

**PACING Guide SY 2018-2019**

Quarter 1				
Timeline & Resources	AZ College and Career Readiness Standard	Essential Question (HESS Matrix)	Learning Goal	Vocabulary (Content/Academic)
Integrated Science: McGraw Hill Understanding Science Lesson 1 Page NOS 6	<b>S1Concept 1: Observations, Questions, and Hypotheses</b> Formulate predictions, questions, or hypotheses based on observations. Locate appropriate resources.  S1C1PO 1. Differentiate among a question, hypothesis, and prediction.	What are the steps of the scientific method? What is the difference between a hypothesis and a prediction? Why is using the scientific method important to research?	I will be able to: Formulate a hypothesis based on observations. Describe how scientists formulate and test a hypothesis. Describe how experiments and investigations use the scientific method. Distinguish between questions, hypotheses, and predictions.	Questions Hypotheses Observation Prediction Investigation Scientific Method Draw conclusion experiment  Parts of Speech Root Words Prefix Suffix
Integrated Science: McGraw Hill Understanding Science	<b>S1Concept 1: Observations, Questions, and Hypotheses</b> Formulate predictions, questions, or hypotheses based on observations. Locate appropriate resources.	What is the scientific method? How is the scientific method used? What are inquiry skills?	I will be able to: Explain the scientific method. Describe how experiments and investigations use the scientific method.	Scientific Method Hypothesis Prediction Variable Independent variable

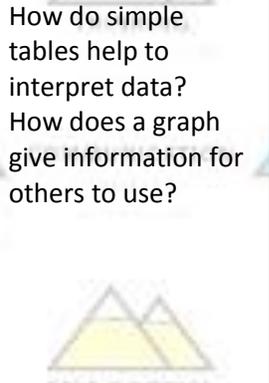
Lesson 1 Page NOS 7	<b>S1C1PO 2. Formulate questions based on observations that lead to the development of a hypothesis.</b> (See M06-S2C1-01)	What is prediction outcome? What is a prediction from data? How are relevant questions formed through observations that may lead to a hypothesis?	Identify the steps in the scientific method. Explain how scientist test a hypothesis. Explain prediction outcome. Identify predictions from data. Form relevant questions through observations that may lead to a hypothesis.	Dependent variable Controlled variables Prediction outcome Prediction data
Integrated Science: McGraw Hill  Methods of Science  Lesson 2  NOS 12	<b>S1Concept 1: Observations, Questions, and Hypotheses</b> Formulate predictions, questions, or hypotheses based on observations. Locate appropriate resources. S1C1PO 3. Locate research information, not limited to a single source, for use in the design of a controlled investigation. (See W06-S3C6-01, R06-S3C1-06, and R06-S3C2-03)	What are selected resources used for in designing an investigation or experiment? Why is conducting research important to designing an investigation or experiment?	Select appropriate resources for use in designing an investigation or experiment. Analyze Date Organize data Draw conclusion Share results Ask questions Conduct research Formulate a hypothesis Plan and conduct an experiment	Formula Locate research information Controlled investigation Prediction Questions Hypotheses
Integrated Science: McGraw Hill	<b>S1C1Concept 2: Scientific Testing (Investigating and Modeling)</b>	What are some tools used in scientific investigation?	I will be able to:	Inquiry Pan balance Microscope

<p>Measurement and Scientific Tools</p> <p>Lesson 2</p> <p>Page NOS 12 - 13</p>	<p>Design and conduct controlled investigations.</p> <p>S1C2PO 1. Demonstrate safe behavior and appropriate procedures (e.g., use and care of technology, materials, organisms) in all science inquiry.</p>	<p>What are the proper safety procedures during investigations?</p> 	<p>Describe some tools used in scientific investigations</p> <p>Explain and observe proper safety procedures during investigations</p> <p>Demonstrate safe behavior and appropriate procedures in all science inquiry</p>	<p>Metric ruler</p> <p>Dropper</p> <p>Beakers</p> <p>Stopwatch</p> <p>Measurement</p> <p>Organisms</p> <p>Micrometer</p> <p>Micro</p> <p>Macro</p> <p>scope</p>
<p>Integrated Science: McGraw Hill</p> <p>Case Study</p> <p>Lesson 3</p> <p>Page NOS 20</p>	<p><b>S1Concept 2: Scientific Testing (Investigating and Modeling)</b></p> <p>Design and conduct controlled investigations.</p> <p>S1C1PO 2. Design an investigation to test individual variables using scientific processes.</p>	<p>What is the difference between an independent and dependent variable? How do I design and conduct an investigation to test individual variables? What are the types of variables?</p>	<p>I will be able to:</p> <p>Recognize the independent and dependent variables of a controlled investigation</p> <p>Present a design and conduct an investigation to test individual variables.</p> <p>Name different types of variables.</p>	<p>Variables</p> <p>Independent variable</p> <p>Dependent variable</p> <p>Controlled variables</p>
<p>Integrated Science: McGraw Hill</p> <p>Case Study</p>	<p><b>S1Concept 2: Scientific Testing (Investigating and Modeling)</b></p> <p>Design and conduct controlled investigations.</p>	<p>What is the difference between a controlled variable and a control group? What are the two types of variables in</p>	<p>I will be able to:</p> <p>Display data collected from a controlled investigation in the most optimum format</p>	<p>Controlled investigation</p> <p>Scientific processes</p>

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Lesson 3 Page NOS 21	S1C2PO 3. Conduct a controlled investigation using scientific processes.	a controlled experiment, and how do they relate to each other?		
Integrated Science: McGraw Hill Methods of Science Lesson 2 Page NOS 12	<b>S1Concept 2: Scientific Testing (Investigating and Modeling)</b> Design and conduct controlled investigations. S1C2PO 4. Perform measurements using appropriate scientific tools (e.g., balances, microscopes, probes, micrometers). (See M06-S4C4-02)	What is the difference between qualitative and quantitative? What is the metric system?	I will be able to: Understand the basics of the metric system	Balances Microscopes Probes Micrometers Metric System SI units Measurement
Integrated Science: McGraw Hill Methods of Science Lesson 2 Page NOS 12	<b>S1Concept 2: Scientific Testing (Investigating and Modeling)</b> Design and conduct controlled investigations. S1C2PO 5. Keep a record of observations, notes, sketches, questions, and ideas using tools such as written and/or computer logs. (See W06-S3C2-01 and W06-S3C3-01)	How do I graph both descriptive and continuous data? How do I compare and contrast descriptive data and continuous data?	I will be able to: Explain the role and importance of observation in the empirical nature of science. Explain how observations are made. Compare and contrast the two basic models of observation.	Observations Notes Sketches Questions Logs

<p>Integrated Science: McGraw Hill</p> <p>Case Study</p> <p>Lesson 3</p> <p>Page NOS 21</p>	<p><b>S1Concept 3: Analysis and Conclusions</b> Analyze and interpret data to explain correlations and results; formulate new questions.</p> <p>S1C3PO 1. Analyze data obtained in a scientific investigation to identify trends. (See M06-S2C1-03)</p>	<p>How to demonstrate the ability to identify and name basic trends between variables from graphed data?</p>	<p>I will be able to:</p> <p>Identify both appropriate and inappropriate interpretations drawn from a given set of data</p>	<p>Analyze Data</p> <p>Scientific investigation</p> <p>Trends</p>
<p>Integrated Science: McGraw Hill</p> <p>Case Study</p> <p>Lesson 3</p> <p>Page NOS 28</p>	<p><b>S1Concept 3: Analysis and Conclusions</b> Analyze and interpret data to explain correlations and results; formulate new questions.</p> <p>S1C3PO 2. Form a logical argument about a correlation between variables or sequence of events (e.g., construct a cause-and-effect chain that explains a sequence of events).</p>	<p>How do relevant questions through observation lead to a hypothesis? How are resources used to design an investigation or experiment? What is "reasoning" in science?</p>	<p>I will be able to:</p> <p>Determine which data will lead to identify a hypothesis. Find the differences between an experiment and investigation.</p>	<p>Logical Argument</p> <p>Sequence of events</p> <p>Cause – and - effect</p>
<p>Integrated Science: McGraw Hill</p>	<p><b>S1Concept 3: Analysis and Conclusions</b></p>	<p>What are observations and data created by others?</p>	<p>I will be able to:</p> <p>Evaluate observation and data created by others.</p>	<p>Evaluate Observation Data</p> <p>Evaluate</p>

Launch Lab Page 157	Analyze and interpret data to explain correlations and results; formulate new questions.  S1C3PO 3. Evaluate the observations and data reported by others.			observation
Integrated Science: McGraw Hill Launch Lab Page 87	<b>S1Concept 3: Analysis and Conclusions</b> Analyze and interpret data to explain correlations and results; formulate new questions.  S1C3PO 4. Interpret simple tables and graphs produced by others.	How do simple tables help to interpret data? How does a graph give information for others to use?  	I will be able to:  Analyze data to explain results. Interpret simple tables produced by others. Interpret simple graphs produced by others	Interpretation Tables Graphs Formulate new questions
Integrated Science: McGraw Hill Launch Labe Page 87	<b>S1Concept 3: Analysis and Conclusions</b> Analyze and interpret data to explain correlations and results; formulate new questions. S1C3PO 5. Analyze the results from previous and/or similar investigations to verify the results of the current investigation.	How does explaining data correlate with results? How does interpreting data help to explain and formulate new questions?	I will be able to:  Interpret data to explain new questions. Analyze data to explain correlations and results. Compare previous and/or similar investigations to verify the results of the current investigation.	Analyze Results Investigations Current investigation Correlations and results

<p>Integrated Science: McGraw Hill</p> <p>Lesson 2</p> <p>Page NOS 12</p>	<p><b>S1Concept 3: Analysis and Conclusions</b> Analyze and interpret data to explain correlations and results; formulate new questions. S1C4PO 6. Formulate new questions based on the results of a completed investigation.</p>	<p>How are new questions based on the results of a completed investigation?</p>	<p>I will be able to: Describe how new questions are based on the results of a completed investigation.</p>	<p>Analyze Results Investigations Current investigation Correlations and results</p>
<p>Integrated Science: McGraw Hill</p> <p>Technology and Mapmaking</p> <p>Lesson 2</p> <p>Page 22</p> <p>Inquiry Lab</p> <p>Page 174</p>	<p><b>S1Concept 4: Communication</b> Communicate results of investigations. S1C4PO 1. Choose an appropriate graphic representation for collected data: line graph double bar graph stem and leaf plot histogram (See M06-S2C1-02)</p>	<p>When is the appropriate time to use a line graph? When is the appropriate time to use a bar graph? What is the difference between a bar graph and a histogram?</p>	<p>I will be able to: Examine graphed data to determine if a given prediction is interpolated or extrapolated. Create a line graph. Create a bar graph.</p>	<p>Graphic representation Line graph Double bar graph Stem and leaf plot</p>
<p>Integrated Science: McGraw Hill</p>	<p><b>S1Concept 4: Communication</b> Communicate results of investigations.</p>	<p>How is collected data used for information.</p>	<p>I will be able to: Compose &amp; Illustrate a written document to communicate results of</p>	<p>Investigation logs Collected data Line graph Bar Graph Histogram</p>

<p>Technology and Mapmaking</p> <p>Lesson 2</p> <p>Page 22</p> <p>Inquiry Lab</p>	<p>S1C4PO 2. Display data collected from a controlled investigation. (See M06-S2C1-02)</p>		<p>investigation in appropriate formats including written and graphical.</p>	<p>Circle graph Pie chart</p>
<p>Integrated Science: McGraw Hill</p> <p>Technology and Mapmaking</p> <p>Lesson 2</p> <p>Page 22</p> <p>Inquiry Lab</p>	<p><b>S1Concept 4: Communication</b> Communicate results of investigations.</p> <p>S1C4PO 3. Communicate the results of an investigation with appropriate use of qualitative and quantitative information. (See W06-S3C2-01)</p>	<p>What is the difference between qualitative and quantitative?</p> 	<p>I will be able to: Recognize the difference between qualitative and quantitative.</p>	<p>Communicate Results Investigation Qualitative Quantitative</p>

**PACING Guide SY 2017-2018**

**Quarter 2**

Timeline & Resources	AZ College and Career Readiness Standard	Essential Question (HESS Matrix)	Learning Goal	Vocabulary (Content/Academic)
Integrated Science: McGraw Hill Plant Process Lesson 3 Page 260	<b>S3Concept 1: Structure and Function in Living Systems</b> Understand the relationships between structures and functions of organisms.  S4C1PO 1. Explain the importance of water to organisms.	What is water? Why is water important to living organisms?	I will be able to: Relate the function of the water. Know the effects of water.	Water organisms
Integrated Science: McGraw Hill Cells Lesson 2 Page 198	<b>S4Concept 1: Structure and Function in Living Systems</b> Understand the relationships between structures and functions of organisms.  S4C1PO 2. Describe the basic structure of a cell, including: cell wall, cell membrane, and nucleus	What is cell theory? What are the functions of different parts of a cell, including; cell wall, cell membrane, and nucleus. What are the characteristics of plant cells?	I will be able to: Explain cell theory. Describe the functions of the various parts of plant cells. Explain that cells are the basic units of life. Explain that all organisms are made up of cells. Explain that all new cells come from preexisting cells.	Cell theory Cell wall Cell membrane Nucleus Organs tissues

Integrated Science: McGraw Hill  Cells  Lesson 2  Page 198	<b>MS-LS1-1 Conduct an investigation to provide evidence that living things are made of cells; either one cell or many different numbers and types of cells.</b>  Emphasis is on developing evidence that living things are made of cells, distinguishing between living and non-living things, and understanding that living things may be made of one cell or many and varied cells.	What do all living things have in common? What are all living things made from? What are cells? How do cells carry out life processes? How does one cell become many?	Summarize the cell cycle. Compare the ways that organisms reproduce. Explain that all cells come from existing cells. Describe how cells reproduce.	Cell cycle Mitosis Zygote Meiosis Fertilization
Integrated Science: McGraw Hill  Cells  Lesson 2  Page 198	<b>S4Concept 1: Structure and Function in Living Systems</b> Understand the relationships between structures and functions of organisms S4C1PO 3. Describe the function of each of the following cell parts cell wall cell membrane nucleus	What are the functions of plant cells? What are the functions of plant cells membrane/nucleus? How do organisms grow?	I will be able to:  Describe the functions of plant cells. Name the parts of a plant cell. Explain how organisms grow. Explain why the nucleus is considered the control center of a cell.	Relationship of structures and functions Organisms Cell wall Cell membrane Nucleus

<p>Integrated Science: McGraw Hill</p> <p>Plant Diversity</p> <p>Lesson 1</p> <p>Page 244</p>	<p><b>S4Concept 1: Structure and Function in Living Systems</b> Understand the relationships between structures and functions of organisms</p> <p>S4C1PO 6. Relate the following structures of living organisms to their functions: Plants transpiration – stomata, roots, xylem, phloem absorption – roots, xylem, phloem response to stimulus (phototropism, hydrotropism, geotropism) – roots, xylem, phloem</p>	<p>What is plant transpiration? What are the plant structures involved in transpiration, including roots, xylem, and stomata? What are the factors that affect the rate of transpiration?</p>	<p>I will be able to:</p> <p>Explain plant transpiration Explain plant structures and how they are involved in transpiration. Identify and explain roots, xylem, and stomata. Explain the factors that affect the rate of transpiration.</p>	<p>Systems Organisms Respiratory and circulatory Roots Xylem stomata</p>
<p>Integrated Science: McGraw Hill</p> <p>Cells</p> <p>Lesson 2</p> <p>Page 202</p>	<p><b>S4Concept 1: Structure and Function in Living Systems</b> Understand the relationships between structures and functions of organisms.</p> <p>S4C1PO 4. Differentiate between plant and animal cells.</p>	<p>What are the differences between plant and animal cells? What are the parts of an animal cell? What are the parts of plant cell?</p>	<p>I will be able to:</p> <p>Identify the functions of different organelles in plant and animal cells. Distinguish the difference in animal cell and plant cell. Name the parts of animal cell. Name the parts of plant cell.</p>	<p>structures functions organisms plant cell animal cell</p>

<p>Integrated Science: McGraw Hill</p> <p>Cells</p> <p>Lesson 2</p> <p>Page 200</p>	<p><b>S4Concept 1: Structure and Function in Living Systems</b></p> <p>Understand the relationships between structures and functions of organisms.</p> <p>S4C1PO 5. Explain the hierarchy of cells, tissues, organs, and systems.</p>	<p>What are the levels of organization in multicellular organisms?</p> <p>What are the characteristics of cells, tissues organs, and systems?</p> <p>How are cells, tissues, organs, and systems organized to create organisms?</p>	<p>Identify the levels of organization in multicellular organisms.</p> <p>Explain the characteristics of cells, tissues organs, and systems.</p> <p>Explain how cells, tissues, organs, systems are organized to create organisms.</p>	<p>Hierarchy</p> <p>Tissues</p> <p>Organs</p> <p>Cells</p> <p>Multicellular organisms</p>
<p>Integrated Science: McGraw Hill</p> <p>Classifying Living Things</p> <p>Lesson 1</p> <p>Page 193</p>	<p><b>S4Concept 1: Structure and Function in Living Systems</b></p> <p>Understand the relationships between structures and functions of organisms.</p> <p>S4C1PO 1. Explain the importance of water to organisms.</p>	<p>What is water?</p> <p>Why is water important to living organisms?</p> <p>What is the role of water (blood) in regard to respiration?</p>	<p>I will be able to:</p> <p>Explain the importance of water to organisms.</p> <p>Illustrate the role of water in regard to respiration.</p> <p>Demonstrate what the properties of water.</p> <p>Explain that water is important to living organisms.</p>	<p>Water</p> <p>H2O</p> <p>Organisms</p> <p>Respiration</p> <p>Positive</p> <p>negative</p> <p>Electrolysis</p> <p>Hydro</p> <p>Hydrophobic</p> <p>Hydrophilic</p>
<p>Harcourt School Publishers</p>	<p><b>S4Concept 1: Structure and Function in Living Systems</b></p>	<p>What are the structures of animals?</p>	<p>I will be able to:</p> <p>Describe the structures of animals.</p>	<p>Organ</p> <p>Organism</p> <p>Structures</p> <p>Respiration</p>

<p>How Do Organisms Interact?</p> <p>Page 86</p>	<p>Understand the relationships between structures and functions of organisms.</p> <p>S4C1PO 6. Relate the following structures of living organisms to their functions:</p> <p>Animals respiration – gills, lungs digestion – stomach, intestines circulation – heart, veins, arteries, capillaries locomotion – muscles, skeleton</p>	<p>How are the structures used for the following processes: respiration, digestion, circulation?</p>	<p>Describe how the structures used for the following process: respiration, digestion, circulation.</p>	<p>Digestion Circulation Locomotion Organ System Exo Derm Excrete Excretion Absorb process</p>
<p>Harcourt School Publishers</p> <p>How Do Cells Work Together?</p> <p>Lesson 2</p> <p>Page 38</p>	<p><b>S4Concept 1: Structure and Function in Living Systems</b> Understand the relationships between structures and functions of organisms.</p> <p>S4C1PO 7. Describe how the various systems of living organisms work together to perform a vital function: respiratory and circulatory muscular and skeletal digestive and excretory</p>	<p>How do the circulatory system and respiratory system work together to allow for respiration? How is the respiratory system dependent on the muscular system to allow for breathing? How is the circulatory system</p>	<p>I will be able to: Describe the vital functions in the muscular and skeletal systems. Describe the vital functions in the respiratory and circulatory systems. Describe the vital functions in digestive and excretory systems.</p>	<p>Function Respiratory Circulatory Muscular Skeletal Digestive Excretory Depend independent</p>

		dependent on the excretory system?		
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Ganado Unified School District #20  
(Science/Grade 6)

**PACING Guide SY 2017-2018**

**Quarter 3**

Timeline & Resources	AZ College and Career Readiness Standard	Essential Question (HESS Matrix)	Learning Goal	Vocabulary (Content/Academic)
Integrated Science: McGraw Hill Ecosystem Lesson 1 Page 314	<b>S4Concept 3: Populations of Organisms in an Ecosystem</b> Analyze the relationships among various organisms and their environment.  S4C3PO 1. Explain that sunlight is the major source of energy for most ecosystems. (See Strand 5 Concept 3 and Strand 6 Concept 2)	What are different strategies that animals have evolved in order to obtain energy? What is sunlight's key role in most ecosystems?	I will be able to:  Recognize the importance of the sun to an energy pyramid. Understand how every animal/organism occupies a niche within an ecosystem	Sunlight Energy Ecosystem Environment Eco Visible Non visible Spectrum Niche Occupy Pyramid Vacuum
Integrated Science: McGraw Hill	<b>S4Concept 3: Populations of Organisms in an Ecosystem</b>	How do organisms interact in an ecosystem?	I will be able to:	Limiting factor Endangered Extinct

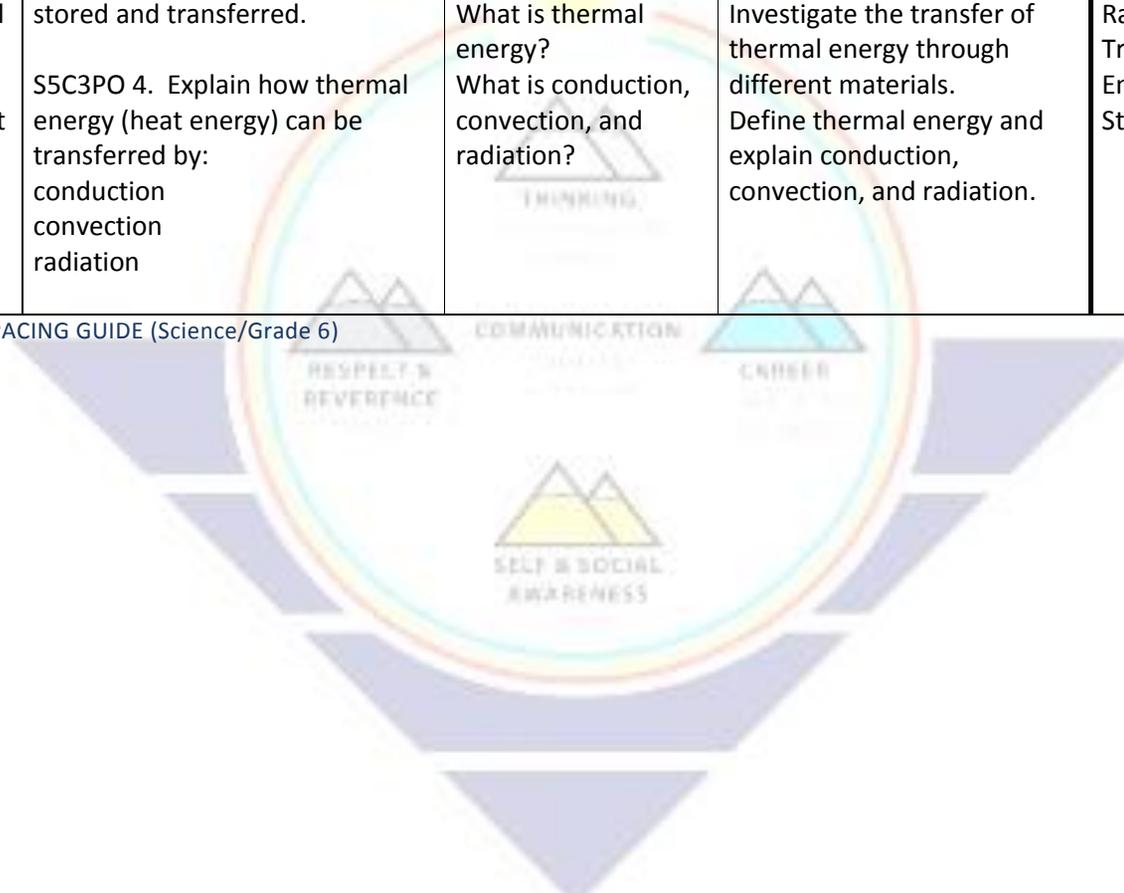
<p>Interactions of Earth Systems</p> <p>Lesson 2</p> <p>Page 91</p>	<p>Analyze the relationships among various organisms and their environment.</p> <p>S4C3PO 2. Describe how the following environmental conditions affect the quality of life:  water quality  climate  population density  smog</p>	<p>How does climate affect ecosystem diversity?  What are the biotic and abiotic parts of an ecosystem?  How does the environment change over time?</p>	<p>Describe how the following environmental conditions affect the quality of life:  Water quality  Climate  Population density.  Smog  Describe evidence that show how environments have changed over time.</p>	<p>Water quality  Climate  Population density  Smog</p>
<p>Integrated Science: McGraw Hill</p> <p>Energy Resources</p> <p>Lesson 1</p> <p>Page 144</p>	<p><b>S5Concept 3: Transfer of Energy</b>  Understand that energy can be stored and transferred.</p> <p>S5C3PO 1. Identify various ways in which electrical energy is generated using renewable and nonrenewable resources (e.g., wind, dams, fossil fuels, nuclear reactions).</p>	<p>What is electricity, and how is it produced?  What are some of the different ways that electricity may be generated?  What are renewable and nonrenewable resources?  Which sources of energy are better for the environment?</p>	<p>I will be able to:</p> <p>Describe how energy changes from one form to another.  Describe what is electricity.  Define renewable and nonrenewable resources.  Explain why some sources of energy are better for the environment.</p>	<p>Energy  Electrical energy  Renewable resources  Nonrenewable resources  Fossil Fuels  Nuclear reactions</p>

<p>Integrated Science: McGraw Hill</p> <p>Forms of Energy</p> <p>Lesson 1</p> <p>Page 422</p>	<p><b>MS-PS3-1 Construct and interpret graphical displays of data to describe the relationships of kinetic energy to the mass of an object and to the speed of an object.</b> Emphasis is on descriptive relationships between kinetic energy and mass separately from kinetic energy and speed.</p>	<p>What is energy? What are potential and kinetic energy? How is energy related to work? What are different forms of energy?</p>	<p>I will be able to: Explain the differences between kinetic and potential energy. Describe different forms of energy.</p>	<p>Kinetic energy Speed Potential energy Work Mechanical energy Sound energy Electric energy Radiant energy Nuclear energy</p>
<p>Integrated Science: McGraw Hill</p> <p>Energy Transformations</p> <p>Lesson 2</p> <p>Page 430</p>	<p><b>S5Concept 3: Transfer of Energy</b> Understand that energy can be stored and transferred.  S5C3PO 2. Identify several ways in which energy may be stored.</p>	<p>How may forms of energy be stored? How do batteries work? What are the objects that hold potential energy?</p>	<p>I will be able to: Identify ways that the different forms of energy can be stored: Potential energy Batteries Objects that hold potential energy</p>	<p>Energy Potential energy Batteries Stored energy</p>
<p>Integrated Science: McGraw Hill</p>	<p><b>MS-PS3-2 Develop a model to describe that when the arrangement of objects interacting at a distance</b></p>	<p>How are potential and kinetic energy different?</p>	<p>I will learn to: Explain energy transformation.</p>	<p>Friction Calculation relative Law of conservation</p>

Energy Transformations Lesson 2 Page 430	<b>changes, different amounts of potential energy are stored in the system</b> Emphasis is on relative amounts of potential energy, not on calculation of potential energy.	Is energy lost when it changes form?	Explain how energy may change from one form to another.	
Integrated Science: McGraw Hill Forms of Energy Lesson 1 Page 425	<b>S5Concept 3: Transfer of Energy</b> Understand that energy can be stored and transferred.  S5C3PO 3. Compare the following ways in which energy may be transformed: mechanical to electrical electrical to thermal	What are three forms of energy that can be changed into electrical energy? How can energy change from one form to another?	I will be able to:  Name the three forms of energy that can be changed into electrical energy. Construct how energy changes from one form to another.	Transformed Mechanical Electrical Thermal Stored energy Potential Temperature Thermometer Volts Amps formula
Integrated Science: McGraw Hill	<b>MS-PS3-3 Apply scientific principles to design, construct, and test a device that either minimizes or maximizes thermal energy transfer</b> Examples of devices could include an insulated box, a solar cooker, and a Styrofoam cup	How is energy transferred or stored in a system?	I will be able to: Investigate the transfer of thermal energy through different materials. Define thermal energy and explain conduction, convection, and radiation.	Ultra Ultraviolet Radiation Reflect Refract Thermal insulate

Integrated Science: McGraw Hill	<b>S5Concept 3: Transfer of Energy</b> Understand that energy can be stored and transferred.	How is thermal energy transferred? What is thermal energy? What is conduction, convection, and radiation?	I will be able to:  Investigate the transfer of thermal energy through different materials. Define thermal energy and explain conduction, convection, and radiation.	Conduction Convection Radiation Transferred Energy Stored energy
Energy Transformations	S5C3PO 4. Explain how thermal energy (heat energy) can be transferred by: conduction convection radiation			
Lesson 2				
Page 429				

Ganado USD-PACING GUIDE (Science/Grade 6)



Quarter 4

Timeline & Resources	AZ College and Career Readiness Standard	Essential Question (HESS Matrix)	Learning Goal	Vocabulary (Content/Academic)
Integrated Science: McGraw Hill  Earth Systems  Lesson 1  Page 78	<b>S6Concept 1: Structure of the Earth</b> Describe the composition and interactions between the structure of the Earth and its atmosphere.  S6C1PO 1. Describe the properties and the composition of the layers of the atmosphere.	What are different layers of the atmosphere? What is the composition of the different layers of Earth's atmosphere? What are the names and properties of the layers?	I will be able to:  Identify the layers of the atmosphere. Define the composition and different layers of Earth's atmosphere. Name the properties of the layers.	Properties Composition Layers of atmosphere temperature Altitude Latitude Poles Times zones degrees Troposphere Stratosphere Mesosphere Thermosphere
Integrated Science: McGraw Hill  Earth Systems  Lesson 1	<b>S6Concept 1: Structure of the Earth</b> Describe the composition and interactions between the structure of the Earth and its atmosphere.	What is a freshwater ecosystem? How do lakes compare to rivers? What are the processes in cycle water in nature?	I will be able to:  Define freshwater ecosystem. Compare lakes to rivers Name the processes in the cycle water in nature.	Cycle Mouth Tributary Meander Delta Structure of the Earth Lakes

<p>Page79</p> <p>Earth Systems</p> <p>Lesson 1</p> <p>Page89</p>	<p>S6C1PO 2. Explain the composition, properties, and structure of the Earth's lakes and rivers.</p>		<p>Rivers</p> <p>Ecosystem</p> <p>Composition</p> <p>Density</p> <p>Depth</p> <p>Pressure</p> <p>Twilight</p> <p>Evaporation</p> <p>Porous</p> <p>freshwater</p> <p>saltwater</p> <p>contribute</p>
<p>Integrated Science: McGraw Hill</p> <p>Earth Systems</p> <p>Lesson 2</p> <p>Page88</p>	<p><b>S6Concept 1: Structure of the Earth</b></p> <p>Describe the composition and interactions between the structure of the Earth and its atmosphere.</p> <p>S6C1PO 3. Explain the composition, properties, and structures of the oceans' zones and layers.</p>	<p>What is water cycle? How does it work as a whole? How is it affected by temperature? What are the processes in: Evaporation Transpiration Condensation Precipitation Infiltration?</p>	<p>I will be able to:</p> <p>Define water cycle.</p> <p>Name the process in</p> <p>Evaporation</p> <p>Transpiration</p> <p>Condensation</p> <p>Precipitation</p> <p>Infiltration</p> <p>Ocean zone</p> <p>Ocean layers</p> <p>Evaporation</p> <p>Transpiration</p> <p>Condensation</p> <p>Precipitation</p> <p>Infiltration</p> <p>Water cycle</p> <p>composition</p> <p>current</p> <p>benthos</p> <p>shelf</p> <p>slope</p> <p>rise</p>

<p>Integrated Science: McGraw Hill</p> <p>Earth Systems</p> <p>Lesson 2</p> <p>Page 87</p>	<p><b>S6Concept 1: Structure of the Earth</b> Describe the composition and interactions between the structure of the Earth and its atmosphere. S6C1PO 4. Analyze the interactions between the Earth's atmosphere and the Earth's bodies of water (water cycle).</p>	<p>How do Earth's atmosphere and bodies of water affect each other? What are the relationships between Earth's atmosphere and bodies of water? What is the process of the water cycle? What is atmospheric moisture?</p>	<p>I will be able to: Describe how Earth's atmosphere and bodies of water affect each other. Name the relationship between Earth's atmosphere and bodies of water. Describe the process of the water cycle. Define atmospheric moisture.</p>	<p>Composition Interactions Structure Atmosphere Bodies of water Water cycle Atmospheric moisture Process of water cycle Coriolis Barometer El Nino Pollutant</p>
<p>Integrated Science: McGraw Hill</p> <p>Earth Systems</p> <p>Lesson 1</p> <p>Page 79</p>	<p><b>S6Concept 1: Structure of the Earth</b> Describe the composition and interactions between the structure of the Earth and its atmosphere. S6C1PO 5. Describe ways scientists explore the Earth's atmosphere and bodies of water. (See Strand 2 Concept 1)</p>	<p>What methods and tools do scientists use to explore Earth's atmosphere and bodies of water? How does water move around in nature? What are the parts of the water cycle? How is water stored and how does it move?</p>	<p>I will be able to: Identify the methods and tools scientists use to explore Earth's atmosphere and bodies of water. Identify water movement in nature: The parts of the water cycle Describe water storage and movement. Identify the forms of water.</p>	<p>Earth's atmosphere Water cycle Forms of water Thermometer Anemometer Hygrometer Psychrometer Rain gauge barometer Wind vane Porous Sonar Satellite</p>

		What are the forms of water?		
Integrated Science: McGraw Hill  Earth Systems  Lesson 2  Page 87	<b>S6Concept 2: Earth's Processes and Systems</b> Understand the processes acting on the Earth and their interaction with the Earth systems.  S6C2PO 1. Explain how water is cycled in nature.	How does water move around in nature? What are the parts of the water cycle? About water storage and movement The forms of water What are the processes in: Evaporation Transpiration Condensation Precipitation Infiltration	I will be able to:  Identify how water moves around in nature: The parts of the water cycle About water storage and movement The forms of water Water processes in: Evaporation Transpiration Condensation Precipitation Infiltration	Water cycle Evaporation Condensation Precipitation Groundwater Transpiration Infiltration Tides Hydroelectric Coral reefs Carbon sink
Integrated Science: McGraw Hill  Earth Systems  Lesson 2  Page 88	<b>S6Concept 2: Earth's Processes and Systems</b> Understand the processes acting on the Earth and their interaction with the Earth systems.  S6C2PO 2. Identify the distribution of water within or among the following: atmosphere	Where can water be found in Earth's sphere? How is water distributed on Earth? What are the spheres of Earth? Where is water found in each of the spheres?	I will be able to:  About where water can be found in Earth's spheres. How water is distributed on Earth Identify the sphere of Earth Describe where water is found in each of the spheres	Atmosphere Lithosphere Hydrosphere Spheres Geosphere Fresh/salt water Climate change Reflection Absorption Onshore

	lithosphere hydrosphere	How is water cycled between the spheres?	Describe how water is cycled between the spheres. Explain why water cycles between the spheres.	Leeward Windward
Integrated Science: McGraw Hill  Earth Systems  Lesson 2  Page 90	<b>S6Concept 2: Earth's Processes and Systems</b> Understand the processes acting on the Earth and their interaction with the Earth systems.  S6C2PO 3. Analyze the effects that bodies of water have on the climate of a region.	What are the effects the bodies of water have on the climate of a region? What are the following factors Bodies of water Ocean currents Elevation Location	I will be able to: Describe the effects that bodies of water can have on the climate of a region. Identify the following factors that affect climate: Bodies of water Ocean currents Elevation Location	Bodies of water Ocean currents Elevation Location Climate
Integrated Science: McGraw Hill  Earth Systems  Lesson 2  Page 90	<b>S6Concept 2: Earth's Processes and Systems</b> Understand the processes acting on the Earth and their interaction with the Earth systems.  S6C2PO 4. Analyze the following factors that affect climate: ocean currents elevation location	What factors that affect climate: Ocean climate Elevation Location What are the different factors that affect climate? How do ocean currents influence the climate?	I will be able to:  Identify the following factors that affect climate: Ocean climate Elevation Location Find the different factors that affect climate: How ocean currents influence the climate	Ocean currents Elevation Location Earth systems

		How can climate be different at the top and bottom of a mountain?	Explain how location has an effect on climate. Explain how climate can be different at the top and bottom of a mountain.	
Integrated Science: McGraw Hill Earth Systems  Lesson  Page 90	<b>S6Concept 2: Earth's Processes and Systems</b> Understand the processes acting on the Earth and their interaction with the Earth systems.  S6C2PO 5. Analyze the impact of large-scale weather systems on the local weather.	What is large-scale weather? How does large-scale weather form? How do large-scale weather systems affect the local weather?	I will be able to:  Define large-scale weather systems. Explain the affect of large-scale where systems. Explain how large-scale weather affects the local weather.	Large-scale weather Local weather Major surface currents Earth's climate Weather vs climate
Integrated Science: McGraw Hill  The Sun- Earth- Moon System Lab  Lesson 1 Page 40	<b>S6Concept 2: Earth's Processes and Systems</b> Understand the processes acting on the Earth and their interaction with the Earth systems.  S6C2PO 6. Create a weather system model that includes: the Sun the atmosphere bodies of water	What is a weather system? What are the parts of different weather systems? What causes the different weather systems?	I will be able to:  Define weather system. Name the parts of different weather systems. Identify the cause of different weather systems.	Sun Atmosphere Bodies of water Weather system Earth system Aquarium Heat lamp Thermostat Water purification Land purification Air purification

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