

 6 th Grade	Unit title	Key concept Related Concepts	Global context	Statement of Inquiry	MYP objectives	ATL skills	Content (topics, knowledge, skills)
Unit 1	How can I B Thinking Like an MYP Scientist?	Key: System Related: Change and relationships	Scientific and technical innovation: (systems)	The scientific process is a systematic way to answer questions, show change, solve problems and identify relationships.	Criterion B: Inquiring and designing Criterion C: processing and evaluating Brine Shrimp	-Thinking = interpret data gained from scientific investigation. -Social skill- Practice giving feedback on the design of experimental methods -Communication skills- Use appropriate visual representation of data based on purpose and audience. -Research skills- Make connections between scientific research and investigations.	-Use tools to gather, view, analyze, and report results for scientific investigations designed to answer questions. - Ask testable questions and make testable hypotheses. -Identify and manipulate variables to design an investigation. Example experiments: Balloon rockets Bounce height of balls Paper airplanes Huff, Puff, Slide Paper towels
Unit 2	How can I B an MYP Ecologist?	Key: Relationships Related: Interaction, environment	Scientific and technical innovation (adaptation)	Organisms interact and adapt with each other and their environment.	Criterion A: Knowing and Understanding Criterion D: reflecting on the impacts of science. Why did the bald	Reflecting skills Communication skills Research skills	-Online simulation (field guide) -In the green book: capture recapture turtles -Eagle activity: food web and energy pyramid

					eagle almost become extinct assessment?		<ul style="list-style-type: none"> -Students have pictures and create a chain or web -How many bears are in the forest? -Paper and the puzzle pieces and what they represent -Students bring a picture of animals and identify biotic or abiotic -Students make a foldable about abiotic and biotic -Picture to identify the organization which include biotic and abiotic -Habitat hunt
Unit 3	Earths Changing surface	Key: Change Related: Interaction	Orientation in Time and Space (natural landscapes)	Natural landscapes change over time due to the interaction between earth's surface and forces acting on it.	Criterion D: Reflecting on the impacts of science Jason's project	Research and communication	<ul style="list-style-type: none"> Erosional processes Landforms Earth's surface Constructive (mtn. building), and destructive forces (erosion: water, glaciers, wind) Weather and erosion differentiated station lab formative assessment (A?)
Unit 4:	Water	Key: Change Related: movement	Globalization and sustainability (consumption, conservation,	Earth's water has always been moving and changing, yet it must be conserved.	Criterion B: Inquiring and designing Criterion C: processing and evaluating	Thinking	<ul style="list-style-type: none"> Water cycle Distribution of water on Earth: how we use it and where we find it, salt vs. fresh Water as a natural resource

			natural resources)		Students write a lab regarding the processes that take place during the water cycle. Then they choose one and perform the lab.		
Unit 5:	Why Does Matter, Matter to an I B scientist?	Key: Form Related: Structure models	Scientific and Technical Innovation (models)	The structure of atoms form all matter and can be modeled.	Criterion A: Knowing and Understanding test	Communication Thinking	<p>All matter is made of atoms, which makes solids, liquids and gases.</p> <ol style="list-style-type: none"> 1. All matter is made of atoms, which are far too small to see directly through a light microscope. Elements have unique atoms and thus, unique properties. Atoms themselves are made of even smaller particles 2. Atoms may stick together in well-defined molecules or be packed together in large arrangements. Different arrangements of atoms into groups compose all substances. 3. The physical characteristics and changes of solid, liquid, and gas states can be explained using the particulate model 4. Distinguish among, explain, and apply the

							relationships among mass, weight, volume, and density
Unit 6:	Sex ed	Key: systems Related: interactions	Identities and relationships (transitions, health and well-being, lifestyle choices)	Reproduction is dependent upon male and female systems interacting.	No assessment	Social	Male and female reproduction systems Friendships Personal safety All mammals have the same reproductive systems
7 th Grade Science	Unit Title	Key Concepts Related Concepts	Global context	Statement of Inquiry	MYP objectives	ATL skills	Content (topics, knowledge, skills)
Unit 1	Separation Lab	Key: Change Related: Consequences, Transformation	Scientific and Technical Innovation: Products, processes and solutions	Matter can be transformed through physical and chemical changes to meet a need.	B C	In order to interpret data gained from scientific investigations students will use thinking skills.	Colorado State Standard, Physical Science 1: Mixtures of substances can be separated based on their properties such as solubility, boiling points, magnetic properties, and densities.
Unit 2	Geologic Events	Key: Change Related: Consequences, models, movement, evidence	Scientific and Technical Innovation: Models	Models are used to show evidence of Earth's movement and where consequences of that movement can be seen.	D	Students will delegate and share responsibility for decision making.	Colorado State Standard, Earth Science 1: Major geologic events such as earthquakes, volcanic eruptions, mid-ocean ridges, and mountain formation are associated with plate boundaries and attributed to plate motion.
Unit 3	Geologic Time and Evolution	Key: Change Related: Consequence	Orientation in space and time: Eras and turning points	The geologic history of Earth provides evidence of the changes in organisms and the	A	Students will combine knowledge, understanding, and skills to create	Colorado State Standards, Earth Science 2: Geologic time, history, and changing life forms are indicated by fossils and successive

		s, evidence, environment	in history, evolution	consequences of their ability or inability to survive in certain environments.		products or solutions.	sedimentation, folding, faulting, and uplifting of layers of sedimentary rocks. Life Science 5: Multiple lines of evidence show the evolution of organisms over geologic time.
Unit 4	Cells and Cell Processes	Key: Relationships Related: Interaction, function, environment	Identities and Relationships: Lifestyle style choices	Cells have specific functions that allow them to interact in relationships with each other and their environment.	A i, ii, iii	Students will use thinking skills to make unexpected or unusual connections between objects and/or ideas. (applying the cell idea to everyday objects or systems)	Colorado State Standards, Life Science 3: Cells are the smallest unit of life that can function independently and perform all the necessary functions of life. Life Science 4: Photosynthesis and cellular respiration are the important processes by which energy is acquired and utilized by organisms.
Unit 5	Human Body	Key: Systems Related: Interaction, consequences, environment	Identities and Relationships: Physical health and well being	The consequences of our interactions with the environment affect us physically.	A B C D	Students will use communication skills to create visual representations of their data based on purpose and audience. Students will use communication skills to create a visual and present their information to an audience.	Colorado State Standard, Life Science 2: The human body is composed of atoms, molecules, cells, tissues, organs, and organ systems that have specific functions and interactions.
Unit 6:	Human Sexuality	Key: Relationships	Identities and Relationships: Physical,		District Assessment	Students will collect and analyze data to identify	ASD Standard Curriculum: Female/Male Reproductive Systems

		Related: Consequences, Interactions	psychological, and social development/ transitions/ health and well-being/ life style choices			solutions and make informed decisions.	Pregnancy Decision Making
8 th grade science	Unit titles	Key Concept Related Concepts	Global context	Statement of Inquiry	MYP objectives	ATL skills	Content (topics, knowledge, skills)
Unit 1	Motion, Newton's Laws, and Forces	Key: Relationships Related: Movement, pattern	Scientific and Technical Innovation (natural world and its laws)	We discover relationships between movement and patterns by exploring natural laws.	A: knowing and understanding: create a graph task Criterion B: hot wheels lab Criterion C: processing and evaluating: hot wheels lab D: Newton's Laws brochure	Thinking Social: collaboration	Describe motion, understand Newton's laws, applying laws during catapult experiment, real world applications
Unit 2	Energy and Waves Unit	Key: Change Related: Transformation; Energy; Models	Scientific and Technical Innovation (model)	Change in energy transformation can be visualized in models	A: knowing and understanding: quiz	Thinking Self-management	Students understand what happens when you manipulate frequency, when you change different parts of a wave, knowing differences between compression and transverse, how do you realize that all energy is conserved?

Unit 3	Chemistry Interactions lead to physical and chemical changes	Key: Change Related: evidence	Orientation in space and time (exchange and interaction)	During chemical changes there is evidence of an interaction.	Criterion B: Criterion C: chemical reactions lab	Thinking Self-management	How the periodic table is organized, atomic structure, how to recognize a chemical reaction
Unit 4	Genetics Using Punnett squares to predict possible traits of offspring	Key: relationships Related: patterns	Globalization and sustainability (commonality, diversity and interconnectedness)	Relationships can be modeled to show patterns of diversity.	Criterion D: paper Pet: reflecting on the impacts of science when it comes to genetics and how genetics affect a species in new situations.	Thinking Self-management Communication	Punnett Squares, dominance and recessive alleles, phenotypes and genotypes, probability, heredity
	Astronomy Sun, moon, earth relationships	Key: Relationships Related: Interaction Systems	Orientation in Time and Space (scale, frequency and variability)	The interaction of systems shows relationships through frequency and variability.	Criterion B: create a theory for the reasons for seasons Criterion D: reflecting on Challenger	Social Communication skills Thinking	Reasons for seasons, solar variations, inclination of the sun, theories of origins of the universe, how different objects in our solar system came to be, lunar position, Challenger space mission
	Weather/ Climate Atmospheric factors go into changing the weather, climates change over time	Key: Relationships Related: Interaction, energy, patterns	Globalization and sustainability (Human impact on global environment)	Energy, water and human activity interact to create weather patterns How do humans impact weather patterns?	Criterion A: Knowing and Understanding	Communication skills Thinking	Severe weather and emergency plan project Labs on cold fronts and warm fronts Layers of the atmosphere, winds and global winds, heat transfer, air masses and fronts, climate
	Human Footprint Human impact on ecosystems	Key: Relationships Related: Balance	Globalization and sustainability (human impact)	Our relationship with the environment has consequences and impacts the balance	Criterion D: human footprint project	Communication skills Thinking Research	Ecosystems, global climate change, personal responsibility,

			on the environment)	of the Earth's system.			
	Human Sexuality Making healthy choices	Key: Systems Related: Interaction, consequences, environment	Identities and Relationships: Physical health and well being	The consequences of our interactions with the environment affect us physically.			Test and class discussion
9 th Grade science	Unit titles	Key Concept Related Concepts	Global context	Statement of Inquiry	MYP objectives	ATL skills	Content (topics, knowledge, skills)
Unit 1	Earth History Part 1 15 hours	Key: Change Related: interaction	Scientific and Technical Innovation Systems, models, methods; products, processes and solution	Students will understand the history of earth that can be inferred by evidence, from past events, using interactions, science and technical innovation to understand the major changes that occurred and are still occurring over time.	D: Reflecting on the impacts of science	Communication	Geologic time
Unit 2	Earth History Part 2 19.5 hours	Key: Relationships Related: patterns and interactions	Personal and Cultural Expression Critical literacy, languages and linguistic systems; histories of ideas, fields	Students will be able to apply graphic representation to geologic time using patterns and relationships to create a personal expression of a potential ethical and cultural controversy	D: Reflecting on the impacts of science	Communication	Proving geologic time through relative and absolute dating techniques

			and disciplines; analysis and argument.				
Unit 3	Changing Earth 13.5 hours	Key: Change Related: interaction	Identities and relationships Competition and cooperation, teams, affiliation and leadership	Students will understand the theory of plate tectonics and how geological, physical, and geographical features change over time using science to identify relationships that create a dynamic earth.	A: knowing and understanding D: Reflecting on the impacts of science	Communication	Plate tectonics, continental drift and the dynamic Earth
Unit 4	Macromolecules 12 hours	Key: Change Related: Function and transformation	Identities and relationships Physical, psychological and social development; transitions; health and well-being; lifestyle choices	Organisms transform molecules to maintain homeostasis to maintain their health and well-being in a changing environment.	A: knowing and understanding B: inquiring and designing	Communication through language? Make inferences and draw conclusions Use and interpret a range of discipline-specific terms and symbols Think critically Develop new skills, techniques and strategies for effective learning I	Molecules of life and their roles with organisms
Unit 5	Cells 13 Hours	Key: Systems Related:	Identities and relationships	Students will explore the natural world and its laws as they apply at the	A: Knowing and Understanding	Critical thinking: Use models and simulations to explore complex	Cell organelles and their functions. Use of the microscope.

		Communication Interaction, Form	Scientific and technological innovation	cellular level. Students will understand the structure and function of a both plant and animal cells, and how the functions of organelles are interrelated in maintaining homeostasis.	D: Reflecting on the impacts of science.	systems and issues. Communication: paraphrase accurately and concisely.	The purpose of Diffusion, Osmosis and maintaining homeostasis.
Unit 6	Ecology	Key: Relationships Related: Environment, interaction, transformation	Globalization and sustainability	Students will understand that relationships that exist in the environment are based on interactions and transformations between living and non-living factors on a global scale.	A: Knowing and understanding D. Reflecting on the impacts of science	Communication: Collaboration:	Matter tends to be cycled within an ecosystem, while energy is transformed and eventually exits an ecosystem The size and persistence of populations depend on their interactions with each other and on the abiotic factors in an ecosystem.
Unit 7	Conservation of Matter	Key: Change Related: Balance, transformation, patterns	Scientific and technical innovation systems, models, methods; products, processes, solutions	Students will understand that all change is balanced due to Law of Conservation and identify patterns in the transformation of compounds and reactions.	Objective A – Knowing and understanding Objective D – Reflecting on the Impacts of Science	Skill – Research, Cluster – Information literacy Skill-Thinking, Cluster – Critical Thinking Skills Skills – Communication,	Naming and Formula writing, Write chemical reactions, States of matter and solubility

						Cluster – Communication skills	
Unit 8	Bonding	Key: Systems Related: Models, Interactions	Scientific and technical innovation systems, models, methods; products, processes, solutions	Students will use models of systems to understand the structure of compounds, from which they can derive an understanding of chemical interactions.	Objective A – Knowing and understanding Objective B – Inquiring and Designing Objective C – Processing and Evaluating	Skill – Thinking, Cluster – Critical Thinking Skills – Communication, Cluster – Communication skills Skills – Thinking, Cluster – Transfer skills	By being able to draw a chemical compound (Lewis Structures, VSEPR Chart (geometries)) the students will identify the appropriate intermolecular forces that explain the movement of molecules through their phase change (states of matter) and why types of solids differ.
Unit 9	1-D Kinematics 10-15 hours	Key: Relationships Related: movement, consequences and patterns	Scientific and Technical Innovation Mathematical puzzles, principles and discoveries	Students will understand the relationships that describe motion and the consequences and patterns produced by changes in motion.	Objective A – Knowing and understanding Objective B – Inquiring and Designing Objective C – Processing and Evaluating	Critical Thinking	Motion in one dimension and a small amount of projectile motion.
10 th Grade science	Unit titles	Key Concept Related Concepts	Global context	Statement of Inquiry	MYP objectives	ATL skills	Content (topics, knowledge, skills)
Unit 1	Earth History Part 1 15 hours	Key: Change Related: interaction	Scientific and Technical Innovation	Students will understand the history of earth that can be inferred by	D: Reflecting on the impacts of science	Communication	Geologic time

			(Systems, models, methods; products, processes and solution)	evidence, from past events, using interactions, science and technical innovation to understand the major changes that occurred and are still occurring over time.			
Unit 2	Earth History Part 2 19.5 hours	Key: Relationships Related: patterns and interactions	Personal and Cultural Expression (Critical literacy, languages and linguistic systems; histories of ideas, fields and disciplines; analysis and argument.)	Students will be able to apply graphic representation to geologic time using patterns and relationships to create a personal expression of a potential ethical and cultural controversy	D: Reflecting on the impacts of science	Communication	Proving geologic time through relative and absolute dating techniques
Unit 3	Changing Earth 13.5 hours	Key: Change Related: interaction	Identities and relationships (Competition and cooperation, teams, affiliation and leadership)	Students will understand the theory of plate tectonics and how geological, physical, and geographical features change over time using science to identify relationships that create a dynamic earth.	A: knowing and understanding D: Reflecting on the impacts of science	Communication	Plate tectonics, continental drift and the dynamic Earth

Unit 4	Macromolecules 12 hours	Key: Change Related: Function and transformation	Identities and relationships (Physical, psychological and social development; transitions; health and well-being; lifestyle choices)	Organisms transform molecules to maintain homeostasis to maintain their health and well-being in a changing environment.	A: knowing and understanding B: inquiring and designing		Molecules of life and their roles with organisms
Unit 5	Cells	Key: Related:					
Unit 6	Ecology	Key: Related:					
	Conservation of Matter	Key: Change Related: Balance, transformation, patterns	Scientific and technical innovation (systems, models, methods; products, processes, solutions)	Students will understand that all change is balanced due to Law of Conservation and identify patterns in the transformation of compounds and reactions.	Objective A – Knowing and understanding Objective D – Reflecting on the Impacts of Science	Skill – Research, Cluster – Information literacy Skill-Thinking, Cluster – Critical Thinking Skills Skills – Communication, Cluster –	Naming and Formula writing, Write chemical reactions, States of matter and solubility

						Communication skills	
	Bonding	Key: Systems Related: Models, Interactions	Scientific and technical innovation systems, models, methods; products, processes, solutions	Students will use models of systems to understand the structure of compounds, from which they can derive an understanding of chemical interactions.	Objective A – Knowing and understanding Objective B – Inquiring and Designing Objective C – Processing and Evaluating	Skill – Thinking, Cluster – Critical Thinking Skills – Communication, Cluster – Communication skills Skills – Thinking, Cluster – Transfer skills	By being able to draw a chemical compound (Lewis Structures, VSEPR Chart (geometries)) the students will identify the appropriate intermolecular forces that explain the movement of molecules through their phase change (states of matter) and why types of solids differ.
	1-D Kinematics 10-15 hours	Key: Relationships Related: movement, consequences and patterns	Scientific and Technical Innovation Mathematical puzzles, principles and discoveries	Students will understand the relationships that describe motion and the consequences and patterns produced by changes in motion.	Objective A – Knowing and understanding Objective B – Inquiring and Designing Objective C – Processing and Evaluating	Critical Thinking	Motion in one dimension and a small amount of projectile motion.
	Newton’s Laws and Forces	Key: Change Related: Interaction and movement	Scientific and Technical Innovation Systems, models, methods;	Students will understand that changes in movement are the result of interactions between objects and forces.	Objective A – Knowing and understanding Objective B – Inquiring and Designing	Critical thinking and communication	Newton’s laws of motion, force interrelationships and newton’s law of universal gravitation.

			products, processes and solutions		Objective C – Processing and Evaluating		
	Work, Power, Energy and Efficiency	Key: Systems Related: Energy and transformation	Scientific and Technical Innovation Systems, models, methods; products, processes and solutions	The student will understand how energy is applied and transformed within physical systems.	Objective A – Knowing and understanding	Information Literacy Skills	Work-Energy theorem, real world efficiency and power.