

Big Idea:

Scientists answer questions about the world around us by carrying out careful investigations.

Unit 1.1 Variables

<i>Science</i>		<i>Grade: 4</i>		<i>Unit Time Frame: Unit 1.1 and 1.2</i> <i>Time Frame: September 8th to September 26<sup>th</sup>, 2015 (15 days)</i>			
<i>Essential Questions</i>	<i>Suggested Resources</i>	<i>Content (What will they know)</i>	<i>Skills ( can do)</i>	<i>Key Terms</i>	<i>Assessment</i>	<i>College and Career Readiness Standards</i>	<i>NJCCCS</i>
1.What do scientists do? 2.What skills do scientists use? 3. How do scientists collect and use data? 4.Why do scientists compare results? 5.What kinds of models do scientists use? 6.How can you use model in a classroom? 7.What constitutes useful scientific evidence?	Science fusion: Unit 1- Studying science  FOSS module: variables-  Activities: Students will investigate Pendulums – Swingers from FOSS variables.	1) Scientists focus on natural world. 2) Scientists make observations, ask questions and conduct investigations. 3) Scientific knowledge requires evidence. 4) Building and refining models and explanations requires generation and evaluation of evidence. 5) Reasoning is used to support scientific conclusions. 6) Picture, replica and animation	1. Will be able to tell what scientists do. 2. Name or demonstrate three skills that scientists use. 3. Give two examples of how scientists collect data. 4. Give two reasons scientists would like to compare results with other scientists. 5. Describe the different kinds of models a scientist would	Investigation Swingers Controlled experiment Cycle Pendulum Standard Two-coordinated graph Variable Model Two dimensional model Three dimensional model Computer model	Narrative items Multiple choices Short answer types Response sheet Math extension End of Module assessments-summative Formative lab assessments Benchmark assessments	CCR-R1 CCR-R2 CCR-R3 CCR-R8 CCR-R9  CCR-W3 CCR-W8 CCR-W9 CCR-W10 CCR-L1 CCR-L2 CCR-L5 CCR-L6 CCR-SL2 CCR-SL3 CCR-SL6	(5.1.4.A.1);5.1.4.A.2) Use outcomes of investigations to build a refine questions, model and explanations.  (5.1.4.B.4)  Communicate and justify explanations with reasonable and logical arguments

		are examples of models.	decided to make a model.				
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**Big Ide: Unit 1.2 Earth:** Soil is a product of the interactions of the Earth Systems.

Science		Grade: 4		Unit Time Frame: Unit 1.2 Time Frame: September 29th to October 30 <sup>th</sup> , 2015 (25 days)			
Essential Questions	Suggested Resources	Content	Skills/ activities	Key Terms	Assessment	College and Career Readiness Standards	CCCS
<ul style="list-style-type: none"> <li>• In what ways can we observe, test rocks?</li> <li>• How can rocks be classified?</li> <li>• How can you model changes in the rock?</li> <li>• How can soil be classified?</li> <li>• What are fossils?</li> <li>• How was ancient earth like?</li> </ul>	<p>FOSS Earth Materials- Investigations 1 and 2</p> <p>Science Fusion</p> <p>LC: Cole, Joanna and Degen, Brice <a href="#">The Magic School Bus Inside the Earth</a></p> <p>United Streaming</p> <p><a href="http://www.kidsgeo.com">www.kidsgeo.com</a>;</p> <p><a href="http://www.paleoportal.org">www.paleoportal.org</a>; Encarta Kids; fossweb.com;</p> <p><a href="http://hoopermuseum.earthsci.carleton.ca//5.html">http://hoopermuseum.earthsci.carleton.ca//5.html</a></p> <p>National Science Digital Library, Science Digital Literacy Maps The Physical Setting: Changes in the Earth's Surface</p>	<ul style="list-style-type: none"> <li>• Rocks can be separated into their components.</li> <li>• Rocks exhibit a variety of properties, Including shape, size, color, and texture.</li> <li>• Water, settling, and evaporation can separate rocks into their components.</li> <li>• Crystals form from evaporation of a saltwater mixture.</li> <li>• Rocks are composed of earth materials called minerals that cannot be physically broken apart any further.</li> <li>• Rocks are composed of earth materials called minerals that cannot be physically broken apart any further.</li> <li>• Soil is made by breaking down of rocks.</li> </ul>	<p>1) Students will examine a mock rock and record their observations. Students will pick apart the mock rocks and record their observations. FOSS kit Earth Materials; Investigation 1: Mock Rocks.</p> <p>2) Students will perform a scratch test on four minerals to determine the hardness of each. FOSS kit Earth Materials; Investigation 2 Scratch Test</p> <p>3) Students will be able to identify the type of rocks depending on the properties.</p>	<p>Balance</p> <p>Circumference</p> <p>Crystal</p> <p>Depth</p> <p>Diameter</p> <p>Dissolve</p> <p>Earth materials</p> <p>Evaporate</p> <p>Geologist</p> <p>Geology</p> <p>Mass</p> <p>Meter tape</p> <p>Mineral</p> <p>Property</p>	<p>End of unit assessments, quiz, response sheets, math investigations home school connection activities and projects</p> <p>Earth Materials notebook Scratch Test.</p> <p>Write a journal entry describing how each type of soil.</p> <p>Write a paragraph explaining how fossils help us learn about the past.</p> <p>Create a weather chart</p>	<p>CCR-R1 CCR-R2 CCR-R3 CCR-R8 CCR-R9</p> <p>CCR-W3 CCR-W8 CCR-W9 CCR-W10</p> <p>CCR-L1 CCR-L2 CCR-L5 CCR-L6</p> <p>CCR-SL2 CCR-SL3 CCR-SL6</p>	<p>Demonstrate understanding of the interrelationships among fundamental concepts in the physical, life, and Earth systems sciences.</p> <p><b>(5.1.4.A.1)</b> Use outcomes of investigations to build and refine questions, models, and explanations.</p> <p><b>(5.1.4.A.2)</b></p> <p>5.4.4.B.1 5.4.6.B.1 5.4.6.B.3 5.4.4.C.1 5.4.4.C.2 5.4.6.C.2 5.4.4.E.1</p>

	<p><a href="http://strandmaps.nsd.org/?id=SMS-MAP-0048">http://strandmaps.nsd.org/?id=SMS-MAP-0048</a></p> <ul style="list-style-type: none"> <li>National Science Digital Library, <a href="http://nsdl.org/refreshers/science/">Science Refreshers</a></li> </ul>	<ul style="list-style-type: none"> <li>The property of hardness can be used to seriate minerals.</li> <li>Examples of minerals are quartz, fluorite, calcite, and gypsum.</li> <li>Rocks can be classified into sedimentary, metamorphic and igneous.'</li> <li>Soil, clay and humus are the three components of the soil.</li> <li>A fossil is an evidence of past life.</li> </ul>	<p>4) Students will tour the kidsgeo website to identify the three basic components of soil (sand, clay, humus). Students will use a kidspiration web to show the uses of soil and describe how it is important to sustain our food supply. Students will illustrate different places where soil is used.</p> <p>4) Students strain the soil through a strainer and will use a hand lens to examine the soil and describe what the soil is made up.</p> <p>5) Students will examine the three components of the soil ( sand, clay, humus). Students will test each components by sifting, feeling the texture, ability to absorb water, Students will record their results by</p>	<p>Rock</p> <p>Weigh Calcite</p> <p>Fluorite</p> <p>Gypsum</p> <p>Hardness</p> <p>Quartz Acid</p> <p>Basalt</p> <p>Evidence</p> <p>Limestone</p> <p>Marble</p> <p>Plaster of Paris</p> <p>Sandstone</p> <p>Vinegar Igneous rock</p> <p>Memorial</p> <p>Metamorphic rock</p> <p>Monument</p>	<p>or map for New Jersey</p>		<p>Use data gathered from observations of fossils to argue whether a given fossil is terrestrial or marine in origin.</p> <p><b>5.4.4.B.1</b></p>
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	<ul style="list-style-type: none"> <li>• <a href="#"><u><i>Inquiry in Action: Investigating Matter through Inquiry</i></u></a>, 3rd edition. Permission is granted in advance for reproduction for classroom use. Please include "Reprinted with permission from Inquiry in Action, Third Edition, Copyright © 2007, American Chemical Society." <a href="http://www.inquiryinaction.org/"><u>http://www.inquiryinaction.org/</u></a></li> <li>• National Science Digital Library, Science Digital Literacy Maps: The Physical Setting: <a href="#"><u>Waves</u></a></li> <li>• National Science Digital Library,</li> </ul>		<p>describing each component.</p> <p>6) Students will use <a href="#"><u>kidsgeo</u></a> to investigate the factors determining soil formation. Students will predict what the texture of the soil might be like in each geographic location.</p> <p>7) Students will explore the fossil gallery on <a href="http://paleoportal.org"><u>paleoportal.org</u></a>. Students will determine the life forms that are evident the fossils shown in the gallery.</p> <p>8) Working in cooperative groups, students will use clay or plaster of paris to create a fossil. Each group can choose a life form to create their fossil</p>	<p>Obelisk Pyramid Soil Humus clay</p>			
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	<p><a href="http://nsdl.org/refreshers/science/">Science Refreshers http://nsdl.org/refreshers/science/</a></p> <ul style="list-style-type: none"><li>• Students may visit the Rutgers Geology Museum for additional exposure to rocks and minerals.</li></ul>						
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**Big Idea:** Living organisms have a variety of observable features that enable them to obtain food and reproduce

Unit 2 : **Characteristics of Life – Life Science**

Science		Grade: 4			Unit Time Frame Unit 2.1 Time frame: Unit 2.1 Time frame: Nov 9th- January 8 <sup>th</sup> Unit 2.2 : January 12 <sup>th</sup> -21 <sup>st</sup> (8 days)		
Essential Questions	Suggested Resources	Content ( Will know)	Skills ( Will be able to do)	Key Terms	Assessment	College and Career Readiness Standard	CCCS
<ol style="list-style-type: none"> <li>1. What do all living things have in common?</li> <li>2. How is matter transformed, and energy transferred/transformed in living systems?</li> <li>3. In what ways do organisms interact within ecosystems?</li> <li>4. How do organisms change as they go through their life cycle?</li> <li>5. In what ways are organisms of the same kind different from each other?</li> <li>6. How does this help them</li> </ol>	<ul style="list-style-type: none"> <li>• Annenberg Media’s Teachers’ Resources offer short video courses covering essential science content for K-6 teachers. <a href="http://www.learner.org/resources/series179.html?pop=yes&amp;pid=1957">http://www.learner.org/resources/series179.html?pop=yes&amp;pid=1957</a></li> </ul>	<p>Living organisms:</p> <ul style="list-style-type: none"> <li>• Interact with and cause changes in their environment.</li> <li>• Exchange materials (such as gases, nutrients, water, and waste) with the environment.</li> <li>• Reproduce.</li> <li>• Grow and develop in a predictable manner.</li> <li>• Essential functions required for the well-being of an organism are carried out by specialized structures in plants and animals.</li> </ul>	<ul style="list-style-type: none"> <li>• Working in cooperative groups, students will classify fruits and vegetable according to their characteristics. Students will classify their items using features or characteristics. Each group will present and explain their method of grouping.</li> </ul>	<p>Bones Cartilage Joint Skeleton Skull Torso Investigation 2: Joints Articulated Ball-and-socket joint Compensate Gliding joint Hinge joint Immobilize Opposable thumb Investigation 3: Muscles Contract</p>	<ul style="list-style-type: none"> <li>• Label the joints on a diagram of the human body.</li> <li>• Use <u>kidspiration</u> to create a food web.</li> <li>• Create a poster or diagram with a food chain.</li> <li>• Observations of students understanding</li> <li>• Quality of response in homework, probes, independent and small group activities and projects</li> <li>• Homework</li> </ul>	<p>CCR-R1 CCR-R2 CCR-R3 CCR-R8 CCR-R9  CCR-W3 CCR-W8 CCR-W9 CCR-W10  CCR-L1 CCR-L2 CCR-L5 CCR-L6  CCR-SL2 CCR-SL3 CCR-SL6</p>	<p>5.3.4.AJan.1 Develop and use evidence-based criteria to determine if an unfamiliar object is living or nonliving.  5.3.4.A.2 Compare and contrast structures that have similar functions in various organisms, and explain how those functions may be carried out by structures that have different physical appearances.</p>

<p>reproduce and survive?</p>		<ul style="list-style-type: none"> <li>Essential functions of the human body are carried out by specialized systems (Digestive, Circulatory, Respiratory, Nervous, Skeletal, Muscular, Reproductive).</li> <li>Identify sources of energy (food) in a variety of settings (farm, zoo, ocean, forest).</li> <li>Organisms can only survive in environments in which their needs are met. Within ecosystems, organisms interact with and are dependent on their physical and living environment.</li> <li>Some changes in ecosystems occur slowly, while others occur rapidly. Changes can affect</li> </ul>	<ul style="list-style-type: none"> <li>Students will plant a seed or a bean and create a diagram showing how the seed transforms over time. Students will use Encarta Kids (type in plants) to preview what they should expect to see over the coming</li> <li>Students will illustrate the life of a pet or favorite animal from early stages to full grown animal. Students will write about how the needs, habits and care of the pet change over time.</li> <li>Students will create a history of themselves from infancy to fourth grade. They will use</li> </ul>	<p>Ligament Tendon Tissue Muscle Investigation 4: Coordination Coordination Response Response time Stimulus</p>	<ul style="list-style-type: none"> <li>End of Lesson assessment</li> <li>Unit Assessment</li> </ul>		<p>5.3.4.A.3 Describe the interactions of systems involved in carrying out everyday life activities. 5.3.4.B.1 Almost all energy (food) and matter can be traced to the Sun. 5.3.4.C.1 Predict the biotic and abiotic characteristics of an unfamiliar organism's habitat. 5.3.4.C.2 Explain the consequences of rapid ecosystem change (e.g., flooding, wind storms, snowfall, volcanic eruptions), and compare them to consequences of gradual</p>
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		<p>life forms, including humans.</p> <ul style="list-style-type: none"> <li>Plants and animals have life cycles (begin life, develop into adults, reproduce, and eventually die).</li> <li>The characteristics of each stage of life vary by species.</li> <li></li> </ul>	<p><u>kidspiraton</u> to create a diagram of how they have gone through stages of depending on their parents for everything /</p>				<p>ecosystem change (e.g., gradual increase or decrease in daily temperatures, change in yearly rainfall.</p> <p>5.3.4.D.1 Compare the physical characteristics of the different stages of the life cycle of an individual organism and characteristics of stages among species.</p> <p>5.3.4.E.1 Model an adaptation to a species that would increase its chances of survival, should the environment become wetter, dryer, warmer, or colder over time.</p>
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			<p>Working in cooperative groups, students will classify animals according to their characteristics. Have students cut out pictures from the newspaper or provide students with pictures or lists of animals. Students will classify and evaluate their items using features or characteristics. Each group will present and explain their method of grouping.</p>				<p><b>5.3.4.E.2</b> Evaluate similar populations in an ecosystem with regard to their ability to thrive and grow.</p>
			<p>Students will use <u>kidspiration</u> to classify different animals.</p>		•		



<i>Unit 3 – Magnetism and Electricity</i>			<i>Unit Time Frame: 45 Days</i> January 25th – April 8th, 2015				
Essential Questions	Suggested Resources	Content	Skills	Key Terms	Assessment	College & Career readiness Standards	CCCS
<p>How can energy be transferred from one material to another?</p> <p>What happens to a material when energy is transferred to it??</p> <p>How do we know that things have energy?</p>	<p>CT: FOSS Magnetism and Electricity (Investigations 1-2)            LC: Cole, Joanna and Degen, Brice <u><a href="#">The Magic School Bus Electric Field Trip</a></u>            US: United Streaming Video <i>Electricity and Magnetism The Magic of Magnets</i>            IR:  <a href="http://www.galaxy.net/~k12/electric/static.sht">http://www.galaxy.net/~k12/electric/static.sht</a></p> <p><i>FOSS Science Investigations: Electricity and Magnetism</i></p> <ul style="list-style-type: none"> <li>National Science Digital Library, Science Digital Literacy Maps: The Physical Setting: <a href="http://strandmaps.nsd.org/?id=SMS-MAP-1364">Waves</a>  <a href="http://strandmaps.nsd.org/?id=SMS-MAP-1364">http://strandmaps.nsd.org/?id=SMS-MAP-1364</a></li> </ul>	<p>Electrical circuits require a complete loop through conducting materials in which an electrical current can pass.</p> <p>Heat (thermal energy), electricity, light, and sound are</p>	<ul style="list-style-type: none"> <li>Observe the interaction of permanent magnets with a variety of common materials.</li> <li>Discover that magnets display forces of attraction and repulsion.</li> <li>Measure the change in force between two magnets as the distance between them changes.</li> <li>Identify materials that are conductors and insulators.</li> <li>Understand and construct simple open, closed, parallel, and series circuits.</li> <li>Learn how to make an electromagnet.</li> <li>Experience the relationship between the number of turns of wire around an electromagnet core and the strength of the magnetism.</li> <li>.</li> </ul>	<p><b>force</b> - a push or pull</p> <p><b>magnet</b> - an object that sticks to iron</p> <p><b>magnetism</b> - a specific kind of force</p> <p><b>attract</b> - when magnets pull together</p> <p><b>repel</b> - when magnets push apart</p> <p><b>temporary magnet</b> - a piece of iron that behaves like a magnet when it is touching a permanent magnet</p> <p><b>induced</b></p>	<ul style="list-style-type: none"> <li>Students create a graph indicating distance vs. ramp height.</li> <li>Diagrams activities and journal entries with results and observations.</li> </ul> <p>Students will make a poster that shows various sources of heat.</p>	<p>CCR-R1            CCR-R2            CCR-R3            CCR-R8            CCR-R9</p> <p>CCR-W3            CCR-W8            CCR-W9            CCR-W10</p> <p>CCR-L1            CCR-L2            CCR-L5            CCR-L6</p> <p>CCR-SL2            CCR-SL3            CCR-SL6</p>	<p><b>5.2.4.D.1</b>            Repair an electrical circuit by completing a closed loop that includes wires, a battery (or batteries), and at least one other electrical component to produce observable changes.</p> <p><b>5.2.4.C.1</b>            Compare various forms of energy observed in everyday life and</p>

	<ul style="list-style-type: none"> <li>National Science Digital Library, <a href="http://nsdl.org/refreshers/science/">Science Refreshers</a> <a href="http://nsdl.org/refreshers/science/">http://nsdl.org/refreshers/science/</a></li> </ul>	<p>forms of energy.</p> <p>Heat (thermal energy) results when substances burn, when certain kinds of materials rub against each other, and when electricity flows through wires.</p> <p>Metals are good conductors of heat (thermal energy) and electricity.</p> <p>Increasing the temperature of any substance requires the addition of energy.</p> <p>Magnets can repel or attract other</p>		<p><b>magnetism</b> - the influence of a permanent magnet's magnetic field on a piece of iron, which makes the iron act like a magnet</p> <p><b>graph</b> - organizes data visually to show a relationship between two things</p> <p><b>prediction</b> - an educated guess based on data or previous experience</p> <p><b>intersection</b> - the point at which two lines cross</p> <p><b>circuit base</b> - holds the components needed to build a</p>			describe their applications
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		<p>magnets, but they attract all matter made of iron. Magnets can make some things move without being touched.</p> <p>Heat (thermal energy) results when substances burn, when certain kinds of materials rub against each other, and when electricity flows through wires.</p> <p>Metals are good conductors of heat (thermal energy) and electricity.</p>		<p>circuit</p> <p><b>Fahnstock clip</b> - a metal clip that connects wires in a circuit</p> <p><b>switch</b> - a device used to open and close circuits</p> <p><b>open circuit</b> - an incomplete circuit through which electricity will NOT flow</p> <p><b>closed circuit</b> - a complete circuit through which electricity flows</p> <p><b>schematic diagram</b> - a way to represent a circuit on a</p>			
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		Increasing the temperature of any substance requires the addition of energy.		piece of paper.			
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**Big Idea:** Water moves in a regular cycle that influences weather

*Unit 4: Earth, Space and Motion*

April 13<sup>th</sup> – May 15<sup>th</sup>, 2015 (22 days)

*Unit 4.1 – Climate and Weather*

Science		Grade: 4			Unit 4.1: Climate and Weather		
Essential Questions	Suggested Resources	Content	Skills	Key Terms	Assessment	College and Career Readiness Standard	CCCS
<p>How can weather be predicted?</p> <p>How can we observe weather patterns?</p> <p>What is water cycle?</p> <p>What are types of weather?</p>	Science fusion Unit	<p>There are different types of gauges to measure various weather conditions.</p> <p>Climate is the average long-term weather condition of an area.</p>	<p>Explain the greenhouse effect.</p> <p>Model the different stages of the water cycle and describe the changes that occur.</p> <p>Identify the different properties of solids, liquids, and gases.</p> <p>Identify the different weather gauges that help predict weather.</p>	<p>Instruments</p> <p>Weather</p> <p>Water cycle</p> <p>Atmosphere</p> <p>Green house effect.</p>	<p>Formal Assessments</p> <p>Chapter Quizzes / tests</p> <p>Performance Assessments</p> <p>Homework</p>	<p>CCR-R1</p> <p>CCR-R2</p> <p>CCR-R3</p> <p>CCR-R8</p> <p>CCR-R9</p> <p>CCR-W3</p> <p>CCR-W8</p> <p>CCR-W9</p> <p>CCR-W10</p> <p>CCR-L1</p> <p>CCR-L2</p> <p>CCR-L5</p> <p>CCR-L6</p> <p>CCR-SL2</p>	<p>Identify pattern data collected from basic weather instruments.</p> <p><b>5.4.4.F.1</b></p> <p>Observe daily cloud patterns, types of precipitation, and temperature, and categorize the clouds by the conditions that</p>

		Different regions in the world have different climates based on their location.	Describe the different types of clouds and forms of precipitation.  Collect and analyze weather data.  Describe weather factors.  Describe the causes of wind and how air masses and fronts move.			CCR-SL3 CCR-SL6	form precipitation <b>5.4.4.G.2</b>  Develop a general set of rules to predict temperature changes of Earth materials, such as water, soil, and sand, placed in the Sun and shade. <b>5.4.4.E.1</b>
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**Big Idea:** Objects in space including the Earth and its moon move in regular observable patterns.  
**Unit 4.2 – Earth and Space**

Science		<i>Grade: 4</i>			<i>Unit Time Frame: Unit 4: Earth and Space May 1st – May 14<sup>th</sup>, 2014</i>		
Essential Questions	Suggested Resources	Content (Will know)	Skills (will be able to do)	Key Terms	Assessment	College and Career Readiness Standard	CCCS

<p>1) How do Sun, Moon and Earth Interact?</p> <p>2) What are moon phases?</p> <p>3) How does Moon move around the Earth?</p> <p>4) What are the planets in our solar system?</p> <p>5) How can we model the the Sun and the planets?</p>	<p>Science Fusion Unit 6</p> <p>Oreo Cookies – 4 per child</p> <p>Popsicle sticks – 25/class School Specialty -School Smart Craft Sticks – 4 1/2 x 3/8 - Pack of 1,000 – Natural</p> <p>Item #085957 Catalog Price \$7.25</p> <p>Clear cups (12), eyedroppers, and cooking oil (32 oz)– maybe some food coloring</p> <p>On the shared drive: Probes from Page Keeley volumes—</p> <p>“The Two R’s: Rotate and Revolve”</p> <p>“Is Earth Really Round?”</p> <p>“Darkness at Night”</p> <p>“Where Do Stars Go?”</p> <p>“Objects in the Sky”</p>	<p>1) Days and nights are caused by the revolution of the moon around the earth.</p> <p>2)Earth’s seasons are caused by Earth rotation and revolution of the Earth around the sun.</p>	<p>1) Describe how Earth moves in space and what results from these movements.</p> <p>2) Draw a series of pictures that show how the moon’s apparent shape changes over a month.</p> <p>3) Explain why the same side of the moon always faces the Earth?</p> <p>4) Name the eight planets in our solar system and give three differences between the inner and outer planets.</p> <p>5) Compare and contrast the size of the Sun, the inner planets and the outer planets.</p>	<p>Rotate, orbit, revolve, constellation, moon phases, solar system, planet</p>	<p>End of unit assessments, quiz, response sheets, math investigations , home school connection activities and projects</p>	<p>CCR-R1 CCR-R2 CCR-R3 CCR-R8 CCR-R9</p> <p>CCR-W3 CCR-W8 CCR-W9 CCR-W10</p> <p>CCR-L1 CCR-L2 CCR-L5 CCR-L6</p> <p>CCR-SL2 CCR-SL3 CCR-SL6</p>	<p>5.4.4.A.1 Form a general description of daily motion of Sun across the sky based on shadow observations. Explain how shadows could be used to tell the time of day.</p> <p>The observable shape of the Moon changes from day to day in a cycle that lasts 29.5 days.</p> <p>5.4.4.A.2 Identify patterns of the Moon’s appearance and make predictions about its future appearance based on observational evidence.</p> <p>Earth is approximately spherical in shape. Objects fall toward the center of Earth because of the force of gravity.</p>
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	<p>“Emmy’s Moon and Stars”</p> <p>“Why is it Warmer in Summer?”—teacher background only!</p> <p>“Going Through A Phase”</p> <p>“Experiencing Gravity”</p> <p>“Apple on the Ground”</p>						<p>5.4.4A.3. Generate a model with an explanatory variable that explains why objects roll down ramps and as why the Moon orbits Earth.</p> <p>Earth is the third planet from the Sun in our solar system, which includes seven other planets.</p> <p>5.4.4A.4 Analyze and evaluate evidence in the form of data tables and photographs to categorize and relate solar system objects (e.g., planets, dwarf planets, moons, asteroids, and comets).</p>
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**Big Idea:**  
**Unit 4.3 - Motion**

Science		Grade: 4			Unit Time Frame: Unit 4.2: Motion and Forces May 6 <sup>th</sup> – May 15 <sup>th</sup> , 2014		
Essential Questions	Suggested Resources	Content ( Will know)	Skills ( will be able to do)	Key Terms	Assessment	College and Career	CCC

						Readiness Standard	
<p>1. Model and explain how the description of an object's motion from one observer's view may be different from a different observer's view.</p> <p>2) How do simple machines help us to do the work easily?</p>	<p>Foss Investigations: Models and Designs</p> <p>Unit 6 – Science Fusion</p>	<p>1) A force applied to an object can change the object's motion</p> <p>2) Simple machines allow you to do the same work more easily</p>	<p>Identify and use the scientific process during investigations and experiments.</p> <p>Recognize, define and apply relevant vocabulary.</p> <p>Observe the effects of forces on objects" motions.</p> <p>Differentiate among speed, velocity and acceleration.</p> <p>Demonstrate how simple machines make tasks easier.</p>	<p>attract</p> <p>battery</p> <p>circuit</p> <p>closed circuit</p> <p>conductor</p> <p>electricity</p> <p>electricity receiver</p> <p>electromagnet</p> <p>filament</p> <p>induced magnetism</p> <p>insulator</p> <p>magnet</p> <p>magnetism</p> <p>open circuit</p> <p>repel</p> <p>schematic diagram</p> <p>switch</p> <p>temporary magnet</p>	<ul style="list-style-type: none"> <li>End of unit assessments, quiz, response sheets, math investigations , home school connection activities and projects</li> </ul>	<p>CCR-R1</p> <p>CCR-R2</p> <p>CCR-R3</p> <p>CCR-R8</p> <p>CCR-R9</p> <p>CCR-W3</p> <p>CCR-W8</p> <p>CCR-W9</p> <p>CCR-W10</p> <p>CCR-L1</p> <p>CCR-L2</p> <p>CCR-L5</p> <p>CCR-L6</p> <p>CCR-SL2</p> <p>CCR-SL3</p> <p>CCR-SL6</p>	<p><b>5.2.4.E.1</b></p> <p>Demonstrate through modeling motion is change in position or period of</p> <p><b>5.2.4.E.2</b></p> <p>Identify the force that something moving or changes in speed or direction of motion.</p> <p><b>5.2.4.E.4</b></p> <p>Investigate construct generalizations for the effects that force gravity has on balls of different</p>