Science					
Topic	**Key Concepts**	**Related Concepts**	**Theme**	**Lines of Inquiry**	**Assessment Objectives**
Integrated: Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact. Integrated: Describe and graph the amounts of salt water and fresh water in various reservoirs to provide evidence about the distribution of water on Earth. Integrated: Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.	Function Responsibility Connection	Decision Making, Economy, Globalization, Leadership	HWOO: Decisions could drive economic systems.	- Different processes of decision making - Impact of our decisions on the economy. -The connections between local, national, and global economies	Scientific Method or Science and Engineering Practices 3-LS2-1. Construct an argument that some animals form groups that help members survive. 3-LS4-1. Analyze and interpret data from fossils to provide evidence of the organisms and the environments in which they lived long ago. 3-LS4-3. Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all. 3-LS4-4. Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change.* 3-5-ETS1-1. Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost."
Integrated: Develop a model to describe that matter is made of particles too small to be seen. Integrated: Measure and graph quantities to provide evidence that regardless of the type of change that occurs when heating, cooling, or mixing substances, the total weight of matter is conserved. Integrated: Make observations and measurements to identify materials based on their properties. Integrated:. Conduct an investigation to determine whether the mixing of two or more substances results in new substances. Integrated: Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.	Form Change Connection	(Un)controlled variables	HTWW: The world around us is composed of matter which can go through various changes.	- Characteristics and properties of solids, liquids and gases - How and why matter changes - Manipulating materials to affect change	Scientific Method or Science and Engineering Practices 3-ESS2-1. Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season. 3-ESS2-2. Obtain and combine information to describe climates in different regions of the world. 3-ESS3-1. Make a claim about the merit of a design solution that reduces the impacts of a weather-related hazard.* 3-5-ETS1-1. Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost."

Stand-alone: Support an argument that the gravitational force exerted by Earth on objects is directed down. Stand-alone: Support an argument that differences in the apparent brightness of the sun compared to other stars is due to their relative distances from the Earth.	Perspective Form Causation	Creativity, communication, expression	HWEO: People can create and manipulate messages to target a specific audience.	- Forms of persuasive communication - Reasons for communicating in various formats - Impact on audience	Scientific Method or Science and Engineering Practices 3-LS1-1. Develop models to describe what organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death. 3-LS3-1. Analyze and interpret data to provide evidence that plants and animals have traits inherited from parents and that variation of these traits exists in a group of similar organisms. 3-LS3-2. Use evidence to support the explanation that traits can be influenced by the environment. 3-LS4-2. Use evidence to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing. "
Stand-alone: Use models to describe that energy in animals' food (used for body repair, growth, and motion and to maintain body warmth) was once energy from the sun. Stand-alone: Support an argument that plants get the materials they need for growth chiefly from air and water. Stand-alone: Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment. Stand-alone: Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.	Causation Responsibility Function	Peace, equality, rights	STP: Children worldwide encounter a range of challenges and risks.	- Challenges and risks for children - Ways in which organizations work to protect children - Rights to equal opportunities	Scientific Method or Science and Engineering Practices

Stand-alone: Represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky.	All concepts	Depends on the chosen topic	EXHIBITION	EXHIBITION	Scientific Method or Science and Engineering Practices 3-PS2-1. Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object. 3-PS2-2. Make observations and/or measurements of an object's motion to provide evidence that a pattern can be used to predict future motion. 3-PS2-3. Ask questions to determine cause and effect relationships of electric or magnetic interactions between two objects not in contact with each other. 3-PS2-4. Define a simple design problem that can be solved by applying scientific ideas about magnets.* 3-5-ETS1-1. Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost."
Integrated: Develop an understanding of the physical changes taking place in males and females during growth to adulthood.	Form Change Connection	Wellness, health, identity	WWA: Changes people experience in life affect their evolving sense of self.	- Biological, emotional and social wellbeing - Changes that occur during adolescence/puberty - How relationships contribute to our sense of self	

Taking Action

Taking action is one of the five essential elements of the PYP and an intricate part of the inquiry cycle which could be interpreted as a "conclusion" to learning. When taking action, students make connections to new knowledge they have acquired and apply their skills in everyday life.