by considering inverse operations (including indices).
 - iv. 9As.04 Understand that a situation can be represented either in words or as a linear function in two variables (of the form $y = mx + c$ or $ax + by = c$), and move between the two representations.
 - v. 9As.05 Use knowledge of coordinate pairs to construct tables of values and plot the graphs of linear functions, including where y is given implicitly in terms of x ($ax + by = c$), and quadratic functions of the form $y = x^2 \pm a$.
 - vi. 9As.06 Understand that straight-line graphs can be represented by equations. Find the equation in the form $y = mx + c$ or where y is given implicitly in terms of x (fractional, positive and negative gradients).
 - vii. 9As.07 Read, draw and interpret graphs and use compound measures to compare graphs.

3. Geometry and Measure

- a. Geometrical reasoning, shapes and measurements
 - i. 9Gg.01 Know and use the formulae for the area and circumference of a circle.
 - ii. 9Gg.02 Know and recognise very small or very large units of length, capacity and mass.

- iii. 9Gg.03 Estimate and calculate areas of compound 2D shapes made from rectangles, triangles and circles.
- iv. 9Gg.04 Use knowledge of area and volume to derive the formula for the volume of prisms and cylinders. Use the formula to calculate the volume of prisms and cylinders.
- v. 9Gg.05 Use knowledge of area, and properties of cubes, cuboids, triangular prisms, pyramids and cylinders to calculate their surface area.
- vi. 9Gg.06 Identify reflective symmetry in 3D shapes.
- vii. 9Gg.07 Derive and use the formula for the sum of the interior angles of any polygon.
- viii. 9Gg.08 Know that the sum of the exterior angles of any polygon is 360° .
- ix. 9Gg.09 Use properties of angles, parallel and intersecting lines, triangles and quadrilaterals to calculate missing angles.
- x. 9Gg.10 Know and use Pythagoras' theorem.
- xi. 9Gg.11 Construct 60° , 45° and 30° angles and regular polygons.

b. Position and transformations

- i. 9Gp.01 Use knowledge of bearings and scaling to interpret position on maps and plans.
- ii. 9Gp.02 Use knowledge of coordinates to find points on a line segment.
- iii. 9Gp.03 Transform points and 2D shapes by combinations of reflections, translations and rotations.
- iv. 9Gp.04 Identify and describe a transformation (reflections, translations, rotations and combinations of these) given an object and its image.
- v. 9Gp.05 Recognise and explain that after any combination of reflections, translations and rotations the image is congruent to the object.
- vi. 9Gp.06 Enlarge 2D shapes, from a centre of enlargement (outside, on or inside the shape) with a positive integer scale factor. Identify an enlargement, centre of enlargement and scale factor.
- vii. 9Gp.07 Analyse and describe changes in perimeter and area of squares and rectangles when side lengths are enlarged by a positive integer scale factor.

4. Statistics and Probability

a. Statistics

- i. 9Ss.01 Select, trial and justify data collection and sampling methods to investigate predictions for a set of related statistical questions, considering what data to collect, and the appropriateness of each type (qualitative or quantitative; categorical, discrete or continuous).

- ii. 9Ss.02 Explain potential issues and sources of bias with data collection and sampling methods, identifying further questions to ask.
 - iii. 9Ss.03 Record, organise and represent categorical, discrete and continuous data. Choose and explain which representation to use in a given situation:
 - Venn and Carroll diagrams
 - tally charts, frequency tables and two-way tables
 - dual and compound bar charts
 - pie charts
 - line graphs, time series graphs and frequency polygons
 - scatter graphs
 - stem-and-leaf and back-to-back stem-and-leaf diagrams
 - infographics.
 - iv. 9Ss.04 Use mode, median, mean and range to compare two distributions, including grouped data.
 - v. 9Ss.05 Interpret data, identifying patterns, trends and relationships, within and between data sets, to answer statistical questions. Make informal inferences and generalisations, identifying wrong or misleading information.
- b. Probability
- i. 9Sp.01 Understand that the probability of multiple mutually exclusive events can be found by summation and all mutually exclusive events have a total probability of 1.
 - ii. 9Sp.02 Identify when successive and combined events are independent and when they are not.
 - iii. 9Sp.03 Understand how to find the theoretical probabilities of combined events.
 - iv. 9Sp.04 Design and conduct chance experiments or simulations, using small and large numbers of trials. Calculate the expected frequency of occurrences and compare with observed outcomes.

IGCSE:

1. Numbers

- a. C1.1 Types of number
- b. C1.2 Sets

- c. C1.3 Powers and roots
- d. C1.4 Fractions, decimals and percentages
- e. C1.5 Ordering
- f. C1.6 The four operations
- g. C1.7 Indices I
- h. C1.8 Standard form
- i. C1.9 Estimation
- j. C1.10 Limits of accuracy
- k. C1.11 Ratio and proportion
- l. C1.12 Rates
- m. C1.13 Percentages
- n. C1.14 Using a calculator
- o. C1.15 Time
- p. C1.16 Money
- q. E1.17 Exponential growth and decay
- r. E1.18 Surds

2. Algebra and graphs

- a. C2.1 Introduction to algebra
- b. C2.2 Algebraic manipulation
- c. E2.3 Algebraic fractions
- d. C2.4 Indices II
- e. C2.5 Equations
- f. C2.6 Inequalities
- g. C2.7 Sequences
- h. E2.8 Proportion
- i. C2.9 Graphs in practical situations
- j. C2.10 Graphs of functions
- k. C2.11 Sketching curves
- l. E2.12 Differentiation
- m. E2.13 Functions

3. Coordinate geometry

- a. C3.1 Coordinates
- b. C3.2 Drawing linear graphs
- c. C3.3 Gradient of linear graphs
- d. E3.4 Length and midpoint
- e. C3.5 Equations of linear graphs
- f. C3.6 Parallel lines
- g. E3.7 Perpendicular lines

4. Geometry

- a. C4.1 Geometrical terms
- b. C4.2 Geometrical constructions
- c. C4.3 Scale drawings
- d. C4.4 Similarity
- e. C4.5 Symmetry
- f. C4.6 Angles
- g. C4.7 Circle theorems
- h. E4.8 Circle theorems II

5. Mensuration

- a. C5.1 Units of measure
- b. C5.2 Area and perimeter
- c. C5.3 Circles, arcs and sectors
- d. C5.4 Surface area and volume
- e. C5.5 Compound shapes and parts of shapes

6. Trigonometry

- a. C6.1 Pythagoras' theorem
- b. C6.2 Right-angled triangles
- c. E6.3 Exact trigonometric values
- d. E6.4 Trigonometric functions
- e. E6.5 Non-right-angled triangles
- f. E6.6 Pythagoras' theorem and trigonometry in 3D

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| | <p>7. Transformations and vectors</p> <ul style="list-style-type: none"> a. C7.1 Transformations b. E7.2 Vectors in two dimensions c. E7.3 Magnitude of a vector d. E7.4 Vector geometry <p>8. Probability</p> <ul style="list-style-type: none"> a. C8.1 Introduction to probability b. C8.2 Relative and expected frequencies c. C8.3 Probability of combined events d. E8.4 Conditional probability <p>9. Statistics</p> <ul style="list-style-type: none"> a. C9.1 Classifying statistical data b. C9.2 Interpreting statistical data c. C9.3 Averages and range d. C9.4 Statistical charts and diagrams e. C9.5 Scatter diagrams f. E9.6 Cumulative frequency diagrams g. E9.7 Histograms |
| <p>Teaching Strategies</p> <p>How will we learn? - Organisation and practice</p> | <ul style="list-style-type: none"> • Active learning: Active learning involves learners being engaged in their learning rather than passively listening and copying information. Learners take part in a variety of activities that involve thinking hard. The focus should always be on the learning objective, rather than the task itself. • Learner groupings: use an effective balance of individual, pair, group and whole-class activities to develop both independence and collaboration • Developing effective communication: <ul style="list-style-type: none"> ○ Language awareness ○ Promoting talk ○ Managing discussions ○ Promoting learner questions |

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| | <ul style="list-style-type: none"> • Thinking and Working Mathematically: When learners think and work mathematically, they actively engage with their learning of mathematics. They try to make sense of ideas and build connections between different facts, procedures and concepts. Thinking and Working Mathematically has eight characteristics that are presented in four pairs: <ul style="list-style-type: none"> ○ Specialising and Generalising ○ Conjecturing and Convincing ○ Characterising and Classifying ○ Critiquing and Improving |
| <p>Cross-curricular activities:</p> <p>Connections with other subjects?</p> | <p>Here are some examples of activities that apply knowledge, understanding and skills from Cambridge Lower Secondary Mathematics in the context of other subjects:</p> <ul style="list-style-type: none"> • Science: Learners use data handling skills to choose how to present findings from a scientific investigation. • Art & Design: Learners first investigate the features of 2D designs (e.g. shapes, sequences, symmetry). Then they use their findings as a prompt for their own artistic design. They should use effective measuring strategies when creating 3D designs. • Global Perspectives: Developing key skills in analysis, collaboration and communication evaluation, reflection and research. |
| <p>Assessment</p> <p>How will we know what we have learned?</p> | <ul style="list-style-type: none"> • Written tests at the end of each section. • For Stage 9 students: <ul style="list-style-type: none"> ○ Cambridge Lower Secondary Progression Tests ○ Cambridge Lower Secondary Checkpoint • For IGCSE students: All candidates take two components. <ul style="list-style-type: none"> ○ Candidates who have studied the Core subject content, or who are expected to achieve a grade D or below, should be entered for Paper 1 and Paper 3. These candidates will be eligible for grades C to G. ○ Candidates who have studied the Extended subject content and who are expected to achieve a grade C or above should be entered for Paper 2 and Paper 4. These candidates will be eligible for grades A* to E. |

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| Materials/ other remarks: | Stage 9: Cambridge Checkpoint Maths Student's Book 3 IGCSE: Online platform Kognity |
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| Subject | |
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| Class | Science |
| School Year | 2024-25 |
| Teacher | Itziar Ochoa de Alaiza Gracia |
| Learning objectives What do we want to learn this year? | <p><u>Stage 9</u></p> <p>1. Thinking and Working Scientifically</p> <p>a. Models and representations</p> <ol style="list-style-type: none"> i. 9TWSm.01 Understand that models and analogies reflect current scientific evidence and understanding and can change. ii. 9TWSm.02 Describe some important models, including analogies, and discuss their strengths and limitations. iii. 9TWSm.03 Use symbols and formulae to represent scientific ideas. <p>b. Scientific enquiry: purpose and planning</p> <ol style="list-style-type: none"> i. 9TWSp.01 Suggest a testable hypothesis based on scientific understanding. ii. 9TWSp.02 Describe examples where scientists' unexpected results from enquiries have led to improved scientific understanding. |

- iii. 9TWSp.03 Make predictions of likely outcomes for a scientific enquiry based on scientific knowledge and understanding.
- iv. 9TWSp.04 Plan a range of investigations of different types to obtain appropriate evidence when testing hypotheses.
- v. 9TWSp.05 Make risk assessments for practical work to identify and control risks.
- c. Carrying out scientific enquiry
 - i. 9TWSc.01 Sort, group and classify phenomena, objects, materials and organisms through testing, observation, using secondary information, and making and using keys.
 - ii. 9TWSc.02 Decide what equipment is required to carry out an investigation or experiment and use it appropriately.
 - iii. 9TWSc.03 Decide when to increase the range of observations and measurements, and increase the extent of repetition, to give sufficiently reliable data.
 - iv. 9TWSc.04 Take appropriately accurate and precise measurements, explaining why accuracy and precision are important.
 - v. 9TWSc.05 Carry out practical work safely, supported by risk assessments where appropriate.
 - vi. 9TWSc.06 Make an informed decision whether to use evidence from first-hand experience or secondary sources.
 - vii. 9TWSc.07 Collect, record and summarise sufficient observations and measurements, in an appropriate form.
- d. Scientific enquiry: analysis, evaluation and conclusions
 - i. 9TWSa.01 Evaluate the strength of the evidence collected and how it supports, or refutes, the prediction.
 - ii. 9TWSa.02 Describe trends and patterns in results, identifying any anomalous results and suggesting why results are anomalous.
 - iii. 9TWSa.03 Make conclusions by interpreting results, explain the limitations of the conclusions and describe how the conclusions can be further investigated.
 - iv. 9TWSa.04 Evaluate experiments and investigations, including those by others, and suggest improvements, explaining any proposed changes.
 - v. 9TWSa.05 Present and interpret results, and predict results between the data points collected.

2. **Biology**

- a. Structure and function

- i. 9Bs.01 Describe the pathway of water and mineral salts from the roots to the leaves in flowering plants, including absorption in root hair cells, transport through xylem and transpiration from the surface of leaves.
- ii. 9Bs.02 Describe the structure of the human excretory (renal) system and its function (limited to kidneys filtering blood to remove urea, which is excreted in urine).
- iii. 9Bs.03 Know that chromosomes contain genes, made of DNA, and that genes contribute to the determination of an organism's characteristics.

b. Life processes

- i. 9Bp.01 Describe the fusion of gametes to produce a fertilised egg with a new combination of DNA.
- ii. 9Bp.02 Describe the inheritance of sex in humans in terms of XX and XY chromosomes.
- iii. 9Bp.03 Describe variation within a species and relate this to genetic differences between individuals.
- iv. 9Bp.04 Describe the scientific theory of natural selection and how it relates to genetic changes over time.
- v. 9Bp.05 Know that plants require minerals to maintain healthy growth and life processes (limited to magnesium to make chlorophyll and nitrates to make protein).
- vi. 9Bp.06 Know that photosynthesis occurs in chloroplasts and is the process by which plants make carbohydrates, using the energy from light.
- vii. 9Bp.07 Know and use the summary word equation for photosynthesis (carbon dioxide + water -> glucose + oxygen, in the presence of light and chlorophyll).
- viii. 9Bp.08 Discuss how fetal development is affected by the health of the mother, including the effect of diet, smoking and drugs.

c. Ecosystems

- i. 9Be.01 Describe what could happen to the population of a species, including extinction, when there is an environmental change.

3. Chemistry

a. Materials and their structure

- i. 9Cm.01 Understand that the structure of the Periodic Table is related to the atomic structure of the elements and the Periodic Table can be used to predict an element's structure and properties.
- ii. 9Cm.02 Understand that a molecule is formed when two or more atoms join together chemically, through a covalent bond.

- iii. 9Cm.03 Describe a covalent bond as a bond made when a pair of electrons is shared by two atoms (limited to single bonds).
- iv. 9Cm.04 Describe an ion as an atom which has gained at least one electron to be negatively charged or lost at least one electron to be positively charged.
- v. 9Cm.05 Describe an ionic bond as an attraction between a positively charged ion and a negatively charged ion.
- b. Properties of materials
 - i. 9Cp.01 Understand that the groups within the Periodic Table have trends in physical and chemical properties, using group 1 as an example.
 - ii. 9Cp.02 Describe how the density of a substance relates to its mass in a defined volume.
 - iii. 9Cp.03 Calculate and compare densities of solids, liquids and gases.
 - iv. 9Cp.04 Know that elements and compounds exist in structures (simple or giant), and this influences their physical properties.
- c. Changes to materials
 - i. 9Cc.01 Use word equations and symbol equations to describe reactions (balancing symbol equations is not required).
 - ii. 9Cc.02 Identify examples of displacement reactions and predict products (limited to reactions involving calcium, magnesium, zinc, iron, copper, gold and silver salts).
 - iii. 9Cc.03 Describe how to prepare some common salts by the reactions of metals with acids, and metal carbonates with acids, and purify them, using filtration, evaporation and crystallisation.
 - iv. 9Cc.04 Describe the effects of concentration, surface area and temperature on the rate of reaction, and explain them using the particle model.
 - v. 9Cc.05 Understand that in chemical reactions mass and energy are conserved.

4. Physics

- a. Forces and energy
 - i. 9Pf.01 Use density to explain why objects float or sink in water.
 - ii. 9Pf.02 Describe the difference between heat and temperature.
 - iii. 9Pf.03 Know that energy is conserved, meaning it cannot be created or destroyed.
 - iv. 9Pf.04 Know that thermal energy will always transfer from hotter regions or objects to colder ones, and this is known as heat dissipation.
 - v. 9Pf.05 Describe thermal transfer by the processes of conduction, convection and radiation.
 - vi. 9Pf.06 Explain cooling by evaporation.

b. Light and sound

- i. 9Ps.01 Draw and interpret waveforms, and recognise the link between loudness and amplitude, pitch and frequency.
- ii. 9Ps.02 Use waveforms to show how sound waves interact to reinforce or cancel each other.

c. Electricity and magnetism

- i. 9Pe.01 Describe how current divides in parallel circuits.
- ii. 9Pe.02 Know how to measure current and voltage in series and parallel circuits, and describe the effect of adding cells and lamps.
- iii. 9Pe.03 Calculate resistance (resistance = voltage / current) and describe how resistance affects current.
- iv. 9Pe.04 Use diagrams and conventional symbols to represent, make and compare circuits that include cells, switches, resistors (fixed and variable), ammeters, voltmeters, lamps and buzzers.

5. Earth and Space

a. Planet Earth

- i. 9ESp.01 Explain the movement of tectonic plates in terms of convection currents.
- ii. 9ESp.02 Explain why the jigsaw appearance of continental coasts, location of volcanoes and earthquakes, fossil record and alignment of magnetic materials in the Earth's crust are all evidence for tectonic plates.

b. Cycles on Earth

- i. 9ESc.01 Describe the carbon cycle (limited to photosynthesis, respiration, feeding, decomposition and combustion).
- ii. 9ESc.02 Describe the historical and predicted future impacts of climate change, including sea level change, flooding, drought and extreme weather events.

c. Earth in space

- i. 9ESs.01 Describe the consequences of asteroid collision with the Earth, including climate change and mass extinctions.
- ii. 9ESs.02 Describe the evidence for the collision theory for the formation of the Moon.
- iii. 9ESs.03 Know that nebulae are clouds of dust and gas, and can act as stellar nurseries.

6. Science in Context

- a. 9SIC.01 Discuss how scientific knowledge is developed through collective understanding and scrutiny over time.
- b. 9SIC.02 Describe how science is applied across societies and industries, and in research.

- c. 9SIC.03 Evaluate issues which involve and/or require scientific understanding.
- d. 9SIC.04 Describe how people develop and use scientific understanding as individuals and through collaboration, e.g. through peer-review.
- e. 9SIC.05 Discuss how the uses of science can have a global environmental impact.

IGCSE

1. Biology

- a. B1 Characteristics of living organisms
- b. B2 Cells
- c. B3 Movement into and out of cells
- d. B4 Biological molecules
- e. B5 Enzymes
- f. B6 Plant nutrition
- g. B7 Human nutrition
- h. B8 Transport in plants
- i. B9 Transport in animals
- j. B10 Diseases and immunity
- k. B11 Gas exchange in humans
- l. B12 Respiration
- m. B13 Drugs
- n. B14 Reproduction
- o. B15 Organisms and their environment
- p. B16 Human influences on ecosystems

2. Chemistry

- a. C1 States of matter
- b. C2 Atoms, elements and compounds
- c. C3 Stoichiometry C4 Electrochemistry

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| | <ul style="list-style-type: none"> d. C5 Chemical energetics e. C6 Chemical reactions f. C7 Acids, bases and salts g. C8 The Periodic Table h. C9 Metals i. C10 Chemistry of the environment j. C11 Organic chemistry k. C12 Experimental techniques and chemical analysis <p>3. Physics</p> <ul style="list-style-type: none"> a. P1 Motion, forces and energy b. P2 Thermal physics c. P3 Waves d. P4 Electricity e. P5 Space physics |
| <p>Teaching Strategies</p> <p>How will we learn? - Organisation and practice</p> | <ul style="list-style-type: none"> • Active learning: Active learning involves learners being engaged in their learning rather than passively listening and copying information. Learners take part in a variety of activities that involve thinking hard. The focus should always be on the learning objective, rather than the task itself. • Learner groupings: use an effective balance of individual, pair, group and whole-class activities to develop both independence and collaboration • Developing effective communication: <ul style="list-style-type: none"> ○ Language awareness ○ Promoting talk ○ Managing discussions ○ Promoting learner questions ○ Promoting writing |
| <p>Cross-curricular activities:</p> | <p>Here are some examples of activities that apply knowledge, understanding and skills from Cambridge Lower Secondary Science in the context of other subjects:</p> |

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| <p>Connections with other subjects?</p> | <ul style="list-style-type: none"> • Physical Education: Learners can use their scientific understanding of joints and human health to support their understanding of movement and healthy bodies in Physical Education. • Art & Design: Learning from Physics, Light and Sound about colours in light, and how they can be added, subtracted, absorbed and reflected, can be reinforced if learners use different colours of light to illuminate a still-life . • Global Perspectives: Developing key skills in research, analysis, evaluation, reflection, collaboration and communication. |
| <p>Assessment</p> <p>How will we know what we have learned?</p> | <ul style="list-style-type: none"> • Written tests at the end of each section. • For Stage 9 students: <ul style="list-style-type: none"> ○ Cambridge Lower Secondary Progression Tests ○ Cambridge Lower Secondary Checkpoint • For IGCSE students: All candidates take three papers. <ul style="list-style-type: none"> ○ Candidates who have studied the Core subject content, or who are expected to achieve a grade D or below should be entered for Paper 1, Paper 3 and either Paper 5 or Paper 6. These candidates will be eligible for grades C to G. ○ Candidates who have studied the Extended subject content (Core and Supplement), and who are expected to achieve a grade C or above should be entered for Paper 2, Paper 4 and either Paper 5 or Paper 6. These candidates will be eligible for grades A* to G. |
| <p>Materials/ other remarks:</p> | <p>Stage 9: Cambridge Lower Secondary Science Stage 9 2nd edition</p> <p>IGCSE: Online platform Kognity</p> |