Mathematics (MYP 1)

Unit Title	Key Concepts	Related Concept(s)	Global Context	Statement of Inquiry	MYP subject group objective(s)	ATL skills	Content (topics, knowledge, skills)
Unit 1 - Numbers: The Language of Mathematics	Relationships	Representation, System	Scientific and technical innovation Methods	Relationships between systems can be represented using visual methods. Mixed numbers and decimal numbers represent quantities that can be decomposed into parts and wholes. Computational fluency and flexibility with numbers extend to operations with whole numbers and decimals.	**A: Knowing and understanding** i. select appropriate mathematics when solving problems in both familiar and unfamiliar situations ii. apply the selected mathematics successfully when solving problems iii. solve problems correctly in a variety of contexts **B: Investigating patterns** i. apply mathematical problem-solving techniques to recognize patterns ii. describe patterns as relationships or general rules consistent with correct findings iii. verify whether the pattern works for other examples **C: Communicating** i. use appropriate mathematical language (notation, symbols and terminology) in both oral and written statements ii. use different forms of mathematical representation to present information iii. communicate coherent mathematical lines of reasoning iv. organize information	Description In order for students to organize information using a logical structure (Objective Civ) students must use a variety of organizers for academic writing tasks and use graphic organizers to depict information logically. **Communication** • I. Communication skills • Reading, writing and using language to gather and communicate information • Use a variety of organizers for academic writing tasks • Organize and depict information logically	small to large numbers (thousandths to billions) multiplication and division facts to 100 (developing computational fluency) order of operations with whole numbers factors and multiples — greatest common factor and least common multiple improper fractions and mixed numbers

Subject Group Overview

using a logical structure

Unit Title	Key Concepts	Related Concept(s)	Global Context	Statement of Inquiry	MYP subject group objective(s)	ATL skills	Content (topics, knowledge, skills)
Unit 2 - Do you want to build a snowman? - Spatial Reasoning / Numerical and Abstract Reasoning	Logic	Approximation, Validity	Personal and cultural expression Entrepreneurship	Logic is a valid approximation tool to use when initiating entrepreneurship.	**A: Knowing and understanding** i. select appropriate mathematics when solving problems in both familiar and unfamiliar situations **D: Applying mathematics in real-life contexts** i. identify relevant elements of authentic real-life situations ii. select appropriate mathematical strategies when solving authentic real-life situations iii. apply the selected mathematical strategies successfully to reach a solution iv. explain the degree of accuracy of a solution v. describe whether a solution makes sense in the context of the authentic real-life situation	Description **Communication** • I. Communication skills • Reading, writing and using language to gather and communicate information • Understand and use mathematical notation	small to large numbers (thousandths to billions) multiplication and division facts to 100 (developing computational fluency) improper fractions and mixed numbers introduction to ratios whole-number percents and percentage discounts perimeter of complex shapes triangles

Unit Title	Key Concepts	Related Concept(s)	Global Context	Statement of Inquiry	MYP subject group objective(s)	ATL skills	Content (topics, knowledge, skills)
Unit 3: Financial Literacy - Numerical and Abstract Reasoning	Logic	Quantity	Identities and relationships Lifestyle choices	Logic is a valid tool for quantifying lifestyle choices.	**C: Communicating** i. use appropriate mathematical language (notation, symbols and terminology) in both oral and written statements ii. use different forms of mathematical representation to present information iii. communicate	Description **Communication** • I. Communication skills • Reading, writing and using language to gather and communicate information • Understand and use	multiplication and division of decimals financial literacy — simple budgeting and consumer math

					coherent mathematical lines of reasoning iv. organize information using a logical structure **D: Applying mathematics in real-life contexts** i. identify relevant elements of authentic real-life situations ii. select appropriate mathematical strategies when solving authentic real-life situations iii. apply the selected mathematical strategies successfully to reach a solution iv. explain the degree of accuracy of a solution v. describe whether a solution makes sense in the context of the authentic real-life situation	mathematical notation	
Unit Title	**Key Concepts**	**Related Concept(s)**	**Global Context**	**Statement of Inquiry**	**MYP subject group objective(s)**	**ATL skills**	**Content (topics, knowledge, skills)**
Unit 4: Patterns and Graphing - Numerical and Abstract Reasoning / Reasoning with Data **Interdisciplinary Unit** Sciences	Relationships	**Mathematics - Mathematics** Model, Pattern **Sciences - Sciences** Function, Models	Globalization and sustainability Data-driven decision-making	Models are used to examine patterns in relationships when making data-driven decisions.	**Mathematics - Mathematics** **B: Investigating patterns** i. apply mathematical problem-solving techniques to recognize patterns ii. describe patterns as relationships or general rules consistent with correct findings iii. verify whether the pattern works for other examples **C: Communicating**	Description **Thinking** • VIII. Critical thinking skills • Analysing and evaluating issues and ideas • Interpret data • Draw reasonable conclusions and generalizations • Identify trends and forecast possibilities	increasing and decreasing patterns, using expressions, tables, and graphs as functional relationships line graphs single-outcome probability, both theoretical and experimental

					i. use appropriate mathematical language (notation, symbols and terminology) in both oral and written statements ii. use different forms of mathematical representation to present information iii. communicate coherent mathematical lines of reasoning iv. organize information using a logical structure		
Unit Title	**Key Concepts**	**Related Concept(s)**	**Global Context**	**Statement of Inquiry**	**MYP subject group objective(s)**	**ATL skills**	**Content (topics, knowledge, skills)**
Unit 5: Taking action with numbers - Numerical and Abstract Reasoning	Relationships	Equivalence, Representation	Scientific and technical innovation Mathematical puzzles	Equivalent relationships can be represented using digital life tools.	**A: Knowing and understanding** i. select appropriate mathematics when solving problems in both familiar and unfamiliar situations ii. apply the selected mathematics successfully when solving problems iii. solve problems correctly in a variety of contexts **B: Investigating patterns** i. apply mathematical problem-solving techniques to recognize patterns ii. describe patterns as relationships or general rules consistent with correct findings iii. verify whether the pattern works for other examples	Description **Communication** • I. Communication skills • Reading, writing and using language to gather and communicate information • Understand and use mathematical notation	multiplication and division facts to 100 (developing computational fluency) order of operations with whole numbers introduction to ratios whole-number percents and percentage discounts multiplication and division of decimals

Subject Group Overview

Unit Title	Key Concepts	Related Concept(s)	Global Context	Statement of Inquiry	MYP subject group objective(s)	ATL skills	Content (topics, knowledge, skills)
Unit 6: A little Algebra - Numerical and Abstract Reasoning	Relationships	Simplification, Equivalence	Scientific and technical innovation Methods	Equivalent relationships can be simplified using systematic methods.	**A: Knowing and understanding** i. select appropriate mathematics when solving problems in both familiar and unfamiliar situations ii. apply the selected mathematics successfully when solving problems iii. solve problems correctly in a variety of contexts **C: Communicating** i. use appropriate mathematical language (notation, symbols and terminology) in both oral and written statements ii. use different forms of mathematical representation to present information iii. communicate coherent mathematical lines of reasoning iv. organize information using a logical structure	Description **Communication** • I. Communication skills • Reading, writing and using language to gather and communicate information • Understand and use mathematical notation	multiplication and division of decimals one-step equations with whole-number coefficients and solutions

Unit Title	Key Concepts	Related Concept(s)	Global Context	Statement of Inquiry	MYP subject group objective(s)	ATL skills	Content (topics, knowledge, skills)
Unit 7: Measuring Understanding - Spatial Reasoning	Form	Representation, Space	Scientific and technical innovation Opportunity	Representing forms in space can bring opportunity.	**A: Knowing and understanding** i. select appropriate mathematics when solving problems in both familiar and unfamiliar situations ii. apply the selected mathematics successfully when solving problems iii. solve problems	Description **Communication** • I. Communication skills • Reading, writing and using language to gather and communicate information • Understand and use	perimeter of complex shapes area of triangles, parallelograms, and trapezoids angle measurement and classification volume and capacity triangles

					correctly in a variety of contexts **D: Applying mathematics in real-life contexts** i. identify relevant elements of authentic real-life situations ii. select appropriate mathematical strategies when solving authentic real-life situations iii. apply the selected mathematical strategies successfully to reach a solution iv. explain the degree of accuracy of a solution v. describe whether a solution makes sense in the context of the authentic real-life situation	mathematical notation	
Unit Title	**Key Concepts**	**Related Concept(s)**	**Global Context**	**Statement of Inquiry**	**MYP subject group objective(s)**	**ATL skills**	**Content (topics, knowledge, skills)**
Unit 8: Shaping and Transforming Understanding - Spatial Reasoning	Form	Change, Space	Scientific and technical innovation Models	Models can be used to show how forms change in their orientation in space.	**B: Investigating patterns** i. apply mathematical problem-solving techniques to recognize patterns ii. describe patterns as relationships or general rules consistent with correct findings iii. verify whether the pattern works for other examples **D: Applying mathematics in real-life contexts** i. identify relevant elements of authentic real-life situations ii. select appropriate	Description **Communication** • I. Communication skills • Reading, writing and using language to gather and communicate information • Understand and use mathematical notation	triangles combinations of transformations

					mathematical strategies when solving authentic real-life situations iii. apply the selected mathematical strategies successfully to reach a solution iv. explain the degree of accuracy of a solution v. describe whether a solution makes sense in the context of the authentic real-life situation		

Mathematics (MYP 2)

Unit Title	Key Concepts	Related Concept(s)	Global Context	Statement of Inquiry	MYP subject group objective(s)	ATL skills	Content (topics, knowledge, skills)
Decimals, Percentages & Financial Literacy	Form	Quantity, Representation	Fairness and development Democracy, Politics	Representing quantities of data in various forms can have a powerful impact on peoples' beliefs in society.	**A: Knowing and understanding** i. select appropriate mathematics when solving problems in both familiar and unfamiliar situations **B: Investigating patterns** i. select and apply mathematical problem-solving techniques to discover complex patterns **C: Communicating** i. use appropriate mathematical language (notation, symbols and terminology) in both oral and written explanations ii. use appropriate forms of mathematical representation to present information iii. move between different forms of	Description **Social** **Self-management**	multiplication and division facts to 100 (extending computational fluency) operations with integers (addition, subtraction, multiplication, division, and order of operations) operations with decimals (addition, subtraction, multiplication, division, and order of operations) relationships between decimals, fractions, ratios, and percents financial literacy — financial percentage

Unit Title	Key Concepts	Related Concept(s)	Global Context	Statement of Inquiry	MYP subject group objective(s)	ATL skills	Content (topics, knowledge, skills)
Early Civilisations - Arise, thrive and survive? **Interdisciplinary Unit** Mathematics	Change	**Individuals and societies - Individuals and societies** Causality (cause and consequence), Culture, Innovation and revolution **Mathematics - Mathematics** Generalization **Other**: Connect subject with concepts	Orientation in space and time Civilizations and social histories, Heritage, Pilgrimage, Migration, Displacement and exchange, Turning points and “big history”, Scale, Duration, Exchange and interaction, Evolution, Constraints and adaptation, Indigenous understanding Mathematics	We will examine how civilizations have developed at different times and locations bringing about changes and innovations that influence how we view knowledge.	**Individuals and societies - Individuals and societies** **A: Knowing and understanding** i. use a range of terminology in context ii. demonstrate knowledge and understanding of subject-specific content and concepts, through descriptions, explanations and examples **B: Investigating** i. formulate/choose a clear and focused research question, explaining its relevance ii. formulate and follow an action plan to investigate a research question iii. use the methods to collect and record relevant information mathematical representation **D: Applying mathematics in real-life contexts** i. identify relevant elements of authentic real-life situations v. explain whether a solution makes sense in the context of the authentic real-life situation	Description **Communication** • I. Communication skills • Exchanging thoughts, messages and information effectively through interaction • Use intercultural understanding to interpret communication • Use a variety of media to communicate with a range of audiences • Share ideas with multiple audiences using a variety of digital environments and media • Reading, writing and using language to gather and communicate information • Read a variety of sources for	anthropological origins of humans human responses to particular geographic challenges and opportunities, including climates, landforms, and natural resources features and characteristics of civilizations, and factors that led to their rise and fall origins, core beliefs, narratives, practices, and influences of religions, including at least one indigenous to the Americas scientific, philosophical, and technological developments interactions and exchanges between past civilizations and cultures, including conflict, peace, trade, expansion, and migration social, political, legal,

					iv. evaluate the research process and results, with guidance **C: Communicating** i. communicate information and ideas in a way that is appropriate for the audience and purpose ii. structure information and ideas according to the task instructions iii. create a reference list and cite sources of information **D: Thinking critically** i. analyse concepts, issues, models, visual representation and/or theories ii. summarize information to make valid, well supported arguments iii. analyse a range of sources/data in terms of origin and purpose, recognizing values and limitations iv. recognize different perspectives and explain their implications	• information and for pleasure • Paraphrase accurately and concisely • Organize and depict information logically	governmental, and economic systems and structures, including at least one indigenous to the Americas the urbanization and migration of people global poverty and inequality issues, including class structure and gender different systems of government international co-operation and responses to global issues media technologies and coverage of current events
Unit Title	**Key Concepts**	**Related Concept(s)**	**Global Context**	**Statement of Inquiry**	**MYP subject group objective(s)**	**ATL skills**	**Content (topics, knowledge, skills)**
Organizing unknown information	Relationships	Pattern, Representation, Model	Globalization and sustainability Human impact on the environment, Consumption, Natural resources and public goods, Data-driven decision-making	Models represent relationships between variables which can lead to better understanding and decision making when considering global sustainability issues.	**B: Investigating patterns** i. select and apply mathematical problem-solving techniques to discover complex patterns ii. describe patterns as relationships and/or general rules consistent	Description **Thinking**	discrete linear relations, using expressions, tables, and graphs two-step equations with whole-number coefficients, constants, and solutions Cartesian coordinates and graphing combinations of

					with findings iii. verify and justify relationships and/or general rules **C: Communicating** i. use appropriate mathematical language (notation, symbols and terminology) in both oral and written explanations ii. use appropriate forms of mathematical representation to present information iii. move between different forms of mathematical representation iv. communicate complete and coherent mathematical lines of reasoning v. organize information using a logical structure		transformations
Unit Title	**Key Concepts**	**Related Concept(s)**	**Global Context**	**Statement of Inquiry**	**MYP subject group objective(s)**	**ATL skills**	**Content (topics, knowledge, skills)**
Shape and geometry	Form	Space, System, Model	Orientation in space and time Scale, Duration, Boundaries, Indigenous understanding	Generalizing relationships between measurements can help explore the formation of human and natural landscapes.	**A: Knowing and understanding** i. select appropriate mathematics when solving problems in both familiar and unfamiliar situations ii. apply the selected mathematics successfully when solving problems iii. solve problems correctly in a variety of contexts **D: Applying mathematics in real-life contexts** i. identify relevant	Description **Communication** • I. Communication skills • Exchanging thoughts, messages and information effectively through interaction • Give and receive meaningful feedback • Interpret and use effectively modes of non-verbal communication • Reading, writing and using language to	circumference and area of circles volume of rectangular prisms and cylinders

					elements of authentic real-life situations ii. select appropriate mathematical strategies when solving authentic real-life situations iii. apply the selected mathematical strategies successfully to reach a solution iv. explain the degree of accuracy of a solution v. explain whether a solution makes sense in the context of the authentic real-life situation	gather and communicate information • Understand and use mathematical notation • Organize and depict information logically	
Unit Title	**Key Concepts**	**Related Concept(s)**	**Global Context**	**Statement of Inquiry**	**MYP subject group objective(s)**	**ATL skills**	**Content (topics, knowledge, skills)**
Statistics & Probability	Logic	Representation, System, Validity	Personal and cultural expression Ritual and play	A logical system of representation can help explore and analyze games that humans play.	**B: Investigating patterns** i. select and apply mathematical problem-solving techniques to discover complex patterns ii. describe patterns as relationships and/or general rules consistent with findings iii. verify and justify relationships and/or general rules **C: Communicating** i. use appropriate mathematical language (notation, symbols and terminology) in both oral and written explanations ii. use appropriate forms of mathematical representation to present information iii. move between	Description Students will develop media literacy skills by researching local media for statistical information during various lessons and be asked to find reputable sources of information and provide some insight into their findings. Students will share their work and discuss it with their peers and teacher. Students will develop information literacy skills by collecting, sorting, analyzing, and reporting data for an assignment. Students will communicate their mathematical solutions	circle graphs experimental probability with two independent events

		different forms of mathematical representation iv. communicate complete and coherent mathematical lines of reasoning v. organize information using a logical structure	to experimental and theoretical probabilities in proper notation. Students will communicate statistical information, such as collecting and sorting data, in various forms such as tables, bar graphs, and circle graphs. **Communication** • I. Communication skills • Exchanging thoughts, messages and information effectively through interaction • Give and receive meaningful feedback • Negotiate ideas and knowledge with peers and teachers • Reading, writing and using language to gather and communicate information • Read critically and for comprehension • Read a variety of sources for information and for pleasure • Make inferences and draw conclusions • Organize and depict information logically **Research** • VI. Information literacy skills • Finding, interpreting, judging and creating

information
- Collect, record and verify data
- Access information to be informed and inform others
- Make connections between various sources of information
- Understand the benefits and limitations of personal sensory learning preferences when accessing, processing and recalling information
- Use memory techniques to develop long-term memory
- Present information in a variety of formats and platforms
- Collect and analyse data to identify solutions and make informed decisions
- Process data and report results
- Evaluate and select information sources and digital tools based on their appropriateness to specific tasks
- Understand and use technology systems
- Use critical literacy skills to analyse and interpret media communications
- Understand and implement

intellectual property rights
- Create references and citations, use footnotes/endnotes and construct abibliography according to recognised conventions
- Identify primary and secondary sources
- VII. Media literacy skills
- Interacting with media to use and create ideas and information
- Locate, organize, analyse, evaluate, synthesise and ethically use information from a variety of sources and media (including digital social media and online networks)
- Demonstrate awareness of media interpretations of events and ideas (including digital social media)
- Make informed choices about personal viewing experiences
- Understand the impact of media representations and modes of presentation
- Seek a range of perspectives from multiple and varied

						sources • Communicate information and ideas effectively to multiple audiences using a variety of media and formats • Compare, contrast and draw connections among (multi)media resources	

Mathematics (MYP 3)

Unit Title	Key Concepts	Related Concept(s)	Global Context	Statement of Inquiry	MYP subject group objective(s)	ATL skills	Content (topics, knowledge, skills)
Number Operations & Measurement	Form	Space, Model	Fairness and development	Using both our technical and creative skills, we can model a space to help determine the form and aesthetic of said space within given constraints.	**A: Knowing and understanding** i. select appropriate mathematics when solving problems in both familiar and unfamiliar situations ii. apply the selected mathematics successfully when solving problems iii. solve problems correctly in a variety of contexts **D: Applying mathematics in real-life contexts** i. identify relevant elements of authentic real-life situations ii. select appropriate mathematical strategies when solving authentic real-life situations iii. apply the selected mathematical strategies successfully to reach a solution iv. explain the degree of	Description **Social** **Self-management** • III. Organization skills • Managing time and tasks effectively • Plan short- and long-term assignments; meet deadlines • Create plans to prepare for summative assessments (examinations and performances) • Keep and use a weekly planner for assignments • Set goals that are challenging and realistic • Plan strategies and take action to achieve personal and academic goals • Bring necessary equipment and supplies to class	perfect squares and cubes square and cube roots percents less than 1 and greater than 100 (decimal and fractional percents) numerical proportional reasoning (rates, ratio, proportions, and percent) operations with fractions (addition, subtraction, multiplication, division, and order of operations) surface area and volume of regular solids, including triangular and other right prisms and cylinders Pythagorean theorem financial literacy — best buys

					accuracy of a solution v. explain whether a solution makes sense in the context of the authentic real-life situation	• Keep an organized and logical system of information files/ notebooks • Use appropriate strategies for organizing complex information • Understand and use sensory learning preferences (learning styles) • Select and use technology effectively and productively	
Unit Title	**Key Concepts**	**Related Concept(s)**	**Global Context**	**Statement of Inquiry**	**MYP subject group objective(s)**	**ATL skills**	**Content (topics, knowledge, skills)**
Knowledge Growing, Time Passing **Interdisciplinary Unit** Mathematics	Communities	**Individuals and societies - Individuals and societies** Identity **Mathematics - Mathematics** Change	Orientation in space and time Civilizations and social histories Mathematics	Discovering the contributions to mathematics from individuals from different civilizations in history helps us to understand the evolution of mathematics and the impact one person can have on the world.		Description **Communication** • I. Communication skills • Exchanging thoughts, messages and information effectively through interaction • Use a variety of media to communicate with a range of audiences • Share ideas with multiple audiences using a variety of digital environments and media **Research** • VI. Information literacy skills • Finding, interpreting, judging and creating information • Access information to be informed and	

						inform others • Make connections between various sources of information • VII. Media literacy skills • Interacting with media to use and create ideas and information • Locate, organize, analyse, evaluate, synthesise and ethically use information from a variety of sources and media (including digital social media and online networks) • Communicate information and ideas effectively to multiple audiences using a variety of media and formats	
Unit Title	**Key Concepts**	**Related Concept(s)**	**Global Context**	**Statement of Inquiry**	**MYP subject group objective(s)**	**ATL skills**	**Content (topics, knowledge, skills)**
Organizing Unknown Information	Relationships	Pattern, Representation	Globalization and sustainability	Models represent relationships between variables which can lead to better understanding and decision making when considering global sustainability issues.		Description **Thinking**	discrete linear relations (extended to larger numbers, limited to integers) expressions- writing and evaluating using substitution two-step equations with integer coefficients, constants, and solutions
Unit Title	**Key Concepts**	**Related Concept(s)**	**Global Context**	**Statement of Inquiry**	**MYP subject group objective(s)**	**ATL skills**	**Content (topics, knowledge, skills)**
Exploring Shapes, Objects, & Angles	Form	Space, Model	Orientation in space and time	Creativity and beauty in one's work stems from an understanding of	**C: Communicating** i. use appropriate mathematical language (notation, symbols and	Description **Communication**	Pythagorean theorem construction, views, and nets of 3D objects

			Scale	shape.	terminology) in both oral and written explanations ii. use appropriate forms of mathematical representation to present information iii. move between different forms of mathematical representation iv. communicate complete and coherent mathematical lines of reasoning v. organize information using a logical structure **D: Applying mathematics in real-life contexts** i. identify relevant elements of authentic real-life situations ii. select appropriate mathematical strategies when solving authentic real-life situations iii. apply the selected mathematical strategies successfully to reach a solution iv. explain the degree of accuracy of a solution v. explain whether a solution makes sense in the context of the authentic real-life situation		
Unit Title	**Key Concepts**	**Related Concept(s)**	**Global Context**	**Statement of Inquiry**	**MYP subject group objective(s)**	**ATL skills**	**Content (topics, knowledge, skills)**
Statistics & Probability	Logic	Approximation, Generalization, Pattern	Personal and cultural expression Ritual and play	Having logic-based mathematics to study and analyze gameplay can lead to broader	**A: Knowing and understanding** i. select appropriate mathematics when solving problems in	Description **Social Research**	central tendency theoretical probability with two independent events

				studies in game theory applicable to life and business.	both familiar and unfamiliar situations ii. apply the selected mathematics successfully when solving problems iii. solve problems correctly in a variety of contexts **B: Investigating patterns** i. select and apply mathematical problem-solving techniques to discover complex patterns ii. describe patterns as relationships and/or general rules consistent with findings iii. verify and justify relationships and/or general rules		

Mathematics (MYP 4)

Unit Title	Key Concepts	Related Concept(s)	Global Context	Statement of Inquiry	MYP subject group objective(s)	ATL skills	Content (topics, knowledge, skills)
Number Concepts	Form	Representation, System, Equivalence	Scientific and technical innovation Systems	Being able to represent different forms of quantities and establish common systems has helped humans describe our planet with some common understanding.			

Unit Title	Key Concepts	Related Concept(s)	Global Context	Statement of Inquiry	MYP subject group objective(s)	ATL skills	Content (topics, knowledge, skills)
Number Concepts & Operations	Relationships	Quantity, System	Fairness and development Power and privilege	By quantifying relationships and using systems to organize and analyze our data we can	**A: Knowing and understanding** i. select appropriate mathematics when solving problems in	Description **Social** • II. Collaboration skills • Working effectively	operations with rational numbers (addition, subtraction, multiplication, division, and order of operations)

	make better decisions in financial planning for individuals and societies.	both familiar and unfamiliar situations ii. apply the selected mathematics successfully when solving problems iii. solve problems correctly in a variety of contexts **B: Investigating patterns** i. select and apply mathematical problem-solving techniques to discover complex patterns ii. describe patterns as general rules consistent with findings iii. prove, or verify and justify, general rules **C: Communicating** i. use appropriate mathematical language (notation, symbols and terminology) in both oral and written explanations ii. use appropriate forms of mathematical representation to present information iii. move between different forms of mathematical representation iv. communicate complete, coherent and concise mathematical lines of reasoning v. organize information using a logical structure **D: Applying mathematics in real-life contexts**	with others • Use social media networks appropriately to build and develop relationships • Practise empathy • Delegate and share responsibility for decision-making • Help others to succeed • Take responsibility for one's own actions • Manage and resolve conflict and work collaboratively in teams • Build consensus **Self-management** • III. Organization skills • Managing time and tasks effectively • Plan short- and long-term assignments; meet deadlines • Create plans to prepare for summative assessments (examinations and performances) • Keep and use a weekly planner for assignments • Set goals that are challenging and realistic • Plan strategies and take action to achieve personal and academic goals • Bring necessary equipment and supplies to class	exponents and exponent laws with whole-number exponents financial literacy — simple budgets and transactions

					i. identify relevant elements of authentic real-life situations ii. select appropriate mathematical strategies when solving authentic real-life situations iii. apply the selected mathematical strategies successfully to reach a solution iv. justify the degree of accuracy of a solution v. justify whether a solution makes sense in the context of the authentic real-life situation	• Keep an organized and logical system of information files/ notebooks • Use appropriate strategies for organizing complex information • IV. Affective skills • Managing state of mind • Mindfulness • Practise focus and concentration • Practise strategies to develop mental focus • Practise strategies to overcome distractions • Practise being aware of body–mind connections • V. Reflection skills • (Re-)considering the process of learning; choosing and using ATL skills • Consider content • What did I learn about today? • What don't I yet understand? • What questions do I have now?	

Unit Title	Key Concepts	Related Concept(s)	Global Context	Statement of Inquiry	MYP subject group objective(s)	ATL skills	Content (topics, knowledge, skills)
The Ghost Hotel - Short Films based on research / investigation into a location attendant personal narratives **Interdisciplinary Unit**	Creativity Form Identity	**Arts - Performing Arts** Audience, Expression, Visual culture **Arts - Visual Arts** Genre, Innovation **Design - Design**	Personal and cultural expression Creation, Metacognition and abstract thinking, Social constructions of reality, Ritual and play, Belief systems, Analysis	We will investigate outdoor staging using the landscape and the physical features, through a collaboration with Maths (budgeting and costing) Design	**Arts - Performing Arts** **A: Knowing and understanding** i. demonstrate knowledge and understanding of the art form studied, including	Description **Self-management** • III. Organization skills • Managing time and tasks effectively • Plan short- and long-term assignments; meet deadlines	for each of the arts disciplines dance, drama, music, and visual arts the specific elements, principles, techniques, vocabulary, and symbols that can be used to create mood and convey ideas

Individuals and societies Mathematics Visual Arts Design	Collaboration	and argument, Histories of ideas, Practice and competency Individuals and societies, Mathematics, Visual Arts, Design	(creation of the various scares and use of lighting ext) , Performing and Visual Arts in the form of the use of costume, masks and imagery in the woods, in order to devise and plan the creation of an immersive theatrical experience in a "Haunted Woods", using physical space and and cultural knowledge, including First Nations drumming to deliver an experience for the audience and actors alike!	concepts, processes, and the use of subject-specific terminology ii. demonstrate an understanding of the role of the art form in original or displaced contexts iii. use acquired knowledge to purposefully inform artistic decisions in the process of creating artwork **B: Developing skills** i. demonstrate the acquisition and development of the skills and techniques of the art form studied ii. demonstrate the application of skills and techniques to create, perform and/or present art **C: Thinking creatively** i. develop a feasible, clear, imaginative and coherent artistic intention ii. demonstrate a range and depth of creative-thinking behaviours iii. demonstrate the exploration of ideas to shape artistic intention through to a point of realization **Individuals and societies - Individuals and societies** **A: Knowing and**	• Create plans to prepare for summative assessments (examinations and performances) • Keep and use a weekly planner for assignments • Set goals that are challenging and realistic • Plan strategies and take action to achieve personal and academic goals • Bring necessary equipment and supplies to class • Keep an organized and logical system of information files/ notebooks • Use appropriate strategies for organizing complex information • Understand and use sensory learning preferences (learning styles) • Select and use technology effectively and productively	the roles of performers and audiences in a variety of contexts the ethics of cultural appropriation and plagiarism

understanding
i. use a wide range of terminology in context
ii. demonstrate knowledge and understanding of subject-specific content and concepts through developed descriptions, explanations and examples
B: Investigating
i. formulate a clear and focused research question and justify its relevance
ii. formulate and follow an action plan to investigate a research question
iii. use research methods to collect and record appropriate, varied and relevant information
iv. evaluate the research process and results
C: Communicating
i. communicate information and ideas effectively using an appropriate style for the audience and purpose
ii. structure information and ideas in a way that is appropriate to the specified format
iii. document sources of information using a recognized convention

Arts - Visual Arts

A: Knowing and understanding
i. demonstrate

knowledge and understanding of the art form studied, including concepts, processes, and the use of subject-specific terminology
ii. demonstrate an understanding of the role of the art form in original or displaced contexts

B: Developing skills

i. demonstrate the acquisition and development of the skills and techniques of the art form studied
ii. demonstrate the application of skills and techniques to create, perform and/or present art

C: Thinking creatively

i. develop a feasible, clear, imaginative and coherent artistic intention
ii. demonstrate a range and depth of creative-thinking behaviours
iii. demonstrate the exploration of ideas to shape artistic intention through to a point of realization

Design - Design

A: Inquiring and analysing

i. explain and justify the need for a solution to a problem for a specified client/target audience
ii. identify and prioritize the primary and

					secondary research needed to develop a solution to the problem iv. develop a detailed design brief, which summarizes the analysis of relevant research **B: Developing ideas** ii. develop a range of feasible design ideas, which can be correctly interpreted by others iv. develop accurate and detailed planning drawings/diagrams and outline the requirements for the creation of the chosen solution **C: Creating the solution** i. construct a logical plan, which describes the efficient use of time and resources, sufficient for peers to be able to follow to create the solution ii. demonstrate excellent technical skills when making the solution iii. follow the plan to create the solution, which functions as intended iv. fully justify changes made to the chosen design and plan when making the solution		
Unit Title	**Key Concepts**	**Related Concept(s)**	**Global Context**	**Statement of Inquiry**	**MYP subject group objective(s)**	**ATL skills**	**Content (topics, knowledge, skills)**
Organizing Unknown Information	Relationships	Model, Pattern, Representation	Globalization and sustainability	Decision making can be improved by using a model to represent relationships.	**A: Knowing and understanding** i. select appropriate mathematics when solving problems in	Description **Thinking** • VIII. Critical thinking skills	operations with polynomials, of degree less than or equal to 2 two-variable linear relations, using

	both familiar and unfamiliar situations ii. apply the selected mathematics successfully when solving problems iii. solve problems correctly in a variety of contexts **B: Investigating patterns** i. select and apply mathematical problem-solving techniques to discover complex patterns ii. describe patterns as general rules consistent with findings iii. prove, or verify and justify, general rules **C: Communicating** i. use appropriate mathematical language (notation, symbols and terminology) in both oral and written explanations ii. use appropriate forms of mathematical representation to present information iii. move between different forms of mathematical representation iv. communicate complete, coherent and concise mathematical lines of reasoning v. organize information using a logical structure **D: Applying mathematics in real-life contexts**	• Analysing and evaluating issues and ideas • Practise observing carefully in order to recognise problems • Gather and organize relevant information to formulate an argument • Recognise unstated assumptions and bias • Interpret data • Evaluate evidence and arguments • Recognise and evaluate propositions • Draw reasonable conclusions and generalizations • Test generalizations and conclusions • Revise understanding based on new information and evidence • Use models and simulations to explore complex systems and issues	graphing, interpolation, and extrapolation multi-step one-variable linear equations

					i. identify relevant elements of authentic real-life situations ii. select appropriate mathematical strategies when solving authentic real-life situations iii. apply the selected mathematical strategies successfully to reach a solution iv. justify the degree of accuracy of a solution v. justify whether a solution makes sense in the context of the authentic real-life situation		
Unit Title	**Key Concepts**	**Related Concept(s)**	**Global Context**	**Statement of Inquiry**	**MYP subject group objective(s)**	**ATL skills**	**Content (topics, knowledge, skills)**
Shape & Geometry	Form	Space, Approximation	Scientific and technical innovation Industrialization and engineering	Architects and engineers must use finite resources responsibly when they design new structures.	**A: Knowing and understanding** i. select appropriate mathematics when solving problems in both familiar and unfamiliar situations ii. apply the selected mathematics successfully when solving problems iii. solve problems correctly in a variety of contexts **C: Communicating** i. use appropriate mathematical language (notation, symbols and terminology) in both oral and written explanations ii. use appropriate forms of mathematical representation to present information	Description **Communication** • I. Communication skills • Exchanging thoughts, messages and information effectively through interaction • Use a variety of media to communicate with a range of audiences • Interpret and use effectively modes of non-verbal communication • Reading, writing and using language to gather and communicate information • Use and interpret a range of discipline-	spatial proportional reasoning

					iii. move between different forms of mathematical representation iv. communicate complete, coherent and concise mathematical lines of reasoning v. organize information using a logical structure **D: Applying mathematics in real-life contexts** i. identify relevant elements of authentic real-life situations ii. select appropriate mathematical strategies when solving authentic real-life situations iii. apply the selected mathematical strategies successfully to reach a solution iv. justify the degree of accuracy of a solution v. justify whether a solution makes sense in the context of the authentic real-life situation	specific terms and symbols • Understand and use mathematical notation • Make effective summary notes for studying • Use a variety of organizers for academic writing tasks	
Unit Title	**Key Concepts**	**Related Concept(s)**	**Global Context**	**Statement of Inquiry**	**MYP subject group objective(s)**	**ATL skills**	**Content (topics, knowledge, skills)**
Statistics & Probability	Logic	Pattern, Validity, Change	Personal and cultural expression Ritual and play, Creation, Systems and institutions	Establishing patterns in the natural world can help in understanding relationships.		Description **Social Research**	statistics in society

Mathematics (MYP 5)

Unit Title	Key Concepts	Related Concept(s)	Global Context	Statement of Inquiry	MYP subject group objective(s)	ATL skills	Content (topics, knowledge, skills)
Real Numbers	Form	Equivalence, Representation	Scientific and technical innovation Methods, Mathematical puzzles, Principles and discoveries	Patterns and logic show how numbers and expressions can be represented in equivalent ways using roots and exponents.	**A: Knowing and understanding** ii. apply the selected mathematics successfully when solving problems **B: Investigating patterns** ii. describe patterns as general rules consistent with findings **C: Communicating** i. use appropriate mathematical language (notation, symbols and terminology) in both oral and written explanations ii. use appropriate forms of mathematical representation to present information v. organize information using a logical structure **D: Applying mathematics in real-life contexts** i. identify relevant elements of authentic real-life situations	Description **Research** • VI. Information literacy skills • Finding, interpreting, judging and creating information • Process data and report results • VII. Media literacy skills • Interacting with media to use and create ideas and information • Seek a range of perspectives from multiple and varied sources	

Unit Title	Key Concepts	Related Concept(s)	Global Context	Statement of Inquiry	MYP subject group objective(s)	ATL skills	Content (topics, knowledge, skills)
Polynomials	Development	Pattern, Equivalence	Scientific and technical innovation Models, Methods, Ingenuity and progress		**A: Knowing and understanding** i. select appropriate mathematics when solving problems in both familiar and unfamiliar situations ii. apply the selected mathematics	Description **Research**	multiplication of polynomial expressions polynomial factoring

					successfully when solving problems iii. solve problems correctly in a variety of contexts **B: Investigating patterns** ii. describe patterns as general rules consistent with findings iii. prove, or verify and justify, general rules **C: Communicating** i. use appropriate mathematical language (notation, symbols and terminology) in both oral and written explanations ii. use appropriate forms of mathematical representation to present information iv. communicate complete, coherent and concise mathematical lines of reasoning v. organize information using a logical structure **D: Applying mathematics in real-life contexts** ii. select appropriate mathematical strategies when solving authentic real-life situations iii. apply the selected mathematical strategies successfully to reach a solution		
Unit Title	**Key Concepts**	**Related Concept(s)**	**Global Context**	**Statement of Inquiry**	**MYP subject group objective(s)**	**ATL skills**	**Content (topics, knowledge, skills)**
Relations and Functions	Change Logic Relationships	Simplification, System, Equivalence,	Personal and cultural expression	how an functions model mathematical	**A: Knowing and understanding** i. select appropriate	Description **Communication**	functions and relations: connecting data, graphs, and situations

		Generalization, Pattern	Fields and disciplines, Practice and competency	relationships both abstract and practical	mathematics when solving problems in both familiar and unfamiliar situations **B: Investigating patterns** i. select and apply mathematical problem-solving techniques to discover complex patterns **C: Communicating** ii. use appropriate forms of mathematical representation to present information iii. move between different forms of mathematical representation v. organize information using a logical structure **D: Applying mathematics in real-life contexts** i. identify relevant elements of authentic real-life situations ii. select appropriate mathematical strategies when solving authentic real-life situations	• I. Communication skills • Exchanging thoughts, messages and information effectively through interaction • Use intercultural understanding to interpret communication • Participate in, and contribute to, digital social media networks	
Unit Title	**Key Concepts**	**Related Concept(s)**	**Global Context**	**Statement of Inquiry**	**MYP subject group objective(s)**	**ATL skills**	**Content (topics, knowledge, skills)**
Term I investigation		Representation, Model	Scientific and technical innovation Systems, Models, Processes and solutions, Industrialization and engineering, Digital life	In what way are functions or relations used to model problems in other disciplines?			

Subject Group Overview

Unit Title	Key Concepts	Related Concept(s)	Global Context	Statement of Inquiry	MYP subject group objective(s)	ATL skills	Content (topics, knowledge, skills)
Linear Functions	Creativity	Generalization, Model, Pattern, Representation, Change	Scientific and technical innovation Models, Methods	We will apply the concepts of linear functions to applications in growth.	**A: Knowing and understanding** i. select appropriate mathematics when solving problems in both familiar and unfamiliar situations ii. apply the selected mathematics successfully when solving problems iii. solve problems correctly in a variety of contexts **B: Investigating patterns** i. select and apply mathematical problem-solving techniques to discover complex patterns ii. describe patterns as general rules consistent with findings **C: Communicating** i. use appropriate mathematical language (notation, symbols and terminology) in both oral and written explanations ii. use appropriate forms of mathematical representation to present information v. organize information using a logical structure **D: Applying mathematics in real-life contexts** i. identify relevant elements of authentic real-life situations	Description **Communication** • I. Communication skills • Exchanging thoughts, messages and information effectively through interaction • Participate in, and contribute to, digital social media networks • Reading, writing and using language to gather and communicate information • Understand and use mathematical notation • Take effective notes in class • Organize and depict information logically **Research** • VI. Information literacy skills • Finding, interpreting, judging and creating information • Collect, record and verify data • Process data and report results • Understand and use technology systems	functions and relations: connecting data, graphs, and situations linear functions: slope and equations of lines

					ii. select appropriate mathematical strategies when solving authentic real-life situations iii. apply the selected mathematical strategies successfully to reach a solution		
Unit Title	**Key Concepts**	**Related Concept(s)**	**Global Context**	**Statement of Inquiry**	**MYP subject group objective(s)**	**ATL skills**	**Content (topics, knowledge, skills)**
Linear Equations	Logic	Equivalence, Model, Quantity, Change	Orientation in space and time Scale	Solving equations is central to understanding many concepts in science and economics.	**A: Knowing and understanding** i. select appropriate mathematics when solving problems in both familiar and unfamiliar situations ii. apply the selected mathematics successfully when solving problems iii. solve problems correctly in a variety of contexts **B: Investigating patterns** i. select and apply mathematical problem-solving techniques to discover complex patterns ii. describe patterns as general rules consistent with findings iii. prove, or verify and justify, general rules **C: Communicating** i. use appropriate mathematical language (notation, symbols and terminology) in both oral and written explanations ii. use appropriate forms of mathematical	Description **Self-management** • IV. Affective skills • Managing state of mind • Mindfulness • Practise focus and concentration **Thinking** • VIII. Critical thinking skills • Analysing and evaluating issues and ideas • Practise observing carefully in order to recognise problems • Recognise unstated assumptions and bias • Interpret data	functions and relations: connecting data, graphs, and situations linear functions: slope and equations of lines

					representation to present information iii. move between different forms of mathematical representation iv. communicate complete, coherent and concise mathematical lines of reasoning v. organize information using a logical structure **D: Applying mathematics in real-life contexts** i. identify relevant elements of authentic real-life situations ii. select appropriate mathematical strategies when solving authentic real-life situations iii. apply the selected mathematical strategies successfully to reach a solution v. justify whether a solution makes sense in the context of the authentic real-life situation		
Unit Title	**Key Concepts**	**Related Concept(s)**	**Global Context**	**Statement of Inquiry**	**MYP subject group objective(s)**	**ATL skills**	**Content (topics, knowledge, skills)**
Graphing with technology	Communication Relationships	System, Model, Pattern, Representation	Scientific and technical innovation	Technology can solve problems that are difficult or otherwise impossible.	**A: Knowing and understanding** i. select appropriate mathematics when solving problems in both familiar and unfamiliar situations ii. apply the selected mathematics successfully when solving problems iii. solve problems	Description **Communication** • I. Communication skills • Exchanging thoughts, messages and information effectively through interaction • Use a variety of media to	functions and relations: connecting data, graphs, and situations linear functions: slope and equations of lines systems of linear equations

					correctly in a variety of contexts **B: Investigating patterns** i. select and apply mathematical problem-solving techniques to discover complex patterns ii. describe patterns as general rules consistent with findings **C: Communicating** i. use appropriate mathematical language (notation, symbols and terminology) in both oral and written explanations ii. use appropriate forms of mathematical representation to present information iv. communicate complete, coherent and concise mathematical lines of reasoning **D: Applying mathematics in real-life contexts** i. identify relevant elements of authentic real-life situations iv. justify the degree of accuracy of a solution v. justify whether a solution makes sense in the context of the authentic real-life situation	communicate with a range of audiences • Collaborate with peers and experts using a variety of digital environments and media • Share ideas with multiple audiences using a variety of digital environments and media **Social**	
Unit Title	**Key Concepts**	**Related Concept(s)**	**Global Context**	**Statement of Inquiry**	**MYP subject group objective(s)**	**ATL skills**	**Content (topics, knowledge, skills)**
Systems of Equations	Form Logic Relationships	System, Equivalence, Generalization, Model,	Identities and relationships	Solving systems is a way of demonstrating	**A: Knowing and understanding** i. select appropriate	Description **Research**	functions and relations: connecting data, graphs, and situations

	Pattern	Competition and cooperation	how to reduce a larger problem to a managable one.	mathematics when solving problems in both familiar and unfamiliar situations ii. apply the selected mathematics successfully when solving problems iii. solve problems correctly in a variety of contexts **B: Investigating patterns** i. select and apply mathematical problem-solving techniques to discover complex patterns ii. describe patterns as general rules consistent with findings **C: Communicating** i. use appropriate mathematical language (notation, symbols and terminology) in both oral and written explanations ii. use appropriate forms of mathematical representation to present information iii. move between different forms of mathematical representation iv. communicate complete, coherent and concise mathematical lines of reasoning **D: Applying mathematics in real-life contexts** i. identify relevant elements of authentic	linear functions: slope and equations of lines arithmetic sequences systems of linear equations

Unit Title	Key Concepts	Related Concept(s)	Global Context	Statement of Inquiry	MYP subject group objective(s)	ATL skills	Content (topics, knowledge, skills)
					real-life situations ii. select appropriate mathematical strategies when solving authentic real-life situations iii. apply the selected mathematical strategies successfully to reach a solution		
Trigonometry	Form Logic Relationships	Representation, Generalization, Model, Pattern	Orientation in space and time Natural and human landscapes and resources	With trigonometry we can actually find missing measurements.	**A: Knowing and understanding** i. select appropriate mathematics when solving problems in both familiar and unfamiliar situations ii. apply the selected mathematics successfully when solving problems iii. solve problems correctly in a variety of contexts **B: Investigating patterns** i. select and apply mathematical problem-solving techniques to discover complex patterns ii. describe patterns as general rules consistent with findings **C: Communicating** i. use appropriate mathematical language (notation, symbols and terminology) in both oral and written explanations ii. use appropriate forms of mathematical representation to	Description **Communication** **Social** **Thinking**	primary trigonometric ratios

					present information iii. move between different forms of mathematical representation iv. communicate complete, coherent and concise mathematical lines of reasoning v. organize information using a logical structure **D: Applying mathematics in real-life contexts** i. identify relevant elements of authentic real-life situations ii. select appropriate mathematical strategies when solving authentic real-life situations iii. apply the selected mathematical strategies successfully to reach a solution iv. justify the degree of accuracy of a solution v. justify whether a solution makes sense in the context of the authentic real-life situation		
Unit Title	**Key Concepts**	**Related Concept(s)**	**Global Context**	**Statement of Inquiry**	**MYP subject group objective(s)**	**ATL skills**	**Content (topics, knowledge, skills)**
Finance	Relationships	Pattern, Quantity, Model		We will apply many of the principles of this course to financial questions: compound interest; net income; tax rates.	**A: Knowing and understanding** i. select appropriate mathematics when solving problems in both familiar and unfamiliar situations ii. apply the selected mathematics successfully when solving problems	Description **Thinking** • VIII. Critical thinking skills • Analysing and evaluating issues and ideas • Practise observing carefully in order to recognise problems	operations on powers with integral exponents arithmetic sequences financial literacy: gross and net pay

iii. solve problems correctly in a variety of contexts

B: Investigating patterns

i. select and apply mathematical problem-solving techniques to discover complex patterns

C: Communicating

i. use appropriate mathematical language (notation, symbols and terminology) in both oral and written explanations

ii. use appropriate forms of mathematical representation to present information

iv. communicate complete, coherent and concise mathematical lines of reasoning

v. organize information using a logical structure

D: Applying mathematics in real-life contexts

i. identify relevant elements of authentic real-life situations

ii. select appropriate mathematical strategies when solving authentic real-life situations

iii. apply the selected mathematical strategies successfully to reach a solution

iv. justify the degree of accuracy of a solution

v. justify whether a solution makes sense in

- Gather and organize relevant information to formulate an argument
- Recognise unstated assumptions and bias
- Interpret data
- Evaluate evidence and arguments
- Recognise and evaluate propositions
- Draw reasonable conclusions and generalizations
- Test generalizations and conclusions
- Revise understanding based on new information and evidence
- Evaluate and manage risk
- Formulate factual, topical, conceptual and debatable questions
- Consider ideas from multiple perspectives
- Develop contrary or opposing arguments
- Analyse complex concepts and projects into their constituent parts and synthesise them to create new understanding
- Propose and evaluate a variety of solutions
- Identify obstacles and challenges
- Use models and simulations to

		the context of the authentic real-life situation	explore complex systems and issues • Identify trends and forecast possibilities • Troubleshoot systems and applications • IX. Creative thinking skills • Generating novel ideas and considering new perspectives • Create original works and ideas; use existing works and ideas in new ways • X. Transfer skills • Utilizing skills and knowledge in multiple contexts • Apply skills and knowledge in unfamiliar situations • Compare conceptual understanding across multiple subject groups and disciplines • Transfer current knowledge to learning of new technologies