

<i>Trimester 1</i>				
Time	GLCE	Resources	Vocabulary	Activities
SCIENCE PROCESSES: Inquiry Process				
<i>S.IP.M.1 Inquiry involves generating questions, conducting investigations, and developing solutions to problems through reasoning and observation.</i>				
1 week	S.IP.06.11 Generate scientific questions based on observations, investigations, and research.		Observations Investigation Metric measurement Data	generate
	S.IP.06.12 Design and conduct scientific investigations.			Design conduct
	S.IP.06.13 Use tools and equipment (spring scales, stop watches, meter sticks and tapes, models, hand lens, thermometer, models, sieves, microscopes) appropriate to scientific investigations.			Use tool & equipment
	S.IP.06.14 Use metric measurement devices in an investigation.			use
	S.IP.06.15 Construct charts and graphs from data and observations.			Construct charts & graphs
	S.IP.06.16 Identify patterns in data.			Identify patterns
EARTH SCIENCE: Solid Earth				
<i>E.SE.M.1 Soil- Soils consist of weathered rocks and decomposed organic materials from dead plants, animals, and bacteria. Soils are often found in layers with each having a different chemical composition and texture.</i>				
6 weeks	E.SE.06.11 Explain how physical and chemical weathering lead to erosion and the formation of soils and sediments.	<i>Changing Surface of the Earth</i> 2.1	Physical weathering Chemical weathering Erosion Soil Sediment Glacier Deposit Decomposed Organic Inorganic Particle size Texture	Explain
	E.SE.06.12 Explain how waves, wind, water, and glacier movement, shape and reshape the land surface of the Earth by eroding rock in some areas and depositing sediments in other areas.	<i>Changing Surface of the Earth</i> 2.3, 3.1-3, 4.1-3		Explain
	E.SE.06.13 Describe how soil is a mixture, made up of weather eroded rock and decomposed organic material.	<i>Changing Surface of the Earth</i> 2.2		Describe
	E.SE.06.14 Compare different soil samples based on particle size and texture.	<i>Changing Surface of the Earth</i> 2.2		compare

<i>E.SE.M.4 Rock Formation- Rocks and rock formations bear evidence of the minerals, materials, temperature/pressure conditions, and forces that created them</i>				
10 days	E.SE.06.41 Compare and contrast the formation of rock types (igneous, metamorphic, and sedimentary) and demonstrate the similarities and differences using the rock cycle model.	<i>Changing Surface of the Earth</i> 1, 5.2	Igneous Metamorphic Sedimentary Rock Cycle	Compare & contrast demonstrate
<i>E.SE.M.6 Magnetic Field of Earth- Earth as a whole has a magnetic field that is detectable at the surface with a compass.</i>				
3 days	E.SE.06.61 Describe the Earth as a magnet and compare the magnetic properties of the Earth to that of a natural or man-made magnet.	<i>Electricity & Magnetism</i> 2.1	Magnet Magnetic Compass Magnetic Field Navigation	Describe compare
	E.SE.06.62 Explain how a compass works using the magnetic field of the Earth, and how a compass is used for navigation on land and sea.	<i>Astronomy</i> 2.1		Explain
<i>E.SE.M.5 Plate Tectonics- The lithospheric plates of the Earth constantly move, resulting in major geological events, such as earthquakes, volcanic eruptions, and mountain building.</i>				
10 days	E.SE.06.52 Demonstrate how major geological events (earthquakes, volcanic eruptions, mountain building) result from these plate motions.	<i>Earth Materials & Processes</i> 4.1-3, 5.1-2, 6.1		Demonstrate
	E.SE.06.53 Describe layers of the Earth as a lithosphere (crust and upper mantle), convecting mantle, and dense metallic core.	<i>Earth Materials & Processes</i> 4.1-3, 5.1-2, 6.1		Describe

<i>Trimester 2</i>				
Time	GLCE	Resources	Vocabulary	Activities
Earth in Space and Time				
<i>E.ST.M.3 Fossils- Fossils provide important evidence of how life and environmental conditions have changed in a given location.</i>				
5 days	E.ST.06.31 Explain how rocks and fossils are used to understand the age and geological history of the earth (timelines and relative dating, rock layers).	<i>Changing Surface of the Earth.</i> 5.1, 6.1-3	Fossil Geologic History Relative dating Rock layers timelines	Explain
<i>E.ST.M.4 Geologic Time- Earth processes seen today (erosion, mountain building, and glacier movement) make possible the measurement of geologic time through methods such as observing rock sequences and using fossils to correlate the sequences at various locations.</i>				
5 days	E.ST.06.41 Explain how Earth processes (erosion, mountain building, and glacier movement) are used for the measurement of geologic time through observing rock layers.	<i>Changing Surface of the Earth.</i> 1, 5.2	Erosion Mt. building Glacier movement Geologic time Rock Layers Fossils	
	E.ST.06.42 Describe how fossils provide important evidence of how life and environmental conditions have changed.	<i>Changing Surface of the Earth.</i> 5.1, 6.1-3	Environmental conditions	
PHYSICAL SCIENCE: Energy				
<i>P.EN.M.1 Kinetic and Potential Energy- Objects and substances in motion have kinetic energy. Objects and substances may have potential energy due to their relative positions in a system. Gravitational, elastic, and chemical energy are all forms of potential energy.</i>				
7 days	P.EN.06.11 Identify kinetic or potential energy in everyday situations (for example: stretched rubber band, objects in motion, ball on a hill, food energy).	<i>Forces, Motion, & Energy.</i> 5.1-2	Kinetic energy Potential energy Pendulum Transformation	Identify (Label diagrams showing locations of kinetic and potential energy: swing, rollercoaster, etc.)
	P.EN.06.12 Demonstrate the transformation between potential and kinetic energy in simple mechanical systems (for example: roller coasters, pendulums).	<i>Forces, Motion, & Energy.</i> 5.1-2		Demonstrate (build rollercoaster model and narrate transformations that occur)

P.EN.M.4 Energy Transfer- Energy is transferred from a source to a receiver by radiation, conduction, and convection. When energy is transferred from a source to a receiver, the quantity of energy before the transfer is equal to the quantity of energy after the transfer				
10 days	P.EN.06.41 Explain how different forms of energy can be transferred from one place to another by radiation, conduction, or convection.	<i>Forces, Motion, & Energy. 5.2</i>	Radiation Conduction Convection Transfer Conservation of Energy	Explain (written explanation of how a lava lamp works because of energy transformations)
	P.EN.06.42 Illustrate how energy can be transferred while no energy is lost or gained in the transfer.	<i>Forces, Motion, & Energy. 5.2</i>		Illustrate (Lightning balls demonstrate and explain all the energy that is transferred)
Changes in Matter				
P.CM.M.1 Changes in State- Matter changing from state to state can be explained by using models which show that matter is composed of tiny particles in motion. When changes of state occur, the atoms and/or molecules are not changed in structure. When the changes in state occur, mass is conserved because matter is not created or destroyed.				
7 days	P.CM.06.11 Describe and illustrate changes in state, in terms of the arrangement and relative motion of the atoms or molecules.	<i>Changes of Matter 2.2, 3.2 Chemistry 2.1</i>	Change of state Solid Liquid Gas Arrangement	Describe and Illustrate (draw diagrams and write captions of molecular structure of solid, liquid, and gas)
	P.CM.06.12 Explain how mass is conserved as it changes from state to state in a closed system.	<i>Changes of Matter 2.2, 3.2 Chemistry 2.1</i>	Relative motion Atom Molecule Mass Matter Particles Closed system Balanced Mass Conservation of mass State	Explain (mass is conserved when an ice cube melts; baking soda & vinegar in 2L bottle with balloon over top to catch gas; energy conserved in bioball)
HUMAN REPRODUCTIVE HEALTH				
4 days	<i>Puberty: The Wonder Years</i>	Lesson 1: Growing Together		Activities 1, 2, 3
		Lesson 5: Emotions & Relationships		Activities 2, 3
		Lesson 6: Growing Strong		Activity 1, Option A, 2, 4; Friends First videos "Get On-line" & "Me, Myself, & I"

<i>Trimester 3</i>				
Time	GLCE	Resources	Vocabulary	Activities
<p>LIFE SCIENCE: Organization of Living Things <i>L.OL.M.5 Producers, Consumers, and Decomposers- All animals, including humans, are consumers that meet their energy by eating other organisms or their products. Consumers break down the structures of the organisms they eat to make the materials they need to grow and function. Decomposers, including bacteria and fungi, use dead organisms or their products to meet their energy needs.</i></p>				
7 days	L.OL.06.51 Classify organisms (producers, consumers, and decomposers) based on their source of energy for growth and development.	<i>Ecology 1.3</i>	Source of energy Bacteria Fungi Energy needs	Classify
	L.OL.06.52 Distinguish between the ways in which consumers and decomposers obtain energy.	<i>Ecology 1.3</i>	Organisms Consumers Decomposers Producers Obtain energy Eating Break down	Distinguish (compare)
<p>Ecosystems <i>L.EC.M.1 Interactions of Organisms- Organisms of one species form a population. Populations of different organisms interact and form communities. Living communities and nonliving factors that interact with them form ecosystems.</i></p>				
13 days	L.EC.06.11 List examples of populations, communities, and ecosystems including the Great Lakes region.	<i>Ecology 1.1</i>	Organism Species Interactions Population Community Ecosystem Great Lakes region	List (Using diagrams of different ecosystems, students will list sample populations, communities, and interactions that occur within that ecosystems.) Lakes, forest, pond, dune, swamp, etc.

<i>L.EC.M.2 Relationships of Organisms- Two types of organisms may interact with one another in several ways: They may be in a producer/consumer, predator/prey, or parasite/host relationship. Some organisms may scavenge or decompose another. Relationships may be competitive or mutually beneficial. Some species have become so adapted to each other that neither could survive without the other.</i>				
15 days	L.EC.06.21 Describe common patterns of relationships between and among populations (competition, parasitism, symbiosis, predator/prey).	Ecology 1.2-3 http://www.biologycorner.com/worksheets.php symbiosis, mutualism, etc. http://www.nearctica.com/ecology/pops/symbiote.htm	Common patterns Adapted Populations Competition Parasitism Symbiosis Predator Prey Producer Consumer	Describe (Add specific terms to ecosystem diagrams to describe relationships between organisms.)
	L.EC.06.22 Explain how two populations of organisms can be mutually beneficial and how that can lead to interdependency.	Ecology 1.2-3	Parasite host Decompose Scavenge	Explain
	L.EC.06.23 Predict how changes in one population might affect other populations based upon their relationships in the food web.	Ecology 1.2-3 food web/chain http://www.vtaide.com/png/foodchains.htm clever and fun food chain with 4 parts http://www.ftexploring.com/me/me2.html	Interdependency Mutually beneficial Food web Relationship	Predict (Label a food web including the sun)
<i>L.EC.M.3 Biotic and Abiotic Factors- The number of organisms and populations an ecosystem can support depends on the biotic (living) resources available and abiotic (nonliving) factors, such as quality of light and water, range of temperatures and soil composition.</i>				
4 days	L.EC.06.31 Identify the living (biotic) and nonliving (abiotic) components of an ecosystem.	Ecology 1.1, 2.1	Components Ecosystem Biotic	Identify
	L.EC.06.32 Identify the factors in an ecosystem that influence changes in population size.	Ecology 1.1, 2.1	Abiotic Factors Influence Population size	Identify

<i>L.EC.M.4 Environmental Impact of Organisms- All organisms (including humans) cause change in the environment where they live. Some of the changes are harmful to the organism or other organisms, whereas others are helpful.</i>				
12 days	L.EC.06.41 Describe how human beings are part of the ecosystem of the Earth and that human activity can purposefully, or accidentally, alter the balance in ecosystems.	<i>Ecology</i> 1.2, 4.3, 5	Organism Ecosystem Alter the balance Consequences Species	Describe
	L.EC.06.42 Predict possible consequences of overpopulation of organisms, including humans, (for example: species extinction, resource depletion, climate change, pollution).	<i>Ecology</i> 1.2, 4.3, 5	Extinction Resource depletion Climate change Pollution	Predict

<i>All Year</i>				
Time	GLCE	Resources	Vocabulary	Activities
SCIENCE PROCESSES: Inquiry Process				
<i>S.IP.M.1 Inquiry involves generating questions, conducting investigations, and developing solutions to problems through reasoning and observation.</i>				
	S.IP.06.11 Generate scientific questions based on observations, investigations, and research.		Observations Investigations Charts Graphs Spring scales Stop watches Meter sticks and tapes Models Hand lens Thermometer Sieves Microscopes	Generate
	S.IP.06.12 Design and conduct scientific investigations.			Design & Conduct
	S.IP.06.13 Use tools and equipment (spring scales, stop watches, meter sticks and tapes, models, hand lens, thermometer, models, sieves, microscopes) appropriate to scientific investigations.			Use
	S.IP.06.14 Use metric measurement devices in an investigation.			Use
	S.IP.06.15 Construct charts and graphs from data and observations.			Construct
	S.IP.06.16 Identify patterns in data.			Identify
SCIENCE PROCESSES: Inquiry Analysis and Communication				
<i>S.IA.M.1 Inquiry includes an analysis and presentation of findings that lead to future questions, research, and investigations.</i>				
	S.IA.06.11 Analyze information from data tables and graphs to answer scientific questions.		Scientific questions Data Claims Findings Investigations Draw Strengths Weaknesses	Analyze
	S.IA.06.12 Evaluate data, claims, and personal knowledge through collaborative science discourse.			Evaluate
	S.IA.06.13 Communicate and defend findings of observations and investigations using evidence.			Communicate Defend
	S.IA.06.14 Draw conclusions from sets of data from multiple trials of a scientific investigation.			Draw conclusions
	S.IA.06.15 Use multiple sources of information to evaluate strengths and weaknesses of claims, arguments, or data.			Use Evaluate

SCIENCE PROCESSES: Reflection and Social Implications			
<i>S.RS.M.1 Reflecting knowledge is the application of scientific knowledge to new and different situations. Reflecting knowledge requires careful analysis of evidence that guides decision-making and the application of science throughout history and within society.</i>			
	S.RS.06.13 Identify the need for evidence in making scientific decisions.		Solutions Problems Identify
	S.RS.06.14 Evaluate scientific explanations based on current evidence and scientific principles.		Technology Effect Evaluate
	S.RS.06.15 Demonstrate scientific concepts through various illustrations, performances, models, exhibits, and activities.		Organisms Balance Demonstrate Natural world
	S.RS.06.16 Design solutions to problems using technology.		Society Technology Design Contributions
	S.RS.06.17 Describe the effect humans and other organisms have on the balance of the natural world.		Cultures Describe
	S.RS.06.18 Describe what science and technology can and cannot reasonably contribute to society.		Describe
	S.RS.06.19 Describe how science and technology have advanced because of the contributions of many people throughout history and across cultures.		Describe