

	Big Ideas	Unit	GLCE	Development Support resources to build understanding through the use of flexible strategies.	Assessments
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TRIMESTER 1	<ul style="list-style-type: none"> Plants and animals have basic requirements for maintaining life which include the need for air, water and a source of energy. Organisms have observable traits and physical characteristics that help them survive and reproduce in their environments. Organisms are a part of a food chain or food web where food/energy is supplied by plants which need light to produce food/energy. Plants and animals can be classified by observable traits and physical characteristics. <hr/> <ul style="list-style-type: none"> Fossils provide evidence that life forms have changed over time and were influenced by changes in environmental conditions. 	<ul style="list-style-type: none"> Content Statement – L.OL.E.1 Life Requirements – Organisms have basic needs. Animals and plants need air, water, and food. Plants also require light. Plants and animals use food as a source of energy and as a source of building material for growth and repair. Content Statement – L.EV.E.2 Survival – Individuals of the same kind differ in their characteristics, and sometimes the differences give individuals an advantage in surviving and reproducing. Content Statement – L.EC.E.1 Interactions – Organisms interact in various ways including providing food and shelter to one another. Some interactions are helpful; others are harmful to the organism and other organisms. Content Statement – L.EC.E.2 Changed Environment Effects – When the environment changes, some plants and animals survive to reproduce; others die or move to new locations. <hr/> <ul style="list-style-type: none"> Content Statement – E.ST.E.3 Fossils – Fossils provide evidence about the plants and animals that lived long ago and the nature of the environment at that time. 	<p>L.OL.04.15 Determine that plants require air, water, light, and a source of energy and building material for growth and repair.</p> <p>L.OL.04.16 Determine that animals require air, water and a source of energy and building material for growth and repair.</p> <p>L.EV.04.21 Identify individual differences (color, leg length, size, wing size, leaf shape) in organisms of the same kind.</p> <p>L.EV.04.22 Identify how variations in physical characteristics of individual organisms give them an advantage for survival and reproduction.</p> <p>L.EC.04.11 Identify organisms as part of a food chain or food web.</p> <p>L.EC.04.21 Explain how environmental changes can produce a change in the food web.</p> <hr/> <p>E.ST.04.31 Explain how fossils provide evidence of Earth’s past.</p> <p>E.ST.04.32 Compare and contrast life forms found in fossils and organisms that exist today.</p>	<p><u>Textbook:</u> <i>National Geographic</i> Life Science Chapters: 1 – 5</p> <p><u>Suggested Trade Books:</u></p> <ul style="list-style-type: none"> <i>Woods Walk</i> by Henry W. Art and Michael W. Robbins, 2003 <i>Food Chains and Webs: What are They and How Do They Work?</i> By Andrew Solway, 2007 <i>Forest Food Chains</i> by Bobbie Kalman, 2004 <i>Food Chains</i> by Peter Riley, 1999 <i>How Animals Live</i> by Bernard Stonehouse and Esther Bertram, 2004 <i>Can We Save Them?</i> By David Dobson, 1997 <i>A Dinosaur Named Sue</i> by Fay Robinson, 1999 <i>My Life as an Explorer (Hunt for the Past)</i> by Sue Hendrickson, 2001 <i>New Dinos</i> by Shelley Tanaka, 2003 <p><u>Websites and Video Streaming:</u> See Grade Level Resource Packet</p> <hr/> <p><u>Textbook:</u> <i>National Geographic</i> Earth Science Chapter: 2</p> <p><u>Trade Books:</u> (Will be provided.)</p> <ul style="list-style-type: none"> <i>Digging Into the Ice Age</i> <i>Excavating a Castle</i> <i>Uncovering Earth’s History</i> <p><u>Websites and Video Streaming:</u> See Grade Level Resource Packet</p>	<p><u>Formative Assessment Examples</u> The formative assessment is the information that you collect as you complete the activities. These activities should drive instruction.</p> <ul style="list-style-type: none"> Choose one plant or animal and write a paragraph explaining how it is adapted to survive in its environment. Create a food chain and a food web that includes water flea, sunfish and heron. Create a food chain that includes at least three animals. <p><u>Summative Assessment Examples</u></p> <ul style="list-style-type: none"> Draw or construct an environment for an imaginary animal that meets all of its needs. Identify and describe how the organism’s needs are met. Create a food chain for your imaginary animal, include at least one producer, and 2-3 consumers. Your animal’s environment has had a fire. How might this effect the survival of your animal? Paragraph using supporting evidence about teeth to determine the size and type of consumer. <hr/> <p><u>Formative Assessment Examples</u></p> <ul style="list-style-type: none"> Paragraph supporting decisions made about the fossil teeth. Discuss the scenario based on animal interaction evidenced through tracks. Review the numbers on the table from the dinosaur size activity; and review the dinosaur ranking by size.
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TRIMESTER 2	<ul style="list-style-type: none"> The moon and the Earth move in a predictable pattern around the sun. The predictable patterns of the Earth and moon define a day, year, and moon phases. The sun appears to move in a predictable pattern across the sky. <hr/> <ul style="list-style-type: none"> All objects have physical properties that can be measured. Matter exists in different states. Matter can change from one state to another by heating and cooling. 	<ul style="list-style-type: none"> Content Statement – E.ST.E.1 Characteristics of Objects in the Sky – Common objects in the sky have observable characteristics. Content Statement – E.ST.E.2 Patterns of Objects in the Sky – Common objects in the sky have observable characteristics and predictable patterns of movement. <hr/> <ul style="list-style-type: none"> Content Statement – P.PM.E.1 Physical Properties – All objects and substances have physical properties that can be measured. Content Statement – P.PM.E.2 States of Matter – Matter exists in several different states: solids, liquids, and gases. Each state of matter has unique physical properties. Gases are easily compressed, but liquids and solids do not compress easily. Solids have their own particular shapes, but liquids and gases take the shape of the container. 	<p>E.ST.04.11 Identify the sun and moon as common objects in the sky.</p> <p>E.ST.04.12 Compare and contrast the characteristics of the sun, moon, and Earth, including relative distances and abilities to support life.</p> <p>E.ST.04.21 Describe the orbit of the Earth around the sun as it defines a year.</p> <p>E.ST.04.22 Explain that the spin of the Earth creates day and night.</p> <p>E.ST.04.23 Describe the motion of the moon around the Earth.</p> <p>E.ST.04.24 Explain how the visible shape of the moon follows a predictable cycle, which takes approximately a month.</p> <p>E.ST.04.25 Describe the apparent movement of the sun and moon across the sky through day/night and the seasons.</p> <hr/> <p>P.PM.04.16 Measure the weight (spring scale) and mass (balances) in grams or kilograms of objects.</p> <p>P.PM.04.17 Measure the volume of liquids in milliliters and liters.</p> <p>P.PM.04.23 Compare and contrast the states (solid, liquid, and gas) of matter.</p> <p>P.CM.04.11 Explain how matter can change from one state (solid, liquid, and gas) to another by heating and cooling.</p>	<p><u>Textbook:</u> <i>National Geographic</i> Earth Science Chapter: 1</p> <p><u>Suggested Trade Books:</u></p> <ul style="list-style-type: none"> <i>Postcards From Pluto: A Tour of the Solar System</i> by Loreen Leedy, 1996 <i>The Moon</i> by Seymour Simon, 2003 <i>The Sun</i> by Seymour Simon, 2003 <i>Earth: Our Planet in Space</i> by Seymour Simon, 2003 <p><u>Websites and Video Streaming:</u> See Grade Level Resource Packet</p> <hr/> <p><u>Textbook:</u> <i>National Geographic</i> Physical Science Chapters: 1, 2</p> <p><u>Suggested Trade Books:</u></p> <ul style="list-style-type: none"> <i>Eyewitness Matter</i> by C. Cooper, 1999 <i>What's the Worlds Made Of? All About Solids, Liquids, and Gases</i> by Zoehfield and Meisel, 1998 <i>It's Science! Solid, Liquid, or Gas?</i> By Sally Hewitt, 1998 <p><u>Websites and Video Streaming:</u> See Grade Level Resource Packet</p>	<p><u>Formative Assessment Examples</u> The formative assessment is the information that you collect as you complete the activities. These activities should drive instruction.</p> <ul style="list-style-type: none"> Organize facts about the sun, moon, and Earth on a chart. This could be an on going KWL chart for the unit. Draw diagrams and pictures to show understanding of the terms rotation, revolution, day, night, year, orbit, and phases of the moon. <p><u>Summative Assessment Examples</u></p> <ul style="list-style-type: none"> Explain and/or demonstrate the difference between the words rotation and revolution. Put pictures of phases of the moon in the correct order. Create a model of the Earth, sun, and moon that has labels showing: rotation and revolution of the Earth and moon, day and night, a year, and the relative sizes of the Earth, sun, and moon. <hr/> <p><u>Formative Assessment Examples</u></p> <ul style="list-style-type: none"> Check the results of the weight, mass, and volume measurements. Have students compare their results with each other. <p><u>Summative Assessment Examples</u></p> <ul style="list-style-type: none"> Students will find the weight, mass, and volume of objects not yet measured. Create a concept map that shows properties and states of matter.
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TRIMESTER 3	<ul style="list-style-type: none"> Heat and electricity are forms of energy. Evidence of energy is change. Electrical circuits demonstrate a transfer of energy. Magnetism is a physical property of matter. Heat can be transferred from one substance or object to another. 	<ul style="list-style-type: none"> Content Statement – P.EN.E.1 Forms of Energy – Heat, electricity, light, and sound are forms of energy. Content Statement – P.EN.E.4 Energy and Temperature – Increasing the temperature of any substance requires the addition of energy. Content Statement – P.EN.E.5 Electrical Circuits – Electrical circuits transfer electrical energy and produce magnetic fields. Content Statement – P.PM.E.5 Conductive and reflective Properties – Objects vary to the extent they absorb and reflect light energy and conduct heat and electricity. Content Statement – P.PM.E.3 Magnets – Magnets can repel or attract other magnets. Magnets can also attract certain magnetic objects at a distance. 	<p>P.EN.04.12 Identify heat and electricity as forms of energy.</p> <p>P.EN.04.41 Demonstrate how temperature can be increased in a substance by adding energy.</p> <p>P.EN.04.42 Describe heat as the energy produced when substances burn, certain kinds of materials rub against each other, and when electricity flows through wire.</p> <p>P.EN.04.43 Describe how heat is produced through electricity, rubbing and burning.</p> <p>P.EN.04.51 Demonstrate how electrical energy is transferred and changed through the use of a simple circuit.</p> <p>P.EN.04.52 Demonstrate magnetic effects in a simple electric circuit.</p> <p>P.PM.04.53 Identify objects that are good conductors or poor conductors of heat and electricity.</p> <p>P.PM.04.33 Demonstrate magnetic field by observing the patterns formed with iron filings using a variety of magnets.</p> <p>P.PM.04.34 Demonstrate that magnetic objects are affected by the strength of the magnet and the distance from the magnet.</p>	<p><u>Textbook:</u> <i>National Geographic</i> Physical Science Chapters: 4, 5, 7,</p> <p><u>Suggested Trade Books:</u></p> <ul style="list-style-type: none"> <i>All About Electricity</i> by Melvin Berger, 1995 <i>Electricity</i> by Steve Parker and Laura Buller, 2005 <i>Electricity and Magnetism</i> by Peter Adamczyk and Paul-Francis Law, 1994 <i>Janice Van Cleave’s Magnets</i> by Janice Van Cleave, 1993 <i>Opposites Attract: Magnets</i> by Steve Parker, 2005 <i>The Science of Electricity and Magnetism</i> by Steve Parker, 2005 <p><u>Websites and Video Streaming:</u> See Grade Level Resource Packet</p>	<p><u>Formative Assessment Examples</u> The formative assessment is the information that you collect as you complete the activities. These activities should drive instruction.</p> <ul style="list-style-type: none"> Use students’ ice cube investigation to assess students’ ability to explain how heat is produced while performing a simple investigation. Observe the student trials and depth of conversation while investigating electrical circuits. Record observations of simple electrical circuits in journals. Make a chart comparing the number of clips picked up by a magnet. <p><u>Summative Assessment Examples</u></p> <ul style="list-style-type: none"> Demonstrate the use of a thermometer to measure the temperature of a variety of substances. Create a simple investigation to give evidence that when heat or electrical energy is added to a substance, the temperature increases. In a quiz, identify burning, rubbing and electricity as ways that heat is produced. Explain through definition or example, how heat is produced by electricity, burning or rubbing. Diagram energy flow and transfer in an electrical circuit. Draw a diagram of the magnetic effects of two magnets. Diagrams should show like and opposite poles and arrows to indicate how the magnets move toward or away from each other. Draw a picture showing the magnetic field on bar magnets. Design a simple investigation that demonstrates the effect of magnets on materials that are attracted to a magnet.
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