

Time frame	Unit title	Key and Related Concepts	Global context and exploration	Statement of inquiry	Objective/ Objective strands	ATL skills	Content
20 hours	Nature of Science- Unit 1	Relationship Interaction Patterns	Scientific and Technical Innovation: Methods	Relationships need interaction and patterns to establish methods	A i. ii. iii. B I C i. ii. iii. iv. v. D i. ii. iii. iv.	<ul style="list-style-type: none"> Self-Management Organization skills Keep an organized and logical system of information files/ notebooks Research Information literacy skills Make connections between various sources of information 	<p>Scientific investigations of various types are carried out by defining a problem, identifying variables, collecting and interpreting data, and forming conclusions.</p> <p>Scientific knowledge is a result of a great deal of debate within the scientific community.</p> <p>Scientific models have many limitations and benefits.</p> <p>Theories and laws have different meanings in science.</p> <p>Empirical evidence is an accumulation of data that supports scientific ideas.</p>
25 hours	Earth's Structures- Unit 2	Change Consequences Evidence	Orientation in Space and Time: Natural and human landscapes and resources	Consequences are created when change and evidence effect natural and human landscapes and resources.	A: all strands C: all strands	<ul style="list-style-type: none"> Communication Communication skills Paraphrase accurately and concisely Research Information literacy skills Understand the benefits and limitations of personal sensory learning preferences when accessing, processing, and recalling information. 	<p>Elements are pure substances that cannot be broken down by chemical means into simpler substances.</p> <p>Elements consist of atoms. Two or more atoms that bonded to each other form a molecule. A molecule that consists of two or more elements is a compound.</p> <p>The rock cycle is series of processes in which rocks form, change from one type to another, melt, and form again by geologic processes.</p>
15 hours	Waves and Light- Unit 3	Relationships Interaction Movement	Orientation in Space and Time: Ex:exchange and interaction	The relationships interaction is enhanced by movement during an exchange and interaction.	D i. ii. iii. iv.	<ul style="list-style-type: none"> Self-Management Organization Skills Take responsibility for all outcomes of goal directed action Self-management Affective skills Practice focus and concentration 	<p>The electromagnetic spectrum displays varying wavelengths of energy.</p> <p>Light and sound travel at different speeds through different materials.</p> <p>The properties of light are reflection, refraction, and absorption.</p>
20 hours	Energy and Heat- Unit 4	Change Energy Transformation	Scientific and Technical Innovation: Processes and solutions	Change in energy allows a transformation as a result of specific processes and solutions.	B i.ii. iii. iv.	<ul style="list-style-type: none"> Communication Communication skills Make effective summary notes for studying Self-management Organization skills Bring necessary equipment and supplies to class Understand and use sensory learning preferences (learning styles) Reflection skills Consider content <ul style="list-style-type: none"> What did I learn about today What don't I yet understand? What questions do I have now 	<p>Energy transformations can occur from one form to another.</p> <p>The law of conservation of energy states that energy cannot be created nor destroyed only changed from one form to another.</p> <p>Adding or removing heat from a system may result in a temperature change and possibly a change of state.</p> <p>Heat is transferred from warmer to colder areas until they reach the same temperature.</p>
15 hours	Life Over Time- Unit 5	Change Environment Evidence	Scientific and Technical Innovation: Adaptation	Evidence supports environmental change of adaptations.	C i. ii. iii. iv. v.	<ul style="list-style-type: none"> Thinking Creative thinking skills Practice visible thinking strategies and techniques Thinking Critical Thinking Skills Interpret Data 	<p>Fossil evidence supports the scientific theory of evolution that organisms evolved from earlier species.</p> <p>Genetic variations and environmental factors contribute to evolution by natural selection and diversity of organisms.</p> <p>Inability of a species to adapt within an environment can contribute to the extinction of that species.</p>

20 hours	Reproduction and Heredity DNA and Modern Genetics- Unit 6	Relationships Consequences Transformation	GC: Orientation in Space and Time Ex: variability	Transformation of relationships have consequences due to the variability.	A i.ii. iii.	<ul style="list-style-type: none"> • Thinking Critical thinking skills Use models and simulations to explore complex systems and issues. • Thinking Transfer Skills Use effective learning strategies in subject groups and disciplines 	<p>DNA is located in chromosomes within the cells of living things and carries genetic information to be passed to future generations known as heredity. Punnett squares can be used to determine the probability of phenotypes and genotypes. Sexual reproduction requires the process of meiosis. Asexual reproduction requires the process of mitosis. Specific ways that biotechnology impacts society, individuals, and the environment are cloning, artificial selection, and genetic engineering.</p>
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