

Science Subject Overview MYP Years I-III

## MYP-I

SR#	Unit Name	Key concepts	Related concepts	Global context	Statement of Inquiry	MYP Objectives	Approaches to learning	Content	Summative Assessment Task
1.	What do scientists do?	Relationships	Science •Evidence	Identities and relationships Focus exploration • roles and role models	To be a scientist means to gather evidence about similarities and differences in nature to understand how things are related.	Science Year 1 Objectives Objective A: Knowing and understanding i. outline scientific knowledge iii. interpret information to make scientifically supported judgments. Objective B: Inquiring and designing i. outline an appropriate problem or research question to be	Media literacy skills • Demonstrate awareness of media interpretations of events and ideas (including digital social media) Information literacy skills • Access information to be informed and inform others Creative-thinking skills • Use brainstorming and visual diagrams to generate new ideas and inquiries Collaboration skills • Take responsibility for one's own actions Critical-thinking skills • Practise observing carefully in order to recognize problems • Evaluate evidence	* How do scientists behave? * What is an experiment? * How is the laboratory different? * Scientific inquiry cycle	Research some of the misunderstandings online by searching: Popular scientific misconceptions. 'de-bunk' these misconceptions by explaining the real science behind them. <b>Criterion A:</b> Knowing and understanding <b>Criterion C:</b> Processing and evaluating

						tested by a scientific investigation iii. outline how to manipulate the variables, and outline how data will be collected <b>Objective C:</b> <b>Processing</b> <b>and</b> <b>evaluating</b> <b>i.</b> present collected and transformed data	and arguments •Formulate factual, topical, conceptual and debatable questions •Develop contrary or opposing arguments		
2.	What changes?	•Change	Science •Transformation •Form	Fairness and development Focus exploration: Human capability and development	Science enables us to change the form of matter into useful materials that can make the world a better place.	Science Year 1 Objectives Objective A: Knowing and understanding i. Outline scientific knowledge ii. apply scientific knowledge and understanding	Transfer skills • Apply skills and knowledge in unfamiliar situations Information literacy skills • Access information to be informed and inform others Critical-thinking skills • Practice observing carefully in order to recognize problems • Gather and	In this unit, we have classified materials as natural or artificial and suggested uses for them. We have outlined three states of matter using their physical properties and identified	Research online to design, and market a water purifier. Demonstrate the science behind the purification of water <b>Criterion D:</b> Reflecting on the impact of science

		to solve	organize relevant	what happens	
		problems set	information to	when they	
		•			
		in familiar	formulate an	change. We	
		situations and	argument	have	
		suggest	Interpret data	classified	
		solutions to	•Draw reasonable	mixtures,	
		problems set	conclusions, and	suspensions,	
		in unfamiliar	generalizations	solutions, and	
		situations	<ul> <li>Analyze complex</li> </ul>	pure	
		iii. interpret	concepts and	substances,	
		information to	projects into their	and defined	
			constituent parts	solutions,	
		make	and synthesize them	solutes, and	
		scientifically	to create new	solvents. We	
		supported	understanding	have then	
		judgments.	Creative-thinking	explained	
		Objective B:	skills	how	
		Inquiring and	<ul> <li>Create novel</li> </ul>	dissolving	
		designing	solutions to	occurs and	
			authentic problems	described	
		i. outline an	•Make guesses, ask	some special	
		appropriate	"what if" questions	forms of	
		problem or	and generate	solutions such	
		research	testable hypotheses	as some	
		question to be	•Apply existing	crystals. We	
		tested by a	knowledge to	carried out	
		scientific	generate new ideas,	experiments	
		investigation	products, or	that	
			processes	demonstrated	
		ii. outline a	F 500000	ways to	
		testable		separate	
		prediction		mixtures,	
		using scientific		suspensions,	
		reasoning		and solutions	
				using their	

iii. outline	physical
how to	properties,
manipulate	and finally,
the variables,	we identified
and outline	some
how data will	chemical and
be collected	biological
	changes.
iv. design	
scientific	
investigations.	
Objective C:	
Processing	
and	
evaluating	
i. present	
collected and	
transformed	
data	
"interpret	
ii. interpret	
data and	
outline results	
using scientific	
reasoning	
iii. discuss the	
validity of a	
prediction	
based on the	
outcome of	
the scientific	
investigation	

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	iv. discuss the	
	validity of the	
	method	
	v. describe	
	improvements	
	or extensions	
	to the	
	method.	
	Objective 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 <b>iv.</b> document the work of others and sources of information used.			
3. How do living things work?	Relationships	Science •Function •Form	Globalization and sustainability Focus exploration: Commonality, diversity, and interconnection	By understanding the relationship between the necessities of life and the specialized forms and functions of living things, we can make decisions and take action for healthier and more sustainable lifestyles.	Science Year 1 Objectives Objective 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	Information literacy skills •Create references and citations, use footnotes/endnotes, and construct a bibliography according to recognized conventions Media literacy skills •Locate, organize, analyze, evaluate, synthesize and ethically use information from a variety of sources and media (including digital social media and online networks)	Learners will find out what characteristics and needs all living things share, and which are specialized for different types of organisms. They will explore the relationship between the specialized forms and functions of living things and where and how they	Research, design, and carry out an experiment to identify the best conditions to produce either bean sprouts, yogurt, or bread dough. <b>Criteria A:</b> Knowing and Understanding <b>Criteria B</b> Planning and designing <b>Criterion C:</b> Processing and evaluating

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problems set	Demonstrate	live.	
in unfamiliar	awareness of media	* Then they	
situations	interpretations of	will take	
iii. interpret	events and ideas	action by	
	(including digital	advising	
information to	social media)	people how	
make	Critical-thinking	to save	
scientifically	skills	money and	
supported	<ul> <li>Draw reasonable</li> </ul>	eat more	
judgments.	conclusions and	healthily by	
Objective B:	generalizations	producing and	
Inquiring and	•Revise	growing some	
designing	understanding	of their	
uesigning	based on new	own food.	
i. outline an	information and		
appropriate	evidence		
problem or	Communication		
research	skills		
question to be	•Use a variety of		
tested by a	media to		
scientific	communicate with a		
investigation	range of audiences		
_	•Interpret and use		
ii. outline a	effectively modes of		
testable	non-verbal		
prediction			
using scientific	communication		
reasoning	•Share ideas with		
	multiple audiences		
iii. outline how	using a variety of		
to manipulate	digital environments		
the variables,	and media.		
and outline	<ul> <li>Make inferences</li> </ul>		
how data will	and draw		
be collected	conclusions		
	<ul> <li>Paraphrase</li> </ul>		

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			iv. design	accurately and	
			scientific	concisely	
			investigations.		
			in congations.		
			<b>Objective C:</b>		
			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.		

4.	What	Change	Science	Globalization	Through	Science	Communication	In this unit ,	Read the article to
	makes		Energy	and	controlling	Year 1	skills	learners will	answer questions
	change			sustainability	energy we can	Objectives	<ul> <li>Negotiate ideas</li> </ul>	find out how	about how we can
	happen?				make changes	<b>Objective A:</b>	and knowledge with	energy is	save money and
				Focus	happen that	Knowing and	peers and teachers	changed, how	save the planet.
				Exploration:	have an	understanding	Transfer skills	it is	They then
					impact on the		<ul> <li>Apply skills and</li> </ul>	measured,	research a chosen
				Consumption,	way people	i. Outline	knowledge in	and how it	method of
				conservation,	live now and	scientific	unfamiliar situations	can be	preventing heat
				scarcity	in the future.	knowledge	<b>Collaboration skills</b>	controlled.	loss in households.
						ii. apply	<ul> <li>Listen actively to</li> </ul>	Explore	
						scientific	other perspectives	different ways	Criteria A:
						knowledge	and ideas	to change	Knowing and
						and	Information literacy	energy,	understanding
						understanding	skills	temperature	Criteria D:
						to solve	<ul> <li>Use critical literacy</li> </ul>	scales, and	Reflecting on the
						problems set	skills to analyze and	ways to	impacts of Science
						in familiar	interpret media	reduce energy	
						situations and	communications	loss.	
						suggest	<ul> <li>Access information</li> </ul>	Take action to	
						solutions to	to be informed and	find ways to	
						problems set	inform others	use energy	
						in unfamiliar	<ul> <li>Collect and analyze</li> </ul>	sustainably,	
						situations	data to identify	with the	
							solutions and make	minimum	
						iii. Interpret	informed decisions	impact on	
						information to	Creative-thinking	global	
						make	skills	climate.	
						scientifically	<ul> <li>Design</li> </ul>		
						supported	improvements to		
						judgments.	existing machines,		
						Objective Pr	media and		
						Objective B:	technologies		
						Inquiring and	Critical-thinking		
						designing	skills		

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			i. outline an	<ul> <li>Practice observing</li> </ul>	
			appropriate	carefully in order to	
			problem or	recognize problems	
			research	<ul> <li>Gather and</li> </ul>	
			question to be	organize relevant	
			tested by a	information to	
			scientific	formulate an	
			investigation	argument	
				<ul> <li>Interpret data</li> </ul>	
			ii. outline a	•Test	
			testable	generalizations and	
			prediction	conclusions	
			using scientific		
			reasoning		
			iii. outline how		
			to manipulate		
			the variables,		
			and outline		
			how data will		
			be collected		
			beconected		
			iv. design		
			scientific		
			investigations.		
			Objective C:		
			Processing		
			and		
			evaluating		
			i. present		
			collected and		
			transformed		
			data		
			uuu		
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	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.	
	Objective 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			
						iv. document			
						the work of			
						others and			
						sources of			
						information			
						used.			
5.	How can	Systems	Science	Scientific and	Scientists	Science	Information literacy	In this unit,	Design and
	we study		•Balance	technical	have	Year 1	skills	learners will	construct their
	the living		<ul> <li>Interaction</li> </ul>	innovation	developed	Objectives	<ul> <li>Collect and analyze</li> </ul>	discover the	own mesocosm
	world?				methods and	Objective A:	data to identify	definition of	
				Focus	tools to	Knowing and	solutions and make	an ecosystem	Criteria B:
				Exploration:	understand	understanding	informed decisions	and the	Planning and
					and maintain		Creative-thinking	essential	designing
					the		skills	interactions	Criteria C:

Adaptation, ingenuity, and progress	interactions that keep ecosystems in balance.	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	<ul> <li>Apply existing knowledge to generate new ideas, products, or processes</li> <li>Practice visible thinking strategies and techniques</li> <li>Organization skills</li> <li>Plan short- and long-term assignments; meet deadlines</li> <li>Keep an organized and logical system of information files/notebooks</li> <li>Use appropriate</li> </ul>	between living and non-living elements that contribute to balanced and healthy ecosystems. They will investigate the impact of human influence on ecosystem balance and health, both through scientific	Processing and evaluating

scientific	acasystam
	ecosystem
investigation	health.
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.	
Objective 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 validity of the method v. describe improvements or extensions to the method. Objective D: Reflecting on the impacts of science i. Summarize the ways in which science is applied and
outcome of   the scientific   investigation   iv. discuss the   validity of the   method   v. describe   improvements   or extensions   to the   method.     Objective D:   Reflecting on   the impacts of   science     i. Summarize   the ways in   which science
Image: selection of the scientific investigation   iv. discuss the validity of the method   v. describe improvements or extensions to the method.   Objective D: Reflecting on the impacts of science   i. Summarize the ways in which science
Image: Sector of the sector of th
<pre>iv. discuss the validity of the method v. describe improvements or extensions to the method. Objective D: Reflecting on the impacts of science i. Summarize the ways in which science</pre>
validity of the   wethod   v. describe   improvements   or extensions   to the   method.     Objective D:   Reflecting on   the impacts of   science     i. Summarize   the ways in   which science
validity of the   wethod   v. describe   improvements   or extensions   to the   method.     Objective D:   Reflecting on   the impacts of   science     i. Summarize   the ways in   which science
Image: Section of the sec
v. describe   improvements   or extensions   to the   method.   Objective D:   Reflecting on   the impacts of   science   i. Summarize   the ways in   which science
Improvements   or extensions   to the   method.     Objective D:   Reflecting on   the impacts of   science     i. Summarize   the ways in   which science
Improvements   or extensions   to the   method.     Objective D:   Reflecting on   the impacts of   science     i. Summarize   the ways in   which science
or extensions   to the   method.   Objective D:   Reflecting on   the impacts of   science   i. Summarize   the ways in   which science
Image: state of the state of science   Image: state of the state of
Image: Section of the impacts of science     i. Summarize   the ways in   which science
Image: Second
Reflecting on   the impacts of   science   i. Summarize the ways in which science
Reflecting on   the impacts of   science   i. Summarize the ways in which science
Image: set of science       i. Summarize         Image: set of science       the ways in         Image: set of science       which science
science       i. Summarize       the ways in       which science
i. Summarize the ways in which science
the ways in which science
which science
is applied and
used to
address a
specific
problem or
issue
ii. describe
and
summarize
the various
implications of

6.	Where	•Systems	Science	Orientation in	We have	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. Science	Organization skills	What is in the	Research on space
	do we fit into the world?		•Models •Environment	space and time Focus Exploration: Scale, duration, frequency, and variability	learnt about our place in the systems that affect life on Earth through looking beyond into space and making models.	Year 1 Objectives Objective A: Knowing and understanding i. Outline scientific knowledge ii. apply scientific knowledge and understanding to solve problems set	<ul> <li>Select and use technology</li> <li>effectively and productively</li> <li>Collaboration skills</li> <li>Delegate and share responsibility for decision-making</li> <li>Information literacy</li> <li>skills</li> <li>Access information to be informed and inform others</li> <li>Make connections between various sources of</li> </ul>	solar system? Where is Earth? The Earth's systems What is the structure of our planet? How do different systems of Earth affect each other? How do models help	missions that have been used to find out about Earth systems. Choose one research mission to investigate in more detail, and present your work. Criteria D: Reflecting on the impacts of Science

in familiar	information	us to	
situations and	<ul> <li>Process data and</li> </ul>	understand	
suggest	report results	Earth's	
solutions to	<ul> <li>Understand and</li> </ul>	systems? How	
problems set	use technology	does	
in unfamiliar	systems	knowledge	
situations	Creative-thinking	from space	
	skills	exploration	
iii. interpret	<ul> <li>Apply existing</li> </ul>	help us to	
information to	knowledge to	understand	
make	generate new ideas,	the Earth?	
scientifically	products or		
supported	processes		
judgments.	Communication		
	skills		
Objective B:			
Inquiring and	•Use a variety of		
designing	media to		
i. outline an	communicate with a		
	range of audiences		
appropriate	Critical-thinking		
problem or	skills		
research	<ul> <li>Gather and</li> </ul>		
question to be	organize relevant		
tested by a	information to		
scientific	formulate an		
investigation	argument		
ii. outline a	<ul> <li>Interpret data</li> </ul>		
	•Evaluate evidence		
testable	and arguments		
prediction	•Draw reasonable		
using scientific	conclusions and		
reasoning	generalizations		
iii. outline how	•Evaluate and		
to manipulate	manage risk		
the variables,	<ul> <li>Use models and</li> </ul>		

and outline simulations to
how data will explore complex
be collected systems and issues
iv. design
scientific
investigations.
Objective 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

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			or extensions		
			to the		
			method.		
			Objective D:		
			<b>Reflecting on</b>		
			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		
			enectively		
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	iv. document the work of	
	others and	
	sources of	
	information	
	used.	

## **MYP-II**

SR#	Unit Name	Key concepts	Related concepts	Global context	Statement of Inquiry	MYP Objectives	Approaches to learning	Content	Summative Assessment
1.	Where are we now and where might we be going?	Relationships	Science •Models •Movement	Orientation in space and time Focus exploration Scale, duration, frequency, and Evolution	Through making models of the world we have understood how place and time relate to motion and we have made the world seem a smaller place.	Science Year 1 Objective Objective A: Knowing and understanding ii. apply scientific knowledge and understanding to solve problems set in familiar situations and suggest solutions to problems set in unfamiliar situations	Information literacy skills •Collect, record, and verify data •Access information to be informed and inform others •Make connections between various sources of information •Present information in a variety of formats and platforms •Collect and analyze data to	Learners can know how early humans traveled across the Earth and summarize the ways in which human civilization developed measurements. They construct charts and graphs to present information on motion in space and time, and determine speeds, velocities, and accelerations	Research and find out about the impact of automobile use on local and global environments and advise to motorists to minimize the impact of their vehicles. Present the information. <b>Criterion D:</b> Reflecting on the impact of science.

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				iii. interpret	identify	from those	
				information to	solutions and	charts. Describe	
				make	make informed	how forces	
				scientifically	decisions	affect motion,	
				supported	<ul> <li>Understand</li> </ul>	and	
				judgments.	and use	demonstrate	
					technology	what happens	
				<b>Objective C:</b>	systems	when forces	
				Processing	Critical-thinking	balance.	
				and	skills	Describe how	
				evaluating	<ul> <li>Practise</li> </ul>	transportation	
				i. present	observing	systems have	
				collected and	carefully in	developed in	
				transformed	order to	time, and	
					recognize	evaluate the	
				data	problems	impacts of mass	
				ii. interpret	•Gather and	transportation	
				data and	organize	on local and	
				outline results	relevant	global	
				using scientific	information to	-	
				reasoning		environments.	
				reasoning	formulate an		
				Objective D:	argument		
				Reflecting on	<ul> <li>Interpret data</li> </ul>		
				the impacts of	<ul> <li>Evaluate</li> </ul>		
				science	evidence and		
					arguments		
				i. summarize	<ul> <li>Revise</li> </ul>		
				the ways in	understanding		
				which science	based on new		
				is applied and	information and		
				used to	evidence		
				address a	<ul> <li>Analyse</li> </ul>		
				specific	complex		
					concepts and		
					projects into		
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			problem or	their		
			issue	constituent		
			iv. document	parts and		
			the work of	synthesize		
			others and	them to create		
			sources of	new		
			information	understanding		
			used.	<ul> <li>Propose and</li> </ul>		
			usea.	evaluate a		
				variety of		
				solutions		
				<ul> <li>Identify</li> </ul>		
				obstacles and		
				challenges		
				Media literacy		
				skills		
				•Locate,		
				organize,		
				analyse,		
				evaluate,		
				synthesize and		
				ethically use		
				information		
				from a variety		
				of sources and		
				media		
				(including		
				digital social		
				media and		
				online		
				networks)		
				Creative-		
				thinking skills		
				•Practise visible		
				thinking		

2.	Who are we?	•Relationships	Science •Evidence •Patterns	Identities and relationship Focus Exploration: Identity formation	Because scientists understand the relationships between genes and Inherited characteristics, we can use genetic patterns as evidence for identification and decision- making.	Science Year 1 Objectives Objective 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.	strategies and techniques Critical-thinking skills •Practise observing carefully in order to recognize problems •Gather and organize relevant information to formulate an argument •Consider ideas from multiple perspectives •Analyse complex concepts and projects into their constituent parts and synthesize them to create new understanding •Use models and simulations to explore complex	In this unit, we have learned how and why genes are responsible for our characteristics. We have learned about the connection between genes, proteins, and our traits. We inquired into how genetic traits are passed from parents to offspring, and the cellular processes that make reproduction possible. We learned how to make predictions about some genetic traits using Punnett squares, and	Take Action: Act as forensic DNA Analyst and solve a robbery case using the genetic information provided. Describe and apply scientific knowledge to solve this problem, analyze the information and present. <b>Criterion A:</b> Knowing and understanding
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			<b>Objective C:</b>	austanas and	explored how	
			•	systems and		
			Processing	issues	scientists use	
			evaluating			
			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	Reflection skills • Consider ethical, cultural and environmental implications Information literacy skills • Collect and analyse data to identify solutions and make informed decisions • Process data and report results Creative- thinking skills • Use brainstorming and visual diagrams to generate new ideas and inquiries	technology to create DNA fingerprints to identify individuals. We have described the function of genes and how genetic characteristics are inherited, applied our understanding of genetics to support judgments about the use of genetic information, analysed evidence and data to make scientifically supported judgments. discussed	
			method.		whether or not	
			methou.		DNA evidence	
			Objective D:		should be used	
			Reflecting on			
					in legal	
					decisions, and	

						the impacts of science ii. describe and summarize the various implications of using science and its application in solving a specific problem or issue		documented the resources used to support our judgments	
3.	How do we respond to our world?	Change	Science •Consequences	Scientific and technical innovation Focus Exploration: The biological revolution, adaptation, and stimuli response	Scientific innovations designed to enhance our ability to perceive and respond to change in our surroundings have consequences on our survival.	Science Year 1 Objectives Objective A: Knowing and understanding i. Outline scientific knowledge ii. apply scientific knowledge and understanding to solve problems set in familiar situations and	Creative- thinking skills •Use brainstorming and visual diagrams to generate new ideas and inquiries •Make unexpected or unusual connections between objects and/or ideas •Make guesses, ask "what if" questions and generate	* How do organisms perceive and respond to changes in their surroundings? * Senses and sense organs * How do species become adapted, over the long term, to conditions in their environment? * Natural selection	Take Action: Research and Produce a mini-documentary about technology that enhances the way to perceive or sense different stimuli. <b>Criterion D:</b> Reflecting on the impact of science.

 1	[]		1				
				suggest	testable		
				solutions to	hypotheses		
				problems set	<ul> <li>Apply existing</li> </ul>		
				in unfamiliar	knowledge to		
				situations	generate new		
					ideas, products		
				iii. interpret	or processes		
				information to	<ul> <li>Practise visible</li> </ul>		
				make	thinking		
				scientifically	strategies and		
				supported	techniques		
				judgments.	Critical-thinking		
				Objective D	skills		
				Objective D:	•Gather and		
				Reflecting on	organize		
				the impacts of	relevant		
				science	information to		
				i. Summarize	formulate an		
				the ways in			
				which science	argument		
				is applied and	•Interpret data		
				used to	•Draw		
				address a	reasonable		
					conclusions and		
				specific	generalizations		
				problem or	<ul> <li>Analyse</li> </ul>		
				issue	complex		
				ii. describe	concepts and		
				and	projects into		
				summarize	their		
				the various	constituent		
				implications of	parts and		
					synthesize		
				using science	them to create		
				and its	new		
				application in	understanding		
				solving a			

4.	How do we map matter?	•Change	Science •Patterns •Models	Scientific and technical innovation	By changing matter we can identify	specific problem or issue iii. apply scientific language effectively iv. document the work of others and sources of information used. Science Year 1 Objectives	<ul> <li>Use models and simulations to explore complex systems and issues</li> <li>Transfer skills</li> <li>Apply skills and knowledge</li> </ul>	* What substances are pure and what	Stomach ache -This is a full investigation in which students use the stimulus
				Focus exploration(s) • Products, processes, solutions and chemical reactions	patterns in properties that help us to make models and the models help us invent new kinds of materials.	Objective A: Knowing and understanding i. Outline scientific knowledge ii. apply scientific knowledge and understanding to solve problems set in familiar situations and suggest	in unfamiliar situations <b>Creative-</b> <b>thinking skills</b> •Create novel solutions to authentic problems <b>Information</b> <b>literacy skills</b> •Collect, record and verify data •Access information to be informed and inform others	substances are impure? * How do pure substances combine? * What is an atom? * How can patterns of properties be used to organize elements? * What kinds of chemical reactions can take place?	context of food scientists working to test the effectiveness of indigestion remedies. <b>Criteria B:</b> Planning and designing <b>Criteria C:</b> Processing and evaluating

					*	
			solutions to	<ul> <li>Collect and</li> </ul>	* How can we	
			problems set	analyse data to	represent the	
			in unfamiliar	identify	chemical	
			situations	solutions and	change?	
				make informed	* Breaking it	
			iii. interpret	decisions	down:	
			information to	<ul> <li>Process data</li> </ul>	Decomposition,	
			make	and report	Oxidation and	
			scientifically	results	Reduction	
			supported			
			judgments.	Critical-thinking	* How do we	
				skills	exploit the	
			Objective B:	<ul> <li>Gather and</li> </ul>	properties of	
			Inquiring and	organize	chemicals?	
			designing	relevant	* Acids and	
				information to	alkalis	
			i. outline an	formulate an	* Detecting it?	
			appropriate	argument		
			problem or	<ul> <li>Interpret data</li> </ul>		
			research	•Evaluate		
			question to be	evidence and		
			tested by a	arguments		
			scientific			
			investigation	•Analyse		
			investigation	complex		
			ii. outline a	concepts and		
			testable	projects into		
			prediction	their		
			using scientific	constituent		
			reasoning	parts and		
			reasoning	synthesize		
			iii. outline how	them to create		
			to manipulate	new		
			the variables,	understanding		
			and outline	anacistanang		
			anu outime			

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			how data will			
			be collected			
			iv. design			
			scientific			
			investigations.			
			investigations.			
			<b>Objective C:</b>			
			Processing			
			and			
			evaluating			
			i procost			
			i. present			
			collected and			
			transformed			
			data			
			ii. interpret			
			data and			
			outline results			
			using scientific			
			reasoning			
			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			
			or extensions			

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			to the			
			method.			
			Objective 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 annlu			
			iii. apply			
			scientific			
			language			
			effectively			

5.	What	• Relationships	Science	Personal and	Understanding	iv. document the work of others and sources of information used. Science	Collaboration	* What is a	Investigate the sound
э.	does a wave tell us?	- Relationships	•Form •Energy	Focus expression Focus exploration(s) Communication and expression	the relationships between different forms of wave energy helps us better communicate and express our thoughts.	Year 1 Objectives Objective 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 ii. interpret information to make	<ul> <li>collaboration</li> <li>skills</li> <li>Listen actively</li> <li>to other</li> <li>perspectives</li> <li>and ideas</li> <li>Creative-</li> <li>thinking skills</li> <li>Apply existing</li> <li>knowledge to</li> <li>generate new</li> <li>ideas, products</li> <li>or processes</li> <li>Critical-thinking</li> <li>skills</li> <li>Practise</li> <li>observing</li> <li>carefully in</li> <li>order to</li> <li>recognize</li> <li>problems</li> <li>Gather and</li> <li>organize</li> <li>relevant</li> <li>information to</li> <li>formulate an</li> <li>argument</li> <li>Interpret data</li> </ul>	<ul> <li>What is a wave?</li> <li>* What kind of energy travels as waves?</li> <li>* What is light?</li> <li>* How are we sensitive to energy that travels as waves?</li> <li>* What other kinds of electromagnetic radiation are there?</li> <li>* Do artists and scientists have anything to say to each other?</li> <li>* How are we sensitive to sound waves?</li> </ul>	absorption properties of different materials, or different thicknesses of material, and then to apply the findings to the real-life problem of noise reduction near an airport. <b>Criteria B:</b> Planning and designing <b>Criteria C:</b> Processing and evaluating <b>Objective D:</b> Reflecting on the impacts of science

		1	1	1	-	1		
					scientifically	<ul> <li>Evaluate</li> </ul>		
1					supported	evidence and		
					judgments.	arguments		
					Objective Dr	•Draw		
					Objective B:	reasonable		
1					Inquiring and	conclusions and		
					designing	generalizations		
					i. outline an	<ul> <li>Revise</li> </ul>		
					appropriate	understanding		
					problem or	based on new		
					research	information and		
1					question to be	evidence		
					tested by a	<ul> <li>Develop</li> </ul>		
1					scientific	contrary or		
1					investigation	opposing		
					-	arguments		
1					ii. outline a	Information		
1					testable	literacy skills		
1					prediction	•Access		
1					using scientific	information to		
1					reasoning	be informed		
					iii autina hau	and inform		
					iii. outline how	others		
					to manipulate	•Make		
					the variables,	connections		
					and outline	between		
					how data will	various sources		
1					be collected	of information		
1					iv. design	•Present		
1					scientific	information in a		
					investigations.	variety of		
1					investigations.	formats and		
					<b>Objective C:</b>	platforms		
					Processing	Communication		
						skills		
						21112		

Negatare 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 based on the outcome of the scientific investigation to mporvements or extensions to the method. Negatare ideas and knowledge with peers and teachers	1	1	1	1	1	-		1	
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the impacts of									

						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			
						iv. document			
						the work of			
						others and			
						sources of			
						information			
						used.			
L	1	1	1	1	1		1	1	

6.	How do	Systems	Science	Globalization	Modelling	Science	Creative-	* What's out	Research models and
	our	- ,	•Models	and	interactions	Year 1	thinking skills	there?	evidence of the climate and
	planet		•Patterns	sustainability	between	Objectives	•Use	* What natural	geography and make a
	work?			00000000000000000	Earth's	Objective A:	brainstorming	systems are	proposal in which you have
				Focus	systems allows	Knowing and	and visual	necessary to	identified an ideal location to
				exploration	us to	understanding	diagrams to	maintain life on	build a new city and also
				<ul> <li>Systems and</li> </ul>	understand		generate new	earth?	demonstrate the scientific
				their	patterns that	i. Outline	ideas and	* In what ways	knowledge about ecospheres
				interaction,	we can use to	scientific	inquiries	do the systems	and systems of Earth.
				models	secure or	knowledge	•Consider	on Earth	
					improve	ii annlu	multiple	interact?	Criterion A: Knowing and
					human	ii. apply scientific	alternatives,	* What	understanding
					experiences.	knowledge	including those	processes and	
						and	that might be	events have	
						understanding	unlikely or	contributed to	
						to solve	impossible	local and global	
						problems set	•Create novel	conditions on	
						in familiar	solutions to	Earth?	
						situations and	authentic	* How do the	
						suggest	problems	interactions	
						solutions to	<ul> <li>Apply existing</li> </ul>	between Earth's	
						problems set	knowledge to	systems	
						in unfamiliar	generate new	influence our	
						situations	ideas, products	living	
							or processes	conditions?	
						iii. interpret	Organization	* To what	
						information to	skills	extent is it	
						make	•Use	possible to use	
						scientifically	appropriate	science to	
						supported	strategies for	prevent or	
						judgments.	organizing	reduce natural	
						Objective B:	complex	disasters?	
						Inquiring and	information		
						designing	Critical-thinking		
						acoigining	skills		

appropriate       organize         problem or       relevant         information to       formulate an         question to be       tested by a         scientific       -interpret data         ii. outline a       ressanti         argument       -interpret data         ii. outline a       ressoning         prediction       -forw         reasoning       orcnulations and         generalizations       -forw         reasoning       reasoning         iii. outline bai       -forw         reasoning       -forw         reasoning       -forw         reasoning       -formuderstanding         based on new       -information and         outline bai       -information and         dowlarenti       -bow data will         be collected       -form multiple         information and       -perspectives         scientific       -perspectives         scientific       -perspectives         scientific       -processing         and evaluating       -processing         and evaluating       -processing         and evaluating       -processing         and evaluating       -	 1	n	1	1				
Image: second					i. outline an	<ul> <li>Gather and</li> </ul>		
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question to be       formulate an         tested by a       argument         scientific       interpret data         investigation       Evaluate         evidence and       arguments         testable       - Draw         prediction       erasonable         using scientific       - Oraw         reasonable       - Oraw         generalizations       - Revise         uii. outline how       reasonable         and outline       - Mervise         iii. outline how       - Revise         and outline       - Fore         investigations       - Scientific         iv. design       - Draw         generalizations       - Revise         understanding       - Draw         based on new       - Gonsider ideas         investigations.       - Consider ideas         form multiple       - Develop         investigations.       - Consider ideas         investigations.       - Objective C:         opposing       - Gondels         and evaluations       - Use models         and evaluations       - Use models         and simulations       - Use models         and sinulations					problem or	relevant		
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Investigation •Evaluate •Oraw •easonable •easonable •easonable •easonable •easonable •easonable •easonable •easonable •oraw •oraw								
evidence and arguments •Draw reasonable conclusions and generalizations iii. outline how to manipulate the variables, information and evidence •Revise •Re					investigation			
ii. outline a testable prediction reasonable conclusions and generalizationsarguments • Draw reasonable conclusions and generalizationsiii. outline how to manipulate the variables, and outline be collected• Revise • Revise • Information and evidenceiv. design to consider ideas from multiple perspectives investigations.• Revise • Revise • Information and evidenceiv. design operspectives scientific investigations.• Consider ideas from multiple perspectives • Develop and evaluating and evaluating investigations.Objective C: Processing and evaluating i. present• Develop • Opposing and evaluating • Use models and simulationsi. present to explore collected ad transformed sistens• Develop • Opposing and evaluating • Use models and simulationsi. present to explore collected ad transformed sistens• Develop • Opposing and evaluating • Use models and simulationsi. present to explore to explore to explore to explore • Other transformed sistens• Develop • Other transformed • Use models and simulationsi. i. interpret• Develop • Other transformed • Use models and simulations								
iii. outline how       •Draw         generalizations       reasonable         generalizations       generalizations         iii. outline how       •Revise         understandles,       based on new         information and       information and         how data will       evidence         cConsider ideas       from multiple         investigations       •Develop         investigations       •Develop         investigations       •Depresent         objective C:       opposing         and evaluating       and simulations         investigations       contrary or         Objective C:       opposing         and evaluating       and simulations         i. present       to explore         collected data       formelations         i. present       to explore         i. present       to explore         collected and       complex         i. present       to explore         i. present								
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<ul> <li>iii. outline how data will evidence</li> <li>iii. outline how data will evidence</li> <li>iii. interpret</li> <li>iii. interpret</li> <li>iii. interpret</li> <li>iii. interpret</li> <li>iii. interpret</li> <li>iii. interpret</li> </ul>					reasoning			
to manipulate the variables, and outline how data will be collected iv. design perspectives scientific investigations. Contrary or Objective C: Processing and evaluating in gaments - Use models and imulations i. present i. present i. interpret ii. interpret								
the variables, and outline how data will be collected iv. design perspectives scientific investigations. Objective C: Processing and evaluating i. present to explore collected and complex to explore to explore								
and outline how data will be collected iv. design scientific investigations. Objective C: Processing and evaluating i. present collected and i. present collected and transformed data ii. interpret interpret information and evidence ·Consider ideas from multiple opposing arguments ·Use models and systems and issues ·Identify trends						-		
<ul> <li>evidence</li> <li>evidence</li> <li>evidence</li> <li>evidence</li> <li>evidence</li> <li>from multiple</li> <li>iv. design</li> <li>perspectives</li> <li>scientific</li> <li>Develop</li> <li>investigations.</li> <li>contrary or</li> <li>opposing</li> <li>and evaluating</li> <li>i. present</li> <li>to explore</li> <li>collected and</li> <li>i. present</li> <li>to explore</li> <li>collected and</li> <li>transformed</li> <li>systems and</li> <li>isues</li> <li>il. interpret</li> </ul>								
<ul> <li>Consider ideas from multiple</li> <li>V. design perspectives</li> <li>Scientific</li> <li>Develop</li> <li>investigations.</li> <li>Contrary or</li> <li>Objective C: Processing and evaluating</li> <li>Use models and simulations</li> <li>i. present</li> <li>to explore</li> <li>complex</li> <li>complex</li> <li>it ransformed</li> <li>systems and data</li> <li>issues</li> <li>identify trends</li> </ul>								
from multiple iv. design perspectives scientific investigations. Objective C: Processing and evaluating i. present i. present to explore collected and transformed systems and ii. interpret ii. interpret					how data will			
iv. design       perspectives         scientific       -Develop         investigations.       contrary or         Objective C:       opposing         arguments       -Use models         and evaluating       invulations         i. present       to explore         collected and       complex         transformed       systems and         data       issues         i. i. interpret       identify trends					be collected			
scientific bevelop investigations. Objective C: Processing and evaluating i. present collected and transformed data ii. interpret								
investigations. Objective C: Processing and evaluating i. present collected and transformed data ii. interpret ocontrary or opposing arguments -Use models and simulations to explore complex systems and issues -Usemodels and simulations -Usemodels and simulations -Usemodels and simulations -Usemodels and simulations -Usemodels and simulations -Usemodels and simulations -Usemodels and simulations -Usemodels and simulations -Usemodels -Usemodels -Usemodels -Usemodels -Usemodels 								
Objective C: Processing and evaluating i. present collected and transformed data ii. interpret opposing arguments -Use models and simulations to explore complex systems and issues -Usemodels and simulations -Usemodel						<ul> <li>Develop</li> </ul>		
Image: Solution of Conjective C.       arguments         Processing       -Use models         and evaluating       -Use models         and simulations       -Use models         collected and       complex         transformed       systems and         data       -Use models         ii. interpret       -Use models					investigations.	contrary or		
Processing and evaluating       arguments •Use models and simulations         i. present       to explore         collected and transformed       complex         systems and         data       issues         i. interpret       identify trends					Objective C:	opposing		
and evaluating       •Use models and simulations         i. present       to explore         collected and       complex         transformed       systems and         data       issues         ii. interpret       ·Identify trends					-	arguments		
i. present to explore collected and complex transformed systems and data issues •Identify trends						•Use models		
collected and       complex         transformed       systems and         data       issues         ii. interpret       ii. interpret					and evaluating	and simulations		
collected and       complex         transformed       systems and         data       issues         ii. interpret       ii. interpret					i. present	to explore		
transformed systems and data issues ii. interpret					-			
data issues •Identify trends								
ii. interpret •Identify trends								
ii. interpret								
data and					ii. interpret			
					data and			

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						outline results	and forecast			
						using scientific	possibilities			
						reasoning				
						iii. discuss the				
						validity of a				
						prediction				
						based on the				
						outcome of				
						the scientific				
						investigation				
						Investigation				
						iv. discuss the				
						validity of the				
						method				
						v. describe				
						improvements				
						or extensions				
						to the				
						method.				
						<b>Objective D:</b>				
						<b>Reflecting on</b>				
						the impacts of				
						science				
						i. Summarize				
						the ways in				
						which science				
						is applied and				
						used to				
						address a				
						specific				
						problem or				
						issue				
						13500				
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				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.		

## **MYP-III**

SR. #	Unit Name	Key concepts	Related concepts	Global context	Statement of Inquiry	MYP Objectives	Approaches to learning	Content	Summative Assessment
1.	How do we make it work?	Change	Science •Energy •Movement	Scientific and technical innovation	Machines have revolutionized life by making	Science Year 3 Objectives Objective A:	Information literacy skills •Use critical literacy skills to	What is a machine? What do we mean by	Design and build working energy model.

	Focus	it easier to	Knowing and	analyze and	energy? How	Criteria A: Knowing and
	Exploration:		-		do we measure	-
	Focus Exploration: Energy resources, Machines, and consequences	it easier to change energy from stored forms to movement and back again.	Knowing and understanding i. describe scientific knowledge ii. apply scientific knowledge and understanding to solve problems set in familiar and unfamiliar situations iii. analyze information to make scientifically supported judgments. Objective B: Inquiring and designing i. describe a problem or question to be	analyze and interpret media communications •Collect, record, and verify data •Access information to be informed and inform others •Make connections between various sources of information •Process data and report results •Evaluate and select information sources and digital tools based on their appropriateness to specific tasks <b>Media literacy</b> <b>skills</b> •Seek a range of perspectives	energy? How do we measure energetic change? What is efficiency? What kind of machines are there? What are fuels? How do energy changes determine chemical changes? Will energy ever run out? What have been the good and bad consequences of using machines to work?	Criteria A: Knowing and understanding Criteria B: Inquiring and designing
				-		
			problem or	<ul> <li>Seek a range of</li> </ul>		
			question to be	perspectives		
			tested by a	from multiple		
			scientific	and varied		
			investigation	sources		
			investigation			
				Organization		
				skills		

ii. outline a	•Plan short- and
testable	long-term
hypothesis	assignments;
and explain it	meet deadlines
using scientific	•Set goals that
reasoning	are challenging
	and realistic
iii. describe	Collaboration
how to	skills
manipulate	Practise
the variables,	empathy
and describe	•Help others to
how data will	succeed
be collected	Creative-
iv. design	thinking skills
scientific	•Make guesses,
	ask "what if"
investigations.	questions and
Objective C:	generate
Processing	testable
and	hypotheses
evaluating	Communication
	skills
i. present	
collected and	•Interpret and
transformed	use effectively
data	modes of non-
	verbal
ii. interpret	communication
data and	Negotiate
describe	ideas and
results using	knowledge with
scientific	peers and
reasoning	teachers
	Read critically
	and for

		1 1			
			iii. discuss the	comprehension	
			validity of a	<ul> <li>Make</li> </ul>	
			hypothesis	inferences and	
			based on the	draw	
			outcome of	conclusions	
			the scientific	<ul> <li>Paraphrase</li> </ul>	
			investigation	accurately and	
				concisely	
			iv. discuss the	•Take effective	
			validity of the	notes in class	
			method	•Make effective	
				summary notes	
			v. describe	for studying	
			improvements	•Use a variety	
			or extensions	of organizers for	
			to the	academic	
			method.		
			Objective D:	writing tasks	
			Reflecting on	•Structure	
				information in	
			the impacts of	summaries,	
			science	essays and	
			i. describe the	reports	
			ways in which	Critical-thinking	
			science is	skills	
			applied and	<ul> <li>Practise</li> </ul>	
			used to	observing	
				carefully in	
			address a	order to	
			specific	recognize	
			problem or	problems	
			issue	•Recognize	
			ii. discuss and	unstated	
				assumptions	
			analyse the		
			various	and bias	
			implications of	<ul> <li>Interpret data</li> </ul>	

						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.	<ul> <li>Evaluate</li> <li>evidence and</li> <li>arguments</li> <li>Draw</li> <li>reasonable</li> <li>conclusions and</li> <li>generalizations</li> <li>Test</li> <li>generalizations</li> <li>and conclusions</li> <li>Consider ideas</li> <li>from multiple</li> <li>perspectives</li> <li>Analyse</li> <li>complex</li> <li>concepts and</li> <li>projects into</li> <li>their</li> <li>constituent</li> <li>parts and</li> <li>synthesize them</li> <li>to create new</li> <li>understanding</li> <li>Identify trends</li> <li>and forecast</li> <li>possibilities</li> </ul>		
2.	What should I eat?	Relationships	Science •Consequences •Function	Scientific and technical innovation Focus Exploration:	Because what we consume is related to, and has consequences on how our bodies function and	Science Year 3 Objectives Objective A: Knowing and understanding	Information literacy skills •Process data and report results Organization skills •Use	In this unit, we have applied scientific reasoning to support our judgments about what to consume in	Take action! Dietitian. Students take the role of a dietician. They apply the science of nutrition and the human body to design a meal plan for a client based on their client's food preferences, activity levels

	Systems,	feel, we can	i. describe	appropriate	order to be	and health or athletic goals.
	models,	choose what	scientific		healthy. We	They will present their client
	methods	we eat and		strategies for	-	
	methous	drink based on	knowledge	organizing complex	have	with the meal plan,
		scientific	ii. apply	information	designed and carried out a	together with a scientific that meets the needs of
			scientific			their clients.
		principles and	knowledge	Critical-thinking	complete	their clients.
1		developments.	and	skills	investigation	Criterion A: Knowing and
			understanding	•Test	and applied	understanding
			to solve	generalizations	our results to	C C
			problems set	and conclusions	form a	
			in familiar and	•Consider ideas	conclusion	
			unfamiliar	from multiple	about the	
1			situations	perspectives	presence of	
				•Analyse	enzymes in	
			iii. analyse	complex	raw foods We	
1			information to	concepts and	have	
1			make	projects into	investigated	
1			scientifically	their	and inquired	
1			supported	constituent	into different	
			judgments.	parts and	trends and	
1			Objective B:	synthesize them	products that	
			Inquiring and	to create new	claim to have	
1				understanding	healthy	
			designing	•Use models	benefits for	
1			i. describe a	and simulations	different	
			problem or	to explore	lifestyles and	
			question to be	complex	food	
			tested by a	systems and	preferences.	
			scientific	issues	Finally, we	
			investigation		have applied	
			-		our knowledge	
			ii. outline a		and	
			testable		understanding	
			hypothesis		of the	
			and explain it		nutrients the	

			using scientific	body needs	
			reasoning	and the	
				processes the	
			iii. describe	body goes	
			how to	through in	
			manipulate	order to	
			the variables,	formulate a	
			and describe		
			how data will	meal plan for a	
			be collected	balanced	
			be conected	lifestyle.	
			iv. design		
			scientific		
			investigations.		
			investigations.		
			<b>Objective C:</b>		
			Processing		
			and		
			evaluating		
			evaluating		
			i. present		
			collected and		
			transformed		
			data		
			uala		
			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.			
3.	How do our bodies work?	Systems	Science •Balance •Function	Personal and cultural expression Focus exploration: • lifestyle, body systems and Communicate scientific information	By understanding how our body systems function, people can learn to make decisions for balanced and healthy lifestyles.	Science Year 3 Objectives Objective A: Knowing and understanding i. describe scientific knowledge ii. apply scientific knowledge and understanding to solve problems set in familiar and unfamiliar situations iii. analyze information to	Communication skills •Use appropriate forms of writing for different purposes and audiences •Use a variety of media to communicate with a range of audiences •Negotiate ideas and knowledge with peers and teachers •Participate in, and contribute to, digital social media networks.	* What are the structures and functions of different body systems? * How do our body systems work together? * How and why do our bodies change as we get older? * What are the characteristics of social interactions and group behavior? * How can understanding body systems help us to make decisions	Take Action! Create a communication platform to help teens to understand the anatomy and physiology of their bodies and then use this understanding to make decisions for more healthier and balanced lifestyles. <b>Criterion A:</b> Knowing and understanding <b>Criterion D:</b> Reflecting on the impact of science

scientifically       skills       and healthy         uppropriate       -Use       live?         appropriate       suppropriate         inquiring and       complex         organizing       complex         organizing       complex         organizing       complex         organizing       complex         organizing       complex         problem or       thinking skills         organizing       information         i. describe       organizing         organizing       complex         intoxing skills				maka	Organization	for a balanced	
supported     -Use     live?       judgments.     appropriate       strategies for     organizing       complex     information       l. describe a     problem or       problem or     reative-       utinformation     -Use       l. describe a     problem or       problem or     -Use       utinformation     -Use       l. describe a     -Use       problem or     -Use       utinformation     -Use       utinformation </th <th></th> <th></th> <th></th> <th>make</th> <th>Organization</th> <th></th> <th></th>				make	Organization		
judgments. appropriate strategies for organizing complex information i. describe a problem or question to be tested by a scientific investigation ii. describe problem or question to be tested by a scientific ii. outline a testable reasonalig complex information Creative- thinking skills · · · · · · · · · · · · ·				-			
Strategies for organizing complex information       strategies for organizing complex information         i. describe a problem or question to be tested by a scientific investigation       creative-thinking skills         i. describe a problem or question to be tested by a scientific investigation       -Generate metaphors and analogies scientific investigation         ii. outline a testable       -organizing complex investigation       -Generate metaphors and analogies scientific investigation         ii. outline a testable       -organizing complex investigation       -Gritical-thinking skills         ii. outline a testable       -organizing complex investigation       -Gritical-thinking skills         iii. outline a testable       -organizing complex investigation       -Gritical-thinking skills         iii. describe hypothesis       -organizing complex investigations investigations investigations investigations it explore       -organizing complex investigations it explore         iii. describe how to manipulate the variables, and describe how to an will be collected       -organizing complex investigations it explore       -organizing complex investigations its explore         iv. v. design       -v. design       -organizing complex investigations its explore       -organizing complex investigations its explore         v. design       -v. design       -organizing complex investigations its explore       -organizing complex investigations its explore         v. design       -organizing complex investig						live?	
Image in a second se				judgments.			
Inquiring and designing       Complex information         i. describe a problem or question to be tested by a scientific       Creative- of Generate metaphors and analogies         Tritical-thinking skills       Ortical-thinking skills         i. uotime a question to be tested by a scientific       Creative- of Generate metaphors and analogies         i. uotime a tested by a analogies       Creative- of Generate metaphors and analogies         i. uotime a tested by a metaphors and analogies       Creative- constance reasonable         hypothesis reasonable       -Draw testable         reasonable       -Draw testable         hypothesis and explain it using scientific       Consider ideas         reasoning       from multiple         iii. describe how to manipulate the variables, and describe how dat and simulations       o explore complex systems and issues         v. design       v. design         v. design       issues					strategies for		
designing       information         i. describe a       Creative-         problem or       question to be         question to be       Generate         analogies       analogies         ii. outline a       Draw         testable       reasonable         hypothesis       consider ideas         generalizations       generalizations         using scientific       analogies         iii. outline a       Draw         testable       reasonable         hypothesis       consider ideas         generalizations       generalizations         using scientific       -Consider ideas         reasoning       from multiple         lii. describe       -Use models         how to       and sinulations         the variables,       coxpler         ot explore       complex         and describe       systems and         how data will       systems and         issues       issues					organizing		
i. describe a problem or question to be tested by a scientific investigation ii. outline a testable ii. outline a testable reasonable thypothesis and explain it using scientific iii. describe hypothesis and explain it using scientific vorsultations to explore the variables, and describe how to manipulate the variables, and describe how ta will be collected issues					complex		
<ul> <li>b. Cooler of question to be tested by a metaphors and analogies</li> <li>critical-thinking skills</li> <li>investigation</li> <li>investigation</li> <li>investigation</li> <li>investigation</li> <li>orraw</li> <li>reasonable</li> <li>conclusions and generalizations</li> <li>consider ideas</li> <li>from multiple</li> <li>perspectives</li> <li>Use models</li> <li>and simulations</li> <li>to explore</li> <li>complex</li> <li>systems and</li> <li>issues</li> </ul>				designing	information		
problem or question to be tested by a       -Generate metaphors and analogies         critical-thinking investigation       -Gritical-thinking metaphors and analogies         b       i.outline a         critical-thinking investigation       -Gritical-thinking sillis         i.outline a       -Draw         testable       reasonable         hypothesis       conclusions and and explain it using scientific         rabit       -Gritical-thinking         i.i. describe       -Gonider ideas         iii. describe       -Gonider ideas         how to manipulate       -Gonider ideas         nod manipulate       -Gonider ideas         how to manipulate       -Gonider ideas         nod simulations       -Goniger ideas         row to manipulate       -Goniger ideas         nod simulations       -Goniger ideas         iii. describe       -Goniger ideas         nod manipulate       -Goniger ideas         to vapore       -Goniger ideas         nod manipulate       -Goniger ideas         how data will       -Goniger ideas         nod describe       -Goniger ideas         row data will       -Goniger ideas         nod data will       -Goniger ideas         row data will				i describe a	Creative-		
• Generate metaphors and analogies• Generate metaphors and analogies• Generate metaphors and analogies• Critical-thinking skills• I. outline a testable hypothesis and explain it using scientific ii. describe how to manipulate the variables, and describe how data will be collected• Mathematical to stable (consider ideas) (consider ideas) form multiple perspectives • Use models and simulations to explore complex systems and issues• Mathematical to stable (consider ideas) form multiple perspectives • Use models and describe how data will be collected• Mathematical to explore to explore <td></td> <td></td> <td></td> <td></td> <td>thinking skills</td> <td></td> <td></td>					thinking skills		
tested by a       metaphors and analogies         scientific       critical-thinking         ii. outline a       Draw         testable       reasonable         hypothesis       conclusions and and explain it using scientific         reasoning       from multiple         perspectives       esplane         how to       and escribe         how to       and simulations         and describe       to explore         how to       and describe         how to       and describe         how to       and describe         how to and a will       systems and         and describe       issues         how data will       be collected         issues       issues				-			
scientific 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 ii. describe how data will be collected iv. design scientific							
investigation       Critical-thinking         ii. outline a       -Draw         testable       reasonable         hypothesis       conclusions and         and explain it       generalizations         using scientific       -Consider ideas         reasoning       form multiple         iii. describe       -Use models         how to       and simulations         and describe       -Use models         and describe       systems and         how dta will       be collected         isues       isues				-			
skills         ii. outline a       •Draw         testable       reasonable         hypothesis       conclusions and         and explain it       generalizations         using scientific       •Consider ideas         reasoning       from multiple         perspectives       •Use models         how to       and simulations         manipulate       to explore         the variables,       complex         and describe       systems and         how data will       systems and         issues       issues							
ii. outline a       •Draw         testable       reasonable         hypothesis       conclusions and         and explain it       generalizations         using scientific       •Consider ideas         reasoning       from multiple         iii. describe       •Use models         how to       •Use models         and describe       •Use models         how dat aviil       explore         to explore       complex         systems and       issues				investigation	-		
testable       reasonable         hypothesis       conclusions and         and explain it       generalizations         using scientific       reasoning         reasoning       from multiple         perspectives       •Use models         and describe       •Use models         how to       and describe         how to       and describe         how to       sand describe         how data will       be collected         iv. design       systems and         issues       issues				ii. outline a			
hypothesis and explain it using scientific reasoning iii. describe how to manipulate the variables, and describe how to manipulate the variables, and describe how data will be collected iv. design scientific							
and explain it using scientific reasoning iii. describe how to manipulate the variables, and describe how data will be collected iv. design scientific							
<ul> <li>Using scientific reasoning</li> <li>Consider ideas from multiple perspectives</li> <li>Use models and simulations to explore complex systems and issues</li> <li>Version describe how data will be collected</li> <li>Version describe how data will be collected</li> <li>Version describe how data will be collected</li> </ul>							
reasoning iii. describe how to manipulate the variables, and describe how data will be collected iv. design scientific					-		
iii. describe       perspectives         how to       manipulate         the variables,       and describe         and describe       how data will         be collected       iv. design         scientific       iv. design							
In. describe       •Use models         how to       and simulations         the variables,       and describe         and describe       complex         how data will       systems and         be collected       issues				leasoning			
how to       •Use models         manipulate       and simulations         the variables,       and describe         and describe       complex         how data will       systems and         be collected       issues				iii. describe			
Imanipulate       and simulations         the variables,       and describe         and describe       how data will         be collected       iv. design         iv. design       scientific				how to			
the variables, and describe how data will be collected iv. design scientific							
and describe       and describe       systems and         how data will       be collected       issues         iv. design       scientific				-	to explore		
how data will     systems and       be collected     issues       iv. design     scientific					complex		
be collected issues iv. design scientific					systems and		
iv. design scientific					issues		
scientific				be collected			
scientific				iv. design			
I investigations I				investigations.			
				investigations.			

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1					Objective C:		
1					Processing		
					and evaluating		
1							
1					i. present		
					collected and		
1					transformed		
					data		
					ii. interpret		
1					data and		
1					describe		
					results using		
					scientific		
1					reasoning		
1					iii. discuss the		
					validity of a		
1					hypothesis		
					based on the		
1					outcome of		
					the scientific		
					investigation		
					iv. discuss the		
					validity of the		
1					method		
1					v. describe		
					improvements		
					or extensions		
					to the		
					method.		
1							
					Objective D:		
					Reflecting on		

			the immedia of		
			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		
			analyze 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.			
4.	How do humans impact the natural world?	Change	Science •Consequences •Environment	Fairness and development Focus exploration(s) •Human capability, development and Ecology impact	The environment changes as a consequence of how we develop and manage natural resources around the world.	Science Year 3 Objectives Objective 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. Objective C: Processing and evaluating	Reflection skills • Consider ethical, cultural, and environmental implications Organization skills • Plan short- and long-term assignments; meet deadlines • Set goals that are challenging and realistic Critical-thinking skills • Gather and organize relevant information to formulate an argument • Interpret data • Draw reasonable conclusions and generalizations • Revise understanding based on new information and	<ol> <li>What diverse values and perspectives do individuals hold regarding the environment?</li> <li>What defines the attributes of a thriving environment?</li> <li>In what ways does the environment undergo alterations?</li> <li>How do people go about the development and administration of natural resources?</li> <li>How does the environment and administration</li> </ol>	Case study-processing petrochemical products' Read the given information about petrochemicals and write down the points that you find most interesting and questions that you have. then write your response to the provided questions. Criterion A: Knowing and understanding Criterion D: Reflecting on the impact of science

	1	1				
			i. present	evidence	result of the	
			collected and	<ul> <li>Consider ideas</li> </ul>	management	
			transformed	from multiple	and	
			data	perspectives	development	
				Collaboration	of natural	
			ii. interpret	skills	resources?	
			data and	<ul> <li>Practise</li> </ul>		
			describe	empathy		
			results using	•Help others to		
			scientific	succeed		
			reasoning	Communication		
				skills		
			iii. discuss the			
			validity of a	Paraphrase		
			hypothesis	accurately and		
			based on the	concisely		
			outcome of	•Preview and		
			the scientific	skim texts to		
			investigation	build		
				understanding		
			iv. discuss the	Creative-		
			validity of the	thinking skills		
			method	<ul> <li>Generate</li> </ul>		
			v. describe	metaphors and		
				analogies		
			improvements	-		
			or extensions			
			to the			
			method.			
			Objective D:			
			Reflecting on			
			the impacts of			
			science			
			i. describe the			
			ways in which			
			ways in Willell			

						science is applied and used to address a specific problem or issue ii. discuss and analyze 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.			
5.	How do we put electricity and	Relationships	Science •Balance •Transformation •Form	Orientation in space and time Focus	Electrical and magnetic forces fill space as	Science Year 3 Objectives Objective A:	Information literacy skills •Collect, record, and verify data	* How do force fields affect matter? * What causes	This investigative task models the solution of an engineering problem – the choice of conductor to use

magnet	ism	exploration(s)	fields;	Knowing and	•Present	magnetic	in a computer network.
to work	?	• Scale,	understanding	understanding	information in a	force?	Research the conductors
		duration,	their form and	:	variety of	* What causes	used in computer network
		frequency, and	relationships	i. describe	formats and	electric forces?	cabling systems, and then
		variability	allows us to	scientific	platforms	* How are	design and carry out an
			transform	knowledge	<ul> <li>Collect and</li> </ul>	electric and	investigation to determine
			energy in	ii. apply	analyze data to	magnetic fields	the factors affecting the
			useful ways.	scientific	identify	related?	resistance of a metal
				knowledge	solutions and	* How can	conductor. Finally, they
				and	make informed	electrical	write a report on the best
				understanding	decisions	energy be	kinds of cabling to use.
				to solve	Transfer skills	harnessed?	Criteria B: Inquiring and
				problems set	<ul> <li>Apply skills and</li> </ul>	* How do	designing
				in familiar and	knowledge in	electrical	Criteria C: Processing and
				unfamiliar	unfamiliar	circuits work?	evaluating
				situations	situations	* How does it	evaluating
					Creative-	help to be	Criterion D: Reflecting on
				iii. analyse	thinking skills	organized?	the impact of science
				information to	<ul> <li>Make guesses,</li> </ul>		
				make	ask "what if"		
				scientifically	questions and		
				supported	generate		
				judgments.	testable		
				Objective B:	hypotheses		
				Inquiring and	<ul> <li>Apply existing</li> </ul>		
				designing	knowledge to		
					generate new		
				i. describe a	ideas, products		
				problem or	or processes		
				question to be	Practise visible		
				tested by a	thinking		
				scientific	strategies and		
				investigation	techniques		
					Critical-thinking		
					skills		

Image: state stat	ii. outline a	•Practise
hypothesis       carefully in         and explain it       order to         using scientific       recognize         problems       problems         ili.describe       evidence and         amipulate       arguments         nanipulate       order.or         and describe       prox         nanipulate       reasonable         how data will       conclusions and         generalizations       evaluate and         manage risk       *Propose and         evaluate a       evaluate a         Objective C:       variety of         Processing       solutions         and       -Usions         evaluate       evaluate a         evaluate a       evaluate a         evaluating       and simulations         is present <td>testable</td> <td>observing</td>	testable	observing
Image: Signed in the second	hypothesis	
Image: second	and explain it	order to
<ul> <li>Interpret data</li> <li>Interpret data<td>using scientific</td><td>recognize</td></li></ul>	using scientific	recognize
iii. describe       •Evaluate         how to       evidence and         arguments       •Draw         and describe       •Draw         how data will       be collected         generalizations       •Drapse and         scientific       manage risk         investigations.       •Propose and         objective C:       variety of         Processing       solutions         and       •Use models         evaluating       ind simulations         i. present       complex         systems and       •Use models	reasoning	problems
data	reasoning iii. describe how to manipulate the variables, and describe how data will be collected iv. design scientific investigations. Objective C: Processing and evaluating i. present collected and transformed	problems•Interpret data•Evaluateevidence andarguments•Drawreasonableconclusions andgeneralizations•Evaluate andmanage risk•Propose andevaluate avariety ofsolutions•Use modelsand simulationsto explorecomplex
ii. interpret		
data and		
describe		
results using		
scientific		
reasoning	reasoning	

 1			1		 	
				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.		
				Objective 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		
1		1		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.			
6.	How can we connect?	Systems	Science •Interaction •Energy	Personal and cultural expression Focus exploration(s) • technology, communication, and their impact	We interact and express ourselves through systems that manipulate information as different forms of energy.	Science Year 3 Objectives Objective A: Knowing and understanding i. describe scientific knowledge ii. apply scientific knowledge and understanding to solve	Information literacy skills • Collect, record, and verify data • Access information to be informed and inform others • Make connections between various sources of information • Process data and report	<ol> <li>How do you convey messages?</li> <li>What tools have we created to control waves?</li> <li>Pondering over it</li> <li>A broader perspective</li> <li>Perceive it</li> </ol>	The first task empowers students and teachers to research online safety and to raise awareness of these issues. While many developed countries now have extensive, government or lawenforcement sponsored initiatives to keep young people safe online, it is essential that schools worldwide play their part. As online telecommunications develop so quickly, no sooner has a danger been

			problems set	results	6. In what	removed than new ones are
			in familiar and	•Understand		
					ways can	discovered, so the most
			unfamiliar	and use	waves carry	effective way to keep young
			situations	technology	information?	people safe is to equip them
			iii. analyze	systems	7. Waiting by	with the thinking tools and
			information to	Critical-thinking	the phone	skills to appraise each
			make	skills	the phone	situation for danger as it
				<ul> <li>Practise</li> </ul>	8. What are	arises. The second task
			scientifically	observing	the pros and	allows students to enrich
			supported	carefully in	cons of analog	their understanding of the
			judgments.	order to	and digital	cell phone network through
			Objective B:	recognize	systems?	research and analyse the
			Inquiring and	problems	Systems:	stages in the processing of a
			designing	<ul> <li>Interpret data</li> </ul>	9. How can we	cell signal. A good
			uesigning	•Evaluate	efficiently	treatment of the subject will
			i. describe a	evidence and	exchange	apply understanding of
			problem or	arguments	information?	attenuation, signal
			question to be	•Revise		modulation, frequency
			tested by a	understanding	10. What	switching and handover.
			scientific	-	ethical	switching and handover.
			investigation	based on new	obligations	Criteria A: Knowing and
			Investigation	information and	come with	understanding Criteria D:
			ii. outline a	evidence	communicating	Reflecting on the impact of
			testable	Collaboration	through digital	science
			hypothesis	skills	media?	Science
			and explain it	<ul> <li>Help others to</li> </ul>		
			using scientific	succeed		
			reasoning	<ul> <li>Encourage</li> </ul>		
			leasoning	others to		
			iii. describe	contribute		
			how to	<ul> <li>Exercise</li> </ul>		
			manipulate	leadership and		
			the variables,	take on a		
			and describe	variety of roles		
				within groups		
				Communication		
				communication		

	how data will be collected iv. design scientific investigations. Objective C: Processing and evaluating	skills •Negotiate ideas and knowledge with peers and teachers •Make inferences and draw conclusions	
	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		

		r	 Г	1	
			or extensions		
			to the		
1			method.		
			Objective D:		
			<b>Reflecting on</b>		
			the impacts of		
			science		
			Science		
			i. describe the		
			ways in which		
1			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.		
			-		