

Subject Group Overview

Sciences (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 0: Intro to Inquiry	Change Relationships Systems	Evidence, Models, Patterns	Orientation in space and time Scientific and technical innovation Models, Methods, Processes and solutions, Ingenuity and progress, Principles and discoveries	By creating, investigating, and using models, evidence, and patterns we can grow and develop our understandings of changes, relationships, and systems; informing and constructing our views on the world around us, our orientation in space and time, and science.	C: Processing and evaluating ii. interpret data and outline results using scientific reasoning	<p>Description</p> <p>Self-management</p> <ul style="list-style-type: none"> • V. Reflection skills • (Re-)considering the process of learning; choosing and using ATL skills • Consider content • What questions do I have now? • Keep a journal to record reflections <p>Research</p> <ul style="list-style-type: none"> • VI. Information literacy skills • Finding, interpreting, judging and creating information • Access information to be informed and inform others <p>Thinking</p> <ul style="list-style-type: none"> • VIII. Critical thinking skills • Analysing and evaluating issues and ideas • Use models and simulations to explore complex systems and issues • IX. Creative thinking skills • Generating novel ideas and considering new perspectives • Use brainstorming and visual diagrams to generate new 	Introduction to inquiry and model-based learning in science. Learning the method, approach, and pattern of learning through inquiry.

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 1: Mixing Things Up! (Chemistry)	Relationships	Interaction, Models	Orientation in space and time Indigenous understanding	Models of interactions can create an understanding of relationships which are mirrored in Indigenous ways of knowing, being, and doing.	<p>A: Knowing and understanding</p> <p>i. outline scientific knowledge</p> <p>ii. apply scientific knowledge and understanding to solve problems set in familiar situations and suggest solutions to problems set in unfamiliar situations</p> <p>iii. interpret information to make scientifically supported judgments</p> <p>B: Inquiring and designing</p> <p>i. outline an appropriate problem or research question to be tested by a scientific investigation</p> <p>iv. design scientific investigations</p> <p>D: Reflecting on the impacts of science</p> <p>i. summarize the ways in which science is</p>	<p>ideas and inquiries</p> <ul style="list-style-type: none"> • X. Transfer skills • Utilizing skills and knowledge in multiple contexts • Inquire in different contexts to gain a different perspective <p>Subject specific skills, knowledge and understandings</p> <ul style="list-style-type: none"> • XI. Subject specific skills • Custom ATL skills • Other 	<p>heterogeneous mixtures mixtures: separated using a difference in component properties</p> <p>local First Peoples knowledge of separation and extraction methods</p>

applied and used to address a specific problem or issue
ii. describe and summarize the various implications of using science and its application in solving a specific problem or issue
iii. apply scientific language effectively
iv. document the work of others and sources of information used

in their project. I feel it is important to teach them how to do discuss that knowledge and incorporate it in a respectful way. To apply their scientific knowledge to solve the problem they are given in their GRASP task in groups, they will have to actively listen and negotiate their ideas with each other.

To teach students how to “listen actively to other perspectives and ideas” I want to do an activity where we discuss what active listening means. First, together we will brainstorm a list of what people think it means or looks like to “actively listen”. This can be prompted through questions like “what makes you feel like others are really listening to you?”, “what do you do when you are really listening to someone else?”, “how can you tell that you or someone else is really listening?”, “what makes you feel like someone is not listening to you?”. I will then have students partner up and practice actively listening to each other.

Each student will come up with something to share with their partner (like a brief idea or a short story). They will then tell their partner this. Once they have finished, their partner will revoice/summarize what their partner just said. The partner will then clarify what they were saying off of this summary until both partners have an understanding of what was being shared. Then, they'll swap storyteller/listener roles and do it again. After all groups have done this, each pair will present what they were talking about by having the other person share their partners story or ideas. Afterwards, we will reflect on a group of how this went using questions like "how did you feel doing this exercise?", "what did you notice that made you feel heard and respected?", "when someone else was telling your story, what did you feel was important for them to do?". We will then expand this to how when we use others' stories, ideas, or knowledge, it is

important that we do it in an accurate and respectful way. I will then ask “so when we are doing our projects and incorporating Indigenous knowledge, how do we do that respectfully?” After these discussions, we will review some active listening techniques from active listening models and see how it compares to how we were listening in this activity.

When students begin their project with their groups, I will remind them of how we said we wanted to listen and be listened to and to utilize that as they work on their projects. To teach them how to “negotiate ideas and perspectives with peers and teachers”, I will have them begin brainstorming by writing all of their ideas individually on yellow post-its. Students will then take turns sharing their ideas and just listening (with no negotiating yet). Then, they will take all of the post-its and begin to move them around to see which ideas can be used together and can

now suggest adaptations. Adaptation suggestions will be written on blue post-its and added next to the original idea. These post-its provide a visual/hands on framework for how to brainstorm and problem-solve as a group. Throughout this, I will be circulating and reminding students of the process and giving feedback and guidance.

I will assess and give feedback on these two ATL skills in a few ways. First, informally by walking around and observing students doing these activities and offering immediate feedback and guidance. Second, after students have come up with an initial design, each group will have a meeting with me to discuss their design, it's feasibility (especially in regards to available materials), and I will ask them explicit questions about their use of these two ATL skills which I will record and discuss with them. And third, in their final reflection after the demo, I will have them write about how their

group worked together and how they felt they implemented these skills, where they are in development of these skills, and how they feel they could improve these skills further.

Note-taking Skills:

-will review lesson once have an understanding of the big ideas and key takeaways

-will have to decide as a class what is important to record

-will then use notes to summarize knowledge in a flow-chart format, to synthesize knowledge and understanding of matter and its classifications

Communication

- I. Communication skills
- Exchanging thoughts, messages and information effectively through interaction
- Negotiate ideas and knowledge with peers and teachers

Social

- II. Collaboration skills
- Working effectively with others
- Listen actively to other perspectives and ideas

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 2: Body Systems (Biology)	Systems	Function, Interaction	<p>Orientation in space and time</p> <p>Indigenous understanding</p> <p>Scientific and technical innovation</p> <p>Systems, Models, Methods</p>	<p>Experimental methods can be used to examine how systems function through relationships. (IDU)</p> <p>Interactions within and between systems allow them to function and have importance to Indigenous groups.</p>	<p>A: Knowing and understanding</p> <p>i. outline scientific knowledge</p> <p>ii. apply scientific knowledge and understanding to solve problems set in familiar situations and suggest solutions to problems set in unfamiliar situations</p> <p>iii. interpret information to make scientifically supported judgments</p> <p>B: Inquiring and designing</p> <p>i. outline an appropriate problem or research question to be tested by a scientific investigation</p> <p>ii. outline a testable prediction using scientific reasoning</p> <p>iii. outline how to manipulate the variables, and outline how data will be collected</p> <p>iv. design scientific</p>	<p>• Negotiate effectively</p> <p>Self-management</p> <p>• III. Organization skills</p> <p>• Managing time and tasks effectively</p> <p>• Keep an organized and logical system of information files/ notebooks</p> <p>• Use appropriate strategies for organizing complex information</p> <p>Description</p> <p>Self-management</p> <p>• IV. Affective skills</p> <p>• Managing state of mind</p> <p>• Mindfulness</p> <p>• Practise being aware of body–mind connections</p> <p>• Emotional management</p> <p>• Practise strategies to overcome impulsiveness and anger</p> <p>• Practise strategies to reduce stress and anxiety</p> <p>Thinking</p> <p>• VIII. Critical thinking skills</p> <p>• Analysing and evaluating issues and ideas</p> <p>• Gather and organize relevant information to formulate an argument</p> <p>• Interpret data</p>	<p>the basic structures and functions of body systems:</p> <p>excretory</p> <p>reproductive</p> <p>hormonal</p> <p>nervous</p>

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 4: Patterns and Relationships Graphing - Numerical and Abstract Reasoning / Reasoning with Data Interdisciplinary Unit		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.	investigations C: Processing and evaluating i. present collected and transformed data ii. interpret data and outline results using scientific reasoning iii. discuss the validity of a prediction based on the outcome of the scientific investigation iv. discuss the validity of the method v. describe improvements or extensions to the method D: Reflecting on the impacts of science i. summarize the ways in which science is applied and used to address a specific problem or issue ii. describe and summarize the various implications of using science and its application in solving a specific problem or issue iii. apply scientific language effectively MYP subject group objective(s) Mathematics - Mathematics B: Investigating patterns i. apply mathematical problem-solving techniques to recognize	<ul style="list-style-type: none"> Evaluate evidence and arguments Draw reasonable conclusions and generalizations Test generalizations and conclusions Revise understanding based on new information and evidence Description Thinking <ul style="list-style-type: none"> VIII. Critical thinking skills Analysing and evaluating issues and ideas Interpret data 	increasing and decreasing patterns, using expressions, tables, and graphs as functional relationships line graphs single-outcome probability, both theoretical and

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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 using a logical structure

- Draw reasonable conclusions and generalizations
- Identify trends and forecast possibilities

experimental

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: May The Force Be With You (Physics)	Change	Movement, Energy	Scientific and technical innovation Ingenuity and progress	The consequences of change has impacts on balance and movement; an understanding of which is used to progress human ingenuity in designs.	A: Knowing and understanding i. outline scientific knowledge ii. apply scientific knowledge and understanding to solve problems set in familiar situations and suggest solutions to problems set in unfamiliar situations iii. interpret information to make scientifically supported judgments B: Inquiring and designing i. outline an appropriate problem or research question to be tested by	Description Self-management • V. Reflection skills • (Re-)considering the process of learning; choosing and using ATL skills • Consider ethical, cultural and environmental implications • Keep a journal to record reflections Thinking • VIII. Critical thinking skills • Analysing and evaluating issues and ideas	Newton's three laws of motion effects of balanced and unbalanced forces in daily physical activities force of gravity

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- a scientific investigation
- ii. outline a testable prediction using scientific reasoning
- iii. outline how to manipulate the variables, and outline how data will be collected
- iv. design scientific investigations
- C: Processing and evaluating**
- i. present collected and transformed data
- ii. interpret data and outline results using scientific reasoning
- iii. discuss the validity of a prediction based on the outcome of the scientific investigation
- iv. discuss the validity of the method
- v. describe improvements or extensions to the method
- D: Reflecting on the impacts of science**
- iii. apply scientific language effectively

- Use models and simulations to explore complex systems and issues
- IX. Creative thinking skills
- Generating novel ideas and considering new perspectives
- Use brainstorming and visual diagrams to generate new ideas and inquiries
- Apply existing knowledge to generate new ideas, products or processes
- X. Transfer skills
- Utilizing skills and knowledge in multiple contexts
- Make connections between subject groups and disciplines

Unit Title	Key Concepts	Related Concept(s)	Global Context	Statement of Inquiry	MYP subject group objective(s)	ATL skills	Content (topics, knowledge, skills)
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ATL Skills Summary

Description

Research

- VI. Information literacy skills
- Finding, interpreting, judging and creating information
- Collect, record and verify data
- Access information

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 4: Space and the Universe	Systems	Evidence, Models,	Orientation in space and	Ingenuity allows us to	A: Knowing and understanding	Description	the overall scale, structure, and age of

- 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)
- Compare, contrast and draw connections among (multi)media resources

- Thinking**
- X. Transfer skills
 - Utilizing skills and knowledge in multiple contexts
 - Inquire in different contexts to gain a different perspective
 - Change the context of an inquiry to gain different perspectives

Subject specific skills, knowledge and understandings

Subject Group Overview

Environment	<p>time</p> <p>Indigenous understanding, Civilizations and social histories</p> <p>Scientific and technical innovation</p> <p>Ingenuity and progress</p>	<p>develop technology to gather evidence and observe patterns to model systems we cannot directly observe.</p>	<p>i. outline scientific knowledge</p> <p>ii. apply scientific knowledge and understanding to solve problems set in familiar situations and suggest solutions to problems set in unfamiliar situations</p> <p>iii. interpret information to make scientifically supported judgments</p> <p>D: Reflecting on the impacts of science</p> <p>i. summarize the ways in which science is applied and used to address a specific problem or issue</p> <p>ii. describe and summarize the various implications of using science and its application in solving a specific problem or issue</p> <p>iii. apply scientific language effectively</p> <p>iv. document the work of others and sources of information used</p>	<p>Communication</p> <ul style="list-style-type: none"> • I. Communication skills • Reading, writing and using language to gather and communicate information • Find information for disciplinary and interdisciplinary inquiries, using a variety of media • Organize and depict information logically <p>Social</p> <p>Self-management</p> <ul style="list-style-type: none"> • III. Organization skills • Managing time and tasks effectively • Use appropriate strategies for organizing complex information • V. Reflection skills • (Re-)considering the process of learning; choosing and using ATL skills • Identify strengths and weaknesses of personal learning strategies (self-assessment) <p>Research</p> <ul style="list-style-type: none"> • VII. Media literacy skills • Interacting with media to use and create ideas and information • Seek a range of perspectives from multiple and varied sources 	<p>the universe</p> <p>the position, motion, and components of our solar system in our galaxy</p>
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Subject Group Overview

Sciences (MYP 2)

Unit Title	Key Concepts	Related Concept(s)	Global Context	Statement of Inquiry	MYP subject group objective(s)	Thinking	Content (topics, knowledge, skills)
Unit 0: Intro to Inquiry	Change Relationships Systems	Evidence, Models, Patterns	Orientation in space and time Scientific and technical innovation Models, Methods, Processes and solutions, Ingenuity and progress, Principles and discoveries	By creating, investigating, and using models, evidence, and patterns we can grow and develop our understandings of changes, relationships, and systems; informing and constructing our views on the world around us, our orientation in space and time, and science.	C: Processing and evaluating ii. interpret data and outline results using scientific reasoning	<p>Description</p> <p>Self-management</p> <ul style="list-style-type: none"> • V. Reflection skills • (Re-)considering the process of learning; choosing and using ATL skills • Consider content • What questions do I have now? • Keep a journal to record reflections <p>Research</p> <ul style="list-style-type: none"> • VI. Information literacy skills • Finding, interpreting, judging and creating information • Access information to be informed and inform others <p>Thinking</p> <ul style="list-style-type: none"> • VIII. Critical thinking skills • Analysing and evaluating issues and ideas • Use models and simulations to explore complex systems and issues • IX. Creative thinking skills • Generating novel ideas and considering new perspectives • Use brainstorming and visual diagrams 	Introduction to inquiry and model-based learning in science. Learning the method, approach, and pattern of learning through inquiry.

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 1: This Matters! (Chemistry)	Relationships	Patterns, Models	<p>Scientific and technical innovation</p> <p>Globalization and sustainability</p> <p>Human impact on the environment</p>	Relationships help us identify patterns and create models which help us examine human impacts on the environment.	<p>A: Knowing and understanding</p> <p>i. describe scientific knowledge</p> <p>iii. analyse information to make scientifically supported judgments</p> <p>B: Inquiring and designing</p> <p>i. describe a problem or question to be tested by a scientific investigation</p> <p>ii. outline a testable hypothesis and explain it using scientific reasoning</p> <p>iii. describe how to manipulate the variables, and describe how data will be collected</p> <p>iv. design scientific investigations</p> <p>C: Processing and evaluating</p> <p>i. present collected and</p>	<p>to generate new ideas and inquiries</p> <ul style="list-style-type: none"> • X. Transfer skills • Utilizing skills and knowledge in multiple contexts • Inquire in different contexts to gain a different perspective <p>Subject specific skills, knowledge and understandings</p> <ul style="list-style-type: none"> • XI. Subject specific skills • Custom ATL skills • Other <p>ATL skills</p> <p>Description</p> <p>Communication</p> <ul style="list-style-type: none"> • I. Communication skills • Reading, writing and using language to gather and communicate information • Read critically and for comprehension • Make inferences and draw conclusions • Take effective notes in class • Organize and depict information logically • Structure information in summaries, essays and reports <p>Self-management</p> <ul style="list-style-type: none"> • V. Reflection skills • (Re-)considering the process of learning; choosing and using 	<p>elements and compounds are pure substances</p> <p>crystalline structure of solids</p> <p>chemical changes</p>

<p>transformed data</p> <p>ii. interpret data and describe results using scientific reasoning</p> <p>iii. discuss the validity of a hypothesis based on the outcome of the scientific investigation</p> <p>v. describe improvements or extensions to the method</p> <p>D: Reflecting on the impacts of science</p> <p>i. describe the ways in which science is applied and used to address a specific problem or issue</p> <p>ii. discuss and analyse the various implications of using science and its application in solving a specific problem or issue</p> <p>iii. apply scientific language effectively</p>	<p>ATL skills</p> <ul style="list-style-type: none"> • Consider ethical, cultural and environmental implications <p>Research</p> <ul style="list-style-type: none"> • VI. Information literacy skills • Finding, interpreting, judging and creating information • Collect, record and verify data • Collect and analyse data to identify solutions and make informed decisions • Process data and report results <p>Thinking</p> <ul style="list-style-type: none"> • VIII. Critical thinking skills • Analysing and evaluating issues and ideas • Interpret data • Evaluate evidence and arguments • Draw reasonable conclusions and generalizations • Revise understanding based on new information and evidence • Use models and simulations to explore complex systems and issues • Identify trends and forecast possibilities • IX. Creative thinking skills • Generating novel ideas and
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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 2: Electricity and Magnetism (Physics)	Systems	Energy, Transformation	<p>Orientation in space and time</p> <p>Natural and human landscapes and resources</p> <p>Globalization and sustainability</p> <p>Human impact on the environment, Commodities and commercialization, Consumption, Natural resources and public goods</p>		<p>A: Knowing and understanding</p> <p>i. describe scientific knowledge</p> <p>ii. apply scientific knowledge and understanding to solve problems set in familiar and unfamiliar situations</p> <p>iii. analyse information to make scientifically supported judgments</p> <p>D: Reflecting on the impacts of science</p> <p>i. describe the ways in which science is applied and used to address a specific problem or issue</p> <p>ii. discuss and analyse the various implications of using science and its application in solving a specific problem or issue</p> <p>iii. apply scientific language effectively</p> <p>iv. document the work of others and sources of information used</p>	<p>considering new perspectives</p> <ul style="list-style-type: none"> Use brainstorming and visual diagrams to generate new ideas and inquiries <p>Social</p> <ul style="list-style-type: none"> II. Collaboration skills Working effectively with others Listen actively to other perspectives and ideas <p>Research</p> <ul style="list-style-type: none"> VI. Information literacy skills Finding, interpreting, judging and creating information Collect and analyse data to identify solutions and make informed decisions VII. Media literacy skills Interacting with media to use and create ideas and information Understand the impact of media representations and modes of presentation <p>Thinking</p> <ul style="list-style-type: none"> VIII. Critical thinking skills Analysing and evaluating issues and ideas Gather and organize 	<p>Content</p> <p>electricity generated in different ways with different environmental impacts</p> <p>electromagnetism</p>

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 3: Survivor - Outwit, Outlast, Outplay (Biology)	Relationships	Environment, Form, Function	Orientation in space and time Evolution	Evolution results from a relationship between form, function, and environment.	A: Knowing and understanding i. describe scientific knowledge ii. apply scientific knowledge and understanding to solve problems set in familiar and unfamiliar situations iii. analyse information to make scientifically supported judgments C: Processing and evaluating i. present collected and transformed data ii. interpret data and describe results using scientific reasoning D: Reflecting on the impacts of science i. describe the ways in	relevant information to formulate an argument • Evaluate evidence and arguments • Consider ideas from multiple perspectives • Develop contrary or opposing arguments • IX. Creative thinking skills • Generating novel ideas and considering new perspectives • Practise flexible thinking — develop multiple opposing, contradictory and complementary arguments	organisms have evolved over time survival needs natural selection

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 4: Geology and Climate Change	Change	Consequences, Environment, Evidence	Orientation in space and time Indigenous understanding	Change has environmental consequences supported and represented by evidence and Indigenous understandings.	<p>which science is applied and used to address a specific problem or issue</p> <p>ii. discuss and analyse the various implications of using science and its application in solving a specific problem or issue</p> <p>iii. apply scientific language effectively</p> <p>iv. document the work of others and sources of information used</p> <p>A: Knowing and understanding</p> <p>i. describe scientific knowledge</p> <p>ii. apply scientific knowledge and understanding to solve problems set in familiar and unfamiliar situations</p> <p>iii. analyse information to make scientifically supported judgments</p> <p>B: Inquiring and designing</p> <p>i. describe a problem or question to be tested by a scientific investigation</p> <p>ii. outline a testable hypothesis and explain it using scientific reasoning</p> <p>iii. describe how to manipulate the variables, and describe how data will be collected</p> <p>iv. design scientific investigations</p>	<p>contexts to gain a different perspective</p> <ul style="list-style-type: none"> Change the context of an inquiry to gain different perspectives <p>Description</p> <p>Research</p> <ul style="list-style-type: none"> VI. Information literacy skills Finding, interpreting, judging and creating information Collect, record and verify data Access information to be informed and inform others 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) 	<p>the fossil record provides evidence for changes in biodiversity over geological time</p> <p>First Peoples knowledge of changes in biodiversity over time</p> <p>evidence of climate change over geological time and the recent impacts of humans: physical records</p> <p>local First Peoples knowledge of climate change</p>

Subject Group Overview

C: Processing and evaluating

- i. present collected and transformed data
- ii. interpret data and describe results using scientific reasoning
- iii. discuss the validity of a hypothesis based on the outcome of the scientific investigation
- iv. discuss the validity of the method
- v. describe improvements or extensions to the method

- Demonstrate awareness of media interpretations of events and ideas (including digital social media)
- Understand the impact of media representations and modes of presentation
- Seek a range of perspectives from multiple and varied sources

D: Reflecting on the impacts of science

- i. describe the ways in which science is applied and used to address a specific problem or issue
- ii. discuss and analyse the various implications of using science and its application in solving a specific problem or issue
- iii. apply scientific language effectively
- iv. document the work of others and sources of information used

Unit Title	Key Concepts	Related Concept(s)	Global Context	Statement of Inquiry	MYP subject group objective(s)	ATL skills	Content (topics, knowledge, skills)
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Sample

Sciences (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)
Unit 0: Intro to Inquiry	Change Relationships	Evidence, Models,	Orientation in space and	By creating,	C: Processing and evaluating	Description	Introduction to inquiry

Subject Group Overview

Systems

Patterns

time

Scientific and technical innovation

Models, Methods, Processes and solutions, Ingenuity and progress, Principles and discoveries

investigating, and using models, evidence, and patterns we can grow and develop our understandings of changes, relationships, and systems; informing and constructing our views on the world around us, our orientation in space and time, and science.

ii. interpret data and outline results using scientific reasoning

Self-management

- V. Reflection skills
- (Re-)considering the process of learning; choosing and using ATL skills
- Consider content
- What questions do I have now?
- Keep a journal to record reflections

Research

- VI. Information literacy skills
- Finding, interpreting, judging and creating information
- Access information to be informed and inform others

Thinking

- VIII. Critical thinking skills
- Analysing and evaluating issues and ideas
- Use models and simulations to explore complex systems and issues
- IX. Creative thinking skills
- Generating novel ideas and considering new perspectives
- Use brainstorming and visual diagrams to generate new ideas and inquiries
- X. Transfer skills
- Utilizing skills and knowledge in multiple contexts
- Inquire in different

and model-based learning in science. Learning the method, approach, and pattern of learning through inquiry.

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 1: Chemistry	Change	Models Other: Conditions	Scientific and technical innovation Principles and discoveries	Observing changes that do or do not occur under certain conditions can help us create and evolve models of scientific principles and make new discoveries.	A: Knowing and understanding i. describe scientific knowledge ii. apply scientific knowledge and understanding to solve problems set in familiar and unfamiliar situations iii. analyse information to make scientifically supported judgments B: Inquiring and designing i. describe a problem or question to be tested by a scientific investigation ii. outline a testable hypothesis and explain it using scientific reasoning iii. describe how to manipulate the variables, and describe how data will be collected iv. design scientific investigations C: Processing and evaluating i. present collected and transformed data ii. interpret data and	contexts to gain a different perspective Subject specific skills, knowledge and understandings • XI. Subject specific skills • Custom ATL skills • Other	kinetic molecular theory (KMT) atomic theory and models protons, neutrons, and quarks electrons and leptons

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 2 - Physics	Relationships	Energy, Interaction, Models	Identities and relationships Health and well-being, Lifestyle choices	Models of energy's relationships with the physical world can be created by observation of interactions which allow us to make informed lifestyle choices for our health and well-being.	<p>describe results using scientific reasoning</p> <p>iii. discuss the validity of a hypothesis based on the outcome of the scientific investigation</p> <p>iv. discuss the validity of the method</p> <p>v. describe improvements or extensions to the method</p> <p>D: Reflecting on the impacts of science</p> <p>iii. apply scientific language effectively</p> <p>iv. document the work of others and sources of information used</p> <p>A: Knowing and understanding</p> <p>i. describe scientific knowledge</p> <p>ii. apply scientific knowledge and understanding to solve problems set in familiar and unfamiliar situations</p> <p>iii. analyse information to make scientifically supported judgments</p> <p>B: Inquiring and designing</p> <p>i. describe a problem or question to be tested by a scientific investigation</p> <p>ii. outline a testable hypothesis and explain it using scientific reasoning</p> <p>iii. describe how to manipulate the variables, and describe</p>	<p>explore complex systems and issues</p> <ul style="list-style-type: none"> IX. Creative thinking skills Generating novel ideas and considering new perspectives Consider multiple alternatives, including those that might be unlikely or impossible <p>Description</p> <p>Self-management</p> <ul style="list-style-type: none"> 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 Emotional management Practise strategies to reduce stress and anxiety Self-motivation Practise managing 	types and effects of electromagnetic radiation light: properties behaviours ways of sensing

<p>how data will be collected</p> <p>iv. design scientific investigations</p> <p>C: Processing and evaluating</p> <p>i. present collected and transformed data</p> <p>ii. interpret data and describe results using scientific reasoning</p> <p>iii. discuss the validity of a hypothesis based on the outcome of the scientific investigation</p> <p>iv. discuss the validity of the method</p> <p>v. describe improvements or extensions to the method</p> <p>D: Reflecting on the impacts of science</p> <p>i. describe the ways in which science is applied and used to address a specific problem or issue</p> <p>ii. discuss and analyse the various implications of using science and its application in solving a specific problem or issue</p> <p>iii. apply scientific language effectively</p>	<p>self-talk</p> <ul style="list-style-type: none"> • V. Reflection skills • (Re-)considering the process of learning; choosing and using ATL skills • Consider personal learning strategies • What can I do to become a more efficient and effective learner? <p>Research</p> <ul style="list-style-type: none"> • VI. Information literacy skills • Finding, interpreting, judging and creating information • Collect, record and verify data • Collect and analyse data to identify solutions and make informed decisions • Process data and report results <p>Thinking</p> <ul style="list-style-type: none"> • VIII. Critical thinking skills • Analysing and evaluating issues and ideas • Interpret data • Draw reasonable conclusions and generalizations • Test generalizations and conclusions • Revise understanding based on new information and evidence
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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 3 - Biology	Systems	Function, Form Other: System forms result from function.	Identities and relationships Physical, psychological and social development Scientific and technical innovation	The form of a system results from its needed function; which directly relates to physical, psychological, and social development.	A: Knowing and understanding i. describe scientific knowledge ii. apply scientific knowledge and understanding to solve problems set in familiar and unfamiliar situations iii. analyse information to make scientifically supported judgments D: Reflecting on the impacts of science i. describe the ways in which science is applied and used to address a specific problem or issue ii. discuss and analyse the various implications of using science and its application in solving a specific problem or issue iii. apply scientific language effectively iv. document the work of others and sources of information used	Description 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) Thinking • IX. Creative thinking skills • Generating novel ideas and considering new perspectives • Generate metaphors and analogies	characteristics of life cell theory and types of cells photosynthesis and cellular respiration the relationship of micro-organisms with living things: basic functions of the immune system vaccination and antibiotics impacts of epidemics and pandemics on human populations
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 - Geology	Change	Consequences, Environment, Movement Other: Movement has consequences that can cause changes in the environment.	Orientation in space and time Indigenous understanding	Movement has consequences that can cause changes in the environment which are retained in Indigenous histories.	A: Knowing and understanding i. describe scientific knowledge ii. apply scientific knowledge and understanding to solve problems set in familiar and unfamiliar situations iii. analyse information to make scientifically	Description Self-management • V. Reflection skills • (Re-)considering the process of learning; choosing and using ATL skills • Consider ethical, cultural and	plate tectonic movement major geological events of local significance First Peoples knowledge of: local geological formations significant local geological events layers of Earth

Subject Group Overview

supported judgments
C: Processing and evaluating
 i. present collected and transformed data
D: Reflecting on the impacts of science
 i. describe the ways in which science is applied and used to address a specific problem or issue
 ii. discuss and analyse the various implications of using science and its application in solving a specific problem or issue
 iii. apply scientific language effectively
 iv. document the work of others and sources of information used

environmental implications
Thinking
 • X. Transfer skills
 • Utilizing skills and knowledge in multiple contexts
 • Change the context of an inquiry to gain different perspectives

Sciences (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)
Unit 1: One to a trillion - Cells and Reproduction	Systems	Function, Transformation	Scientific and technical innovation Ingenuity and progress	Human ingenuity and progress permits the exploration of how transformations affect the function of a system. Cells are derived from cells. (BC Big Idea)	A: Knowing and understanding i. explain scientific knowledge ii. apply scientific knowledge and understanding to solve problems set in familiar and unfamiliar situations iii. analyse and evaluate information to make scientifically supported judgments C: Processing and evaluating i. present collected and transformed data D: Reflecting on the	Description Communication • I. Communication skills • Reading, writing and using language to gather and communicate information • Organize and depict information logically	asexual reproduction: mitosis different forms sexual reproduction: meiosis human sexual reproduction

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 2: What's current? - Electricity	Change	Energy, Consequences	<p>Fairness and development</p> <p>Imagining a hopeful future</p>	<p>Energy changes must meet the needs of the future with minimal consequences.</p> <p>Electric current is the flow of electric charge (BC Big Idea)</p>	<p>impacts of science</p> <p>i. explain the ways in which science is applied and used to address a specific problem or issue</p> <p>ii. discuss and evaluate the various implications of using science and its application to solve a specific problem or issue</p> <p>iii. apply scientific language effectively</p> <p>iv. document the work of others and sources of information used</p> <p>A: Knowing and understanding</p> <p>i. explain scientific knowledge</p> <p>ii. apply scientific knowledge and understanding to solve problems set in familiar and unfamiliar situations</p> <p>iii. analyse and evaluate information to make scientifically supported judgments</p> <p>B: Inquiring and designing</p> <p>i. explain a problem or question to be tested by a scientific investigation</p> <p>ii. formulate a testable hypothesis and explain it using scientific reasoning</p> <p>iii. explain how to manipulate the variables, and explain how data will be</p>	<p>Description</p> <p>Communication</p> <ul style="list-style-type: none"> I. Communication skills Reading, writing and using language to gather and communicate information Make inferences and draw conclusions <p>Self-management</p> <ul style="list-style-type: none"> III. Organization skills Managing time and tasks effectively Understand and use sensory learning preferences (learning styles) <p>Thinking</p> <ul style="list-style-type: none"> VIII. Critical thinking skills Analysing and evaluating issues and ideas 	<p>circuits — must be complete for electrons to flow</p> <p>voltage, current, and resistance</p> <p>effects of solar radiation on the cycling of matter and energy</p>

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 3: We're bonding - Chemistry	Systems	Form, Function	<p>Scientific and technical innovation</p> <p>Models, Methods</p>	Opportunity and risk arise from the form and function of systems.	<p>collected</p> <p>iv. design scientific investigations</p> <p>C: Processing and evaluating</p> <p>i. present collected and transformed data</p> <p>ii. interpret data and explain results using scientific reasoning</p> <p>iii. evaluate the validity of a hypothesis based on the outcome of the scientific investigation</p> <p>iv. evaluate the validity of the method</p> <p>v. explain improvements or extensions to the method</p> <p>D: Reflecting on the impacts of science</p> <p>i. explain the ways in which science is applied and used to address a specific problem or issue</p> <p>ii. discuss and evaluate the various implications of using science and its application to solve a specific problem or issue</p> <p>iii. apply scientific language effectively</p> <p>iv. document the work of others and sources of information used</p>	<ul style="list-style-type: none"> Interpret data Evaluate evidence and arguments <p>Description</p> <p>In order for students to interpret data and explain results using</p>	<p>element properties as organized in the periodic table</p> <p>The arrangement of electrons determines the compounds formed</p>

understanding to solve problems set in familiar and unfamiliar situations
 iii. analyse and evaluate information to make scientifically supported judgments

B: Inquiring and designing

i. explain a problem or question to be tested by a scientific investigation
 ii. formulate a testable hypothesis and explain it using scientific reasoning
 iii. explain how to manipulate the variables, and explain how data will be collected
 iv. design scientific investigations

C: Processing and evaluating

i. present collected and transformed data
 ii. interpret data and explain results using scientific reasoning
 iii. evaluate the validity of a hypothesis based on the outcome of the scientific investigation
 iv. evaluate the validity of the method
 v. explain improvements or extensions to the method

D: Reflecting on the impacts of science

i. explain the ways in which science is applied and used to address a specific problem or

scientific reasoning (Cii) and evaluate the validity of hypothesis based on the outcome of the scientific investigation (Ciii) students **must make inferences and draw conclusions.**

Communication

- I. Communication skills
- Reading, writing and using language to gather and communicate information
- Make inferences and draw conclusions

Self-management

- V. Reflection skills
- (Re-)considering the process of learning; choosing and using ATL skills
- Identify strengths and weaknesses of personal learning strategies (self-assessment)

Research

- VI. Information literacy skills
- Finding, interpreting, judging and creating information
- Collect and analyse data to identify solutions and make informed decisions

by elements

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 4: Around we go - Ecology	Relationships	Balance, Interaction Other: Environment, Energy, Movement	Globalization and sustainability Human impact on the environment	Human activity affects relationships as they interact to maintain balance. The biosphere, geosphere, hydrosphere and atmosphere are interconnected, as matter cycles and energy flows through them. (BC Big Idea)	issue ii. discuss and evaluate the various implications of using science and its application to solve a specific problem or issue iii. apply scientific language effectively iv. document the work of others and sources of information used A: Knowing and understanding i. explain scientific knowledge ii. apply scientific knowledge and understanding to solve problems set in familiar and unfamiliar situations iii. analyse and evaluate information to make scientifically supported judgments B: Inquiring and designing i. explain a problem or question to be tested by a scientific investigation ii. formulate a testable hypothesis and explain it using scientific reasoning iii. explain how to manipulate the variables, and explain how data will be collected iv. design scientific investigations C: Processing and evaluating	Description In order to explain the ways in which science is applied and used to address a specific problem or issue (Ci) students must gather and organize relevant information to formulate an argument. Social • II. Collaboration skills • Working effectively with others • Delegate and share responsibility for decision-making • Manage and resolve conflict and work collaboratively in teams • Build consensus Thinking • VIII. Critical thinking skills • Analysing and evaluating issues and ideas	effects of solar radiation on the cycling of matter and energy matter cycles within biotic and abiotic components of ecosystems sustainability of systems First Peoples knowledge of interconnectedness and sustainability

Subject Group Overview

- i. present collected and transformed data
 - ii. interpret data and explain results using scientific reasoning
 - iii. evaluate the validity of a hypothesis based on the outcome of the scientific investigation
 - iv. evaluate the validity of the method
 - v. explain improvements or extensions to the method
- D: Reflecting on the impacts of science**
- i. explain the ways in which science is applied and used to address a specific problem or issue
 - ii. discuss and evaluate the various implications of using science and its application to solve a specific problem or issue
 - iii. apply scientific language effectively
 - iv. document the work of others and sources of information used
- Gather and organize relevant information to formulate an argument

Sciences (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)
DNA: The Code of Life	Relationships	Consequences, Interaction	Scientific and technical innovation Risk, Principles and discoveries, Opportunity	Opportunity and risk are consequences of understanding interactions and relationships. DNA is the basis for the diversity of living things.	A: Knowing and understanding i. explain scientific knowledge ii. apply scientific knowledge and understanding to solve problems set in familiar and unfamiliar situations	Description In order for students to discuss and evaluate the various implications of using science and its application to solve a	DNA structure and function patterns of inheritance mechanisms for the diversity of life: mutation and its impact on evolution natural selection and artificial selection

iii. analyse and evaluate information to make scientifically supported judgments

C: Processing and evaluating

i. present collected and transformed data

D: Reflecting on the impacts of science

i. explain the ways in which science is applied and used to address a specific problem or issue

ii. discuss and evaluate the various implications of using science and its application to solve a specific problem or issue

iii. apply scientific language effectively

iv. document the work of others and sources of information used

specific problem (Objective Dii), students must use appropriate forms of writing for different purposes and audience.

In order for students to document the work of others and sources of information used (Objective Div), students must create references and citations, use footnotes/endnotes and construct a bibliography according to recognized conventions.

Communication

- I. Communication skills
- Exchanging thoughts, messages and information effectively through interaction
- Use a variety of speaking techniques to communicate with a variety of audiences

Research

- VI. Information literacy skills
- Finding, interpreting, judging and creating information
- Create references and citations, use footnotes/endnotes and construct bibliography according to recognised

applied genetics and ethical considerations local and global impacts of energy transformations from technologies

Subject Group Overview

Unit Title	Key Concepts	Related Concept(s)	Global Context	Statement of Inquiry	MYP subject group objective(s)	conventions ATL skills	Content (topics, knowledge, skills)
Transformation of energy	Change	Energy, Transformation	Scientific and technical innovation Opportunity, Risk	Energy transformations are changes that present opportunity and risk.	<p>A: Knowing and understanding</p> <p>i. explain scientific knowledge</p> <p>ii. apply scientific knowledge and understanding to solve problems set in familiar and unfamiliar situations</p> <p>iii. analyse and evaluate information to make scientifically supported judgments</p> <p>B: Inquiring and designing</p> <p>i. explain a problem or question to be tested by a scientific investigation</p> <p>ii. formulate a testable hypothesis and explain it using scientific reasoning</p> <p>iii. explain how to manipulate the variables, and explain how data will be collected</p> <p>iv. design scientific investigations</p> <p>C: Processing and evaluating</p> <p>i. present collected and transformed data</p> <p>ii. interpret data and explain results using scientific reasoning</p> <p>iii. evaluate the validity of a hypothesis based on the outcome of the scientific investigation</p> <p>iv. evaluate the validity of the method</p>	<p>Description</p> <p>In order for students to inquire, design, process and evaluate, students must use critical thinking skills.</p> <p>Thinking</p> <ul style="list-style-type: none"> • VIII. Critical thinking skills • Analysing and evaluating issues and ideas • Practise observing carefully in order to recognise problems • Gather and organize relevant information to formulate an argument • Interpret data • Evaluate evidence and arguments • Draw reasonable conclusions and generalizations 	<p>law of conservation of energy</p> <p>potential and kinetic energy</p> <p>transformation of energy</p> <p>local and global impacts of energy</p> <p>transformations from technologies</p>

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)
Chemistry: Chemical Processes	Systems	Balance, Interaction	Scientific and technical innovation Processes and solutions	Processes and solutions should maintain balance between interacting systems.	<p>v. explain improvements or extensions to the method</p> <p>D: Reflecting on the impacts of science</p> <p>i. explain the ways in which science is applied and used to address a specific problem or issue</p> <p>ii. discuss and evaluate the various implications of using science and its application to solve a specific problem or issue</p> <p>iii. apply scientific language effectively</p> <p>iv. document the work of others and sources of information used</p> <p>A: Knowing and understanding</p> <p>i. explain scientific knowledge</p> <p>ii. apply scientific knowledge and understanding to solve problems set in familiar and unfamiliar situations</p> <p>iii. analyse and evaluate information to make scientifically supported judgments</p> <p>B: Inquiring and designing</p> <p>i. explain a problem or question to be tested by a scientific investigation</p> <p>ii. formulate a testable hypothesis and explain it using scientific reasoning</p>	<p>Description</p> <p>In order for students to design, inquire, process and evaluate chemical changes students must use critical thinking skills.</p> <p>Social</p> <ul style="list-style-type: none"> • II. Collaboration skills • Working effectively with others • Help others to succeed • Encourage others to contribute <p>Self-management</p> <ul style="list-style-type: none"> • V. Reflection skills • (Re-)considering the process of learning; choosing and using 	<p>rearrangement of atoms in chemical reactions</p> <p>acid-base chemistry</p> <p>law of conservation of mass</p> <p>energy change during chemical reactions</p> <p>practical applications and implications of chemical processes, including First Peoples knowledge</p>

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)
Formation of the universe and	Systems	Evidence,	Identities and	Identity forms from	<p>iii. explain how to manipulate the variables, and explain how data will be collected</p> <p>iv. design scientific investigations</p> <p>C: Processing and evaluating</p> <p>i. present collected and transformed data</p> <p>ii. interpret data and explain results using scientific reasoning</p> <p>iii. evaluate the validity of a hypothesis based on the outcome of the scientific investigation</p> <p>iv. evaluate the validity of the method</p> <p>v. explain improvements or extensions to the method</p> <p>D: Reflecting on the impacts of science</p> <p>i. explain the ways in which science is applied and used to address a specific problem or issue</p> <p>ii. discuss and evaluate the various implications of using science and its application to solve a specific problem or issue</p> <p>iii. apply scientific language effectively</p> <p>iv. document the work of others and sources of information used</p> <p>A: Knowing and understanding</p>	<p>ATL skills</p> <ul style="list-style-type: none"> Identify strengths and weaknesses of personal learning strategies (self-assessment) <p>Thinking</p> <ul style="list-style-type: none"> VIII. Critical thinking skills Analysing and evaluating issues and ideas Practise observing carefully in order to recognise problems Gather and organize relevant information to formulate an argument Interpret data Evaluate evidence and arguments Draw reasonable conclusions and generalizations Evaluate and manage risk 	formation of the universe:

Subject Group Overview

astronomical data	Transformation	relationships Identity formation	observing evidence of transformations in systems.	<p>i. explain scientific knowledge</p> <p>iii. analyse and evaluate information to make scientifically supported judgments</p> <p>C: Processing and evaluating</p> <p>i. present collected and transformed data</p> <p>ii. interpret data and explain results using scientific reasoning</p> <p>iii. evaluate the validity of a hypothesis based on the outcome of the scientific investigation</p> <p>iv. evaluate the validity of the method</p> <p>v. explain improvements or extensions to the method</p> <p>D: Reflecting on the impacts of science</p> <p>i. explain the ways in which science is applied and used to address a specific problem or issue</p> <p>ii. discuss and evaluate the various implications of using science and its application to solve a specific problem or issue</p> <p>iii. apply scientific language effectively</p> <p>iv. document the work of others and sources of information used</p>	<p>In order for students to explain the ways in which science is applied and used to address a specific problem or issue, students must read a variety of sources for information critically and for comprehension.</p> <p>Communication</p> <ul style="list-style-type: none"> • I. Communication skills • 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 	big bang theory components of the universe over time astronomical data and collection methods
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