

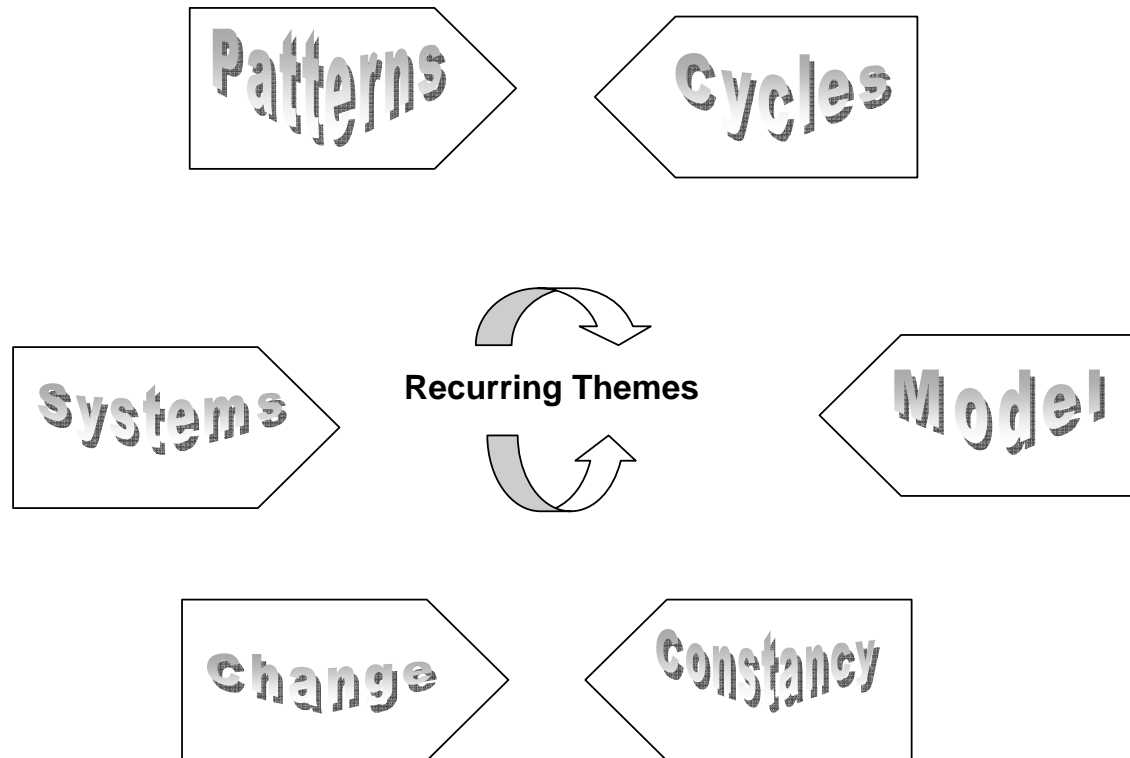
5th Grade Science Scope and Sequence Overview 2009 -2010 50% Hands-On!						
	1st 6wks Aug 24- Oct 2	2nd 6wks Oct 5 - Nov 6	3rd 6weeks Nov 9- Dec 18	4th 6 weeks Jan 5-Feb19	5th 6 weeks Feb 22 - April 16	6th 6 weeks April 19 - June 4
Week One	★ Safety and Equipment Scientific Method Aug 24-28 (5.1A; 5.2; 5.4A)	Unique Niche, Food Chains, and Food Webs Oct5-9 (3.8B; 5.5AB; 5.9AB)	Forms of Energy Nov 9-13 (5.8A)	Weather and Climate Jan 5-8 (5.6A)	Characteristics of the Sun Feb 22-26 (3.11C; 4.6A; 4.11C)	TAKS Review Earth Day Activities (5.1B) Apr 19-23
Week Two	★ THEMES (Introduction) Aug 31 - Sept 4	Life Science Review - Benchmark Oct 12-16	Light and Sound Nov 16-20 (5.8BD)	The Water Cycle Jan 11-15 (5.6B)	Characteristics of the Earth and the Moon Lunar Cycles Mar 1-5 (5.6A; 5.12C)	Science TAKS (April 29) Apr 26-30
Week Three	Photosynthesis Sept 7-11 (5.6BC)	States of Matter, Physical Properties, and Mixtures and Solutions Oct 19-30 (5.7ABCD)	Flow of Electricity Nov 30-Dec 4 (5.8C)	Landforms, Weathering, and Erosion Jan 18-22 (4.11B; 5.11A; 5.12A)	Earth Science Review - Benchmark Reading TAKS Science Fair Prep. March 8-12	Scientific Method Investigation 1 May 3-7
Week Four	Inherited Traits and Adaptive Characteristics Sept 14-18 (2.9A; 5.9ABC; 5.10AB)		Force and Motion Dec 7-11 (5.5AB)	Learning about Earth's Past Jan 25-29 (5.11AB)	Review Science Fair Prep. March 22-26	Scientific Method Investigation 1 May 10-14
Week Five	Habitats, Ecosystems, and Biomes Sept 21-25 (3.8ABCD; 5.9AB)	Matter, Mass, Weight, and Magnestism Nov 2-6 (5.7A)	Physical Science Review - Benchmark Dec 14-18	The Earth Resources Feb 1-5 (5.11BC)	Mock Test Science Fair Prep. March 29-Apr 2	Science Fair May 22 @ RSE May 17-21
Week Six	Life Cycles Sept 28-Oct 2 (5.6A)			Soil and the Nitrogen Cycle Feb 8-12 (4.11A; 5.6B; 5.11BC)	TAKS Review Math TAKS Apr 5-9	Scientific Method Investigation 2 May 24-28
Week seven				The Solar System and Objects in Space Feb 15-19 (3.11C)	TAKS Review Apr 12-16	Scientific Method Investigation 2 May 31-Jun 4
★	Recurring Themes: Patterns, Cycles, Systems, Models, Change, and Constancy					
	Ongoing TEKS: Scientific Investigation and Reasoning (5.1) (5.2) (5.3) (5.4)					

Recurring Themes






Recurring Themes are pervasive in science, mathematics and technology. These ideas transcend disciplinary boundaries and include patterns, cycles, systems, models, change and constancy.

Posters have been provided for all teachers to place in their classrooms with the purpose to connect these themes to their daily instruction in science. Teachers can also create different posters with their students if they desire.







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First Six Weeks- Nature of Science- **Week One** - On going- Part 1

Standards 	Lesson	Student Concepts	Vocabulary	Prerequisites	Resources/ Materials
<p>5.1 Conducts classroom and field investigations following home and school safety procedures. The student is expected to:</p> <p>A. Demonstrate safe practices during classroom and field investigations and</p> <p>B. Make wise choices in the use and conservations of resources and the disposal or recycling of materials.</p> <div data-bbox="100 829 472 1279" style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>Set up Interactive Noteb </p> <p>Right side of Interactive Notebook: Students record vocabulary, lab notes, concepts,</p> <p>Left side of Interactive Notebook: Students create brainstorming, mind-mapping, questioning, and other synthesis strategies to make sense of the content.</p> </div>	<div data-bbox="541 613 892 755" style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>The scientific process and safety practices will be taught in each science lesson throughout the year. </p> </div> <div data-bbox="541 800 1045 987" style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>Clear Expectations: With student input, create a criteria chart that lists characteristics of quality interactive journal entries.</p> </div> <div data-bbox="541 1011 1052 1268" style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>Clear Expectations: The teacher will introduce and model the use of an interactive notebook. Collectively, the classroom teacher and students will develop a criteria chart of what makes a “quality” or “good” interactive notebook.</p> </div>	<p>► Be safe during experiments. Follow lab rules and talk to the teacher if there is a problem.</p>	<p>field investigation Laboratory recycle/conserv safe practices symbols resources disposed</p>	<p>Grade 4</p> <p>(4.1) Conduct field and laboratory investigations following home and school safety procedures and environmentally appropriate and ethical practices.</p> <p>A. Demonstrate safe practices during field and laboratory investigations;</p> <p>B. Make wise choices in the use and conservation of resources.</p>	<p>Internet Activities:</p> <p>► Balance and Scale Online Tutorial www.ohaus.com/products/education/tutorials.asp?source +2</p> <p>► Virtual Microscope http://www.udel.edu/biology/ketcham/microscope [Click on virtual microscope</p>




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First Six Weeks- Nature of Science- **Week One** - On going- part 2

Standards 	Lesson	Student Concepts	Vocabulary	Prerequisites	Resources/ Materials
<p>5.4 The student knows how to use a variety of tools and methods to conduct science inquiry. The student is expected to:</p> <p>A. Collect and analyze information using tools including:</p> <ul style="list-style-type: none"> ▶ calculators, ▶ microscopes, ▶ cameras, ▶ sound recorders, ▶ computers, ▶ hand lenses, ▶ rulers, ▶ thermometers, ▶ compasses, ▶ balances, ▶ hot plates, ▶ meter sticks, ▶ timing devices, ▶ magnets, ▶ collecting nets, ▶ safety goggles; <p>B. Demonstrate that repeated investigations may increase the reliability of results.</p>	<div data-bbox="541 597 842 792" style="border: 1px solid black; background-color: yellow; padding: 5px; width: fit-content;"> <p>The scientific process and safety practices will be taught in each science lesson throughout the year.</p> </div> 	<ul style="list-style-type: none"> ▶ There are many types of science equipment. ▶ Triple-beam scales have three numbers that are added together to weigh an object. 	<p>triple beam scale repetition multiple test reliable tools</p>	<p>Grade 4 (4.4) Know how to use tools and methods to conduct science inquiry.</p> <p>A. Collect information using tools: calculators, safety goggles, microscopes, cameras, sound recorders, computers, hand lenses, rulers, thermometers, meter sticks, timing devices,</p> <p>B. Demonstrate that repeated investigations may increase the reliability of results.</p>	<p>Online resources:</p> <p>www.ohaus.com/products/education/tutorials.asp?source=2 [for a triple beam balance tutorial]</p> <p>www.sfscience.com</p> <p>http://www.udel.edu/biology/ketcham/microscope [Click on virtual microscope]</p> <p>http://www.edumedia.fr/a276_12-fahrenheit-celcius-kelvin.html</p> <p>Video Stream </p> <ul style="list-style-type: none"> • The incredible world of Microscopes • Scientific Method and Measurement 




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First Six Weeks- Nature of Science- Week One - On going

Standards 	Lesson	Student Concepts	Vocabulary	Prerequisites	Resources/ Materials
<p>5.2 The student uses scientific methods during field and laboratory investigations. The student is expected to:</p> <p>A. Plan and implement descriptive and simple experimental investigations including</p> <ul style="list-style-type: none"> ▶ asking well-defined questions, ▶ formulating testable hypotheses, ▶ selecting equipment ▶ using equipment ▶ Selecting technology ▶ Using Technology <p>B. Collect information by observing and measuring</p> <p>C. Analyze and interpret information to construct reasonable explanations from direct and indirect evidence</p> <p>D. Communicate valid conclusions and</p> <p>E. Construct simple graphs, tables, maps, and charts using tools including computers to organize, examine, and evaluate information.</p>		<p>▶ Repeated trials may increase the reliability of results.</p> <div data-bbox="766 698 1213 1015" style="border: 2px solid yellow; padding: 10px; margin: 10px auto; width: fit-content;"> <p>Scientific processes should be taught and reinforced throughout the curriculum instead of as an isolated unit.</p> </div>	<p>scientific method problem hypothesis materials procedures results conclusion data</p>	<p>Grade 4 (4.2) The student uses scientific inquiry methods during field and laboratory investigations. The student is expected to:</p> <p>(A) plan and implement descriptive investigations including asking well-defined questions, formulating testable hypotheses, and selecting and using equipment and technology;</p> <p>(B) collect information by observing and measuring;</p> <p>(C) analyze and interpret information to construct reasonable explanations from direct and indirect evidence;</p> <p>(D) communicate valid conclusions; and</p> <p>(E) construct simple graphs, tables, maps, and charts to organize, examine, and evaluate information</p>	<p>Video streaming</p> <ul style="list-style-type: none"> ● Discovering the Scientific Method ● Be an Inventor ● What is the Scientific Method ● Technology at Work, Part I <div data-bbox="1942 649 2016 714" style="text-align: right;">  </div> <div data-bbox="1806 828 1942 950" style="text-align: center;">  </div>


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First Six Weeks- Nature of Science- **Week One** - On going -Part 3



Standards 	Lesson	Student Concepts	Vocabulary	Prerequisites	Resources/ Materials
<p>5.3 The student uses critical thinking and scientific problem solving to make informed decisions. The student is expected to:</p> <p>A. Analyze, review, (and critique) scientific explanations, including hypotheses and theories, as to their strengths and weaknesses using scientific evidence and information</p> <p>B. Draw inferences based on information (related to promotional materials) for products and services</p> <p>C. Represent the natural world using models and identify their limitations</p> <p>D. Evaluate the impact of research on scientific thought, society, and the environment</p> <p>E. Connect Grade 5 concepts with the history of science and contributions of scientists.</p>		<p>►The student uses critical thinking and scientific problem solving to make informed decisions</p>	<p>hypotheses theories evidence inference promotional products services model limitations contributions</p>	<p>Grade 4</p> <p>(4.3) Scientific processes. The student uses critical thinking and scientific problem solving to make informed decisions. The student is expected to:</p> <p>(A) analyze, review, and critique scientific explanations, including hypotheses and theories, as to their strengths and weaknesses using scientific evidence and information</p> <p>(B) draw inferences based on information related to promotional materials for products and services;</p> <p>(C) represent the natural world using models and identify their limitations;</p> <p>(D) evaluate the impact of research on scientific thought, society, and the environment; and</p> <p>(E) connect Grade 4 science concepts with the history of science and contributions of scientists.</p>	<p>Video streaming</p> <ul style="list-style-type: none"> Discover the Scientific Method  

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First Six Weeks- Life of Science- **Week Two** - Themes



Standards	F ² Lesson	Student Concepts	Vocabulary	Prerequisites	Resources/ Materials
<p>Introduction Part 2</p> <p>Recurring Themes are pervasive in science, mathematics and technology. These ideas transcend disciplinary boundaries and include patterns, cycles, systems, models, change and constancy.</p> <div data-bbox="121 850 457 1101" style="border: 2px solid green; padding: 10px; margin: 20px auto; width: fit-content;"> <p style="text-align: center;">Reoccurring Themes</p> </div>		<ul style="list-style-type: none"> ▶ A system is a collection of cycles, structures, and processes that interact. ▶ All systems have basic properties that can be described in terms of space, time, energy, and matter. ▶ Change and constancy occur in systems and can be observe and measured as patterns. ▶ Patterns help predict what will happen next and can change over time. 	<p>systems change Constancy pattern cycles models</p>	<p>These concepts are part of Kinder through 5th grade.</p>	<p>Create poster for each main idea. An axample is attached to this document. Posters need to be displayed for the rest of the year to make easy reference to the concepts.</p> <div data-bbox="1850 678 1940 753" style="text-align: center;">  </div>

Standards 	F ² Lesson	Student Concepts	Vocabulary	Prerequisites	Resources/ Materials
<p>5.6C Describe and compare life cycles of plants and animals</p> <p>5.6B Identify the significance of the water, carbon, and nitrogen cycles</p> <div data-bbox="128 602 457 727" style="border: 1px solid black; background-color: #00FF00; padding: 5px; margin: 10px 0;"> <p>Significance of the role of these cycles is to SUSTAIN LIFE.</p> </div> <div data-bbox="79 824 493 1328" style="border: 1px solid black; background-color: #FFFF00; padding: 5px; margin: 10px 0;"> <p>Students must understand the significance of the nitrogen, water, and carbon cycles in relation to animals, plants, and ecosystems. For example, carbon dioxide is taken by plants to be converted into sugars through photosynthesis. Some animals eat the plants and use the sugar for energy. This example is only one way to approach this student expectation. Items in the test will not include specific details about the carbon and nitrogen cycles.</p> </div>	<p>Photosynthesis Carbon Dioxide Cycle</p>	<ul style="list-style-type: none"> ▶ Living things are called organisms. This includes both plants and animals. ▶ Organisms are made up of cells. ▶ Plants have 3 main parts: roots, stems, and leaves. ▶ The roots take in water, the stem moves the water through the plant, the leaves trap sunlight (Chloroplast-cell) and take carbon dioxide ▶ Plants make their own food in the process called photosynthesis ▶ Water, light and carbon dioxide enter the plant during photosynthesis. ▶ Energy from the light turns the water and carbon dioxide into a sugar which is the plant's food. ▶ Oxygen leaves the plant after the process called photosynthesis. ▶ The carbon Dioxide-Oxygen Cycle shows how oxygen exits plants and enters animals ▶ The carbon Dioxide-Oxygen cycle shows how carbon dioxide enters plants and exits animals 	<p>organisms chlorophyll carbon dioxide stomata photosynthesis producer</p>	<p>Grade 4 (4.6) Science concepts. The student knows that change can create recognizable patterns. The student is expected to:</p> <p>(A) identify patterns of change such as in weather, metamorphosis, and objects in the sky;</p> <p>Note: Water cycle was covered in 2nd grade and the carbon and nitrogen cycle are new in 5th grade.</p> <div data-bbox="1213 1036 1654 1448" style="border: 1px solid blue; background-color: #ADD8E6; padding: 10px; margin: 10px 0;"> <p>DanaCenter Snapshot (5.6B)</p> <p>Research the water, carbon, and nitrogen cycles. Identify how these cycles effect life on Earth. Create visual products for a presentation.</p> </div>	<p>AIMS Life Science Notebook ●(5.6C) p.9,10,12,19,21,33,42,47 AIMS Earth Science Notebook ●(5.6B) p.173,188 Measuring Up ●Page 49-53</p> <div data-bbox="1705 662 2032 766" style="border: 1px solid gray; background-color: #E0F0FF; padding: 5px; margin: 10px 0;">  synthesis and Cellular Respiration </div> <div data-bbox="1722 889 1999 993" style="border: 1px solid gray; background-color: #FFFF00; padding: 5px; margin: 10px 0;"> <p>Create visual products of concepts </p> </div> <div data-bbox="1722 1084 2032 1344" style="border: 1px solid gray; background-color: #FFFF00; padding: 5px; margin: 10px 0;"> <p>Symbols:</p> <p>Oxygen = O Carbon = C Hydrogen = H Nitrogen = N Carbon Dioxide = CO₂</p> </div> <div data-bbox="1806 1344 1948 1458" style="text-align: center;">  </div>

Standards 	F ² Lesson	Student Concepts	Vocabulary	Prerequisites	Resources/ Materials
<p>5.10A Identify traits that are inherited from parent to offspring in plants and animals</p> <p>5.10B Give examples of learned characteristics that result from the influence of the environment</p> <p>5.9A Compare the adaptive characteristics of species that improve their ability to survive and reproduce in an ecosystem</p> <p>5.9B Analyze and describe adaptive characteristics that result in an organism's unique niche in an ecosystem</p> <p>5.9C Predict some adaptive characteristics required for survival and reproduction by an organism in an ecosystem.</p> <p>2.9A Identify the external characteristics of different kinds of plants and animals that allow their needs to be met.</p>	<p>Inherited traits and Adaptive characteristics</p>	<p>► Inherited traits are characteristics you get from your parents, like hair and eye color and your senses.</p> <p>► Learned characteristics are things you learn by interacting with the environment</p> <p>► Adaptive characteristics are changes that organism learn to help them survive</p> <p>► External characteristics are characteristics of an organism that can be seen.</p> <p>► Fur, claws, talons, and teeth are examples of external characteristics.</p>	<p>Traits</p> <p>inherited traits</p> <p>offspring</p> <p>adapt</p> <p>perish</p> <p>thrive</p> <p>adaptation</p> <p>reproduce</p> <p>instinctive behaviors</p> <p>learned behaviors</p> <p>survival</p>	<p>Grade 4</p> <p>(4.8) Science concepts. The student knows that adaptations may increase the survival of members of a species. The student is expected to:</p> <p>(A) identify characteristics that allow members within a species to survive and reproduce;</p> <p>(B) compare adaptive characteristics of various species; and</p> <p>(C) identify the kinds of species that lived in the past and compare them to existing species.</p> <p>(4.9) Science concepts. The student knows that many likenesses between offspring and parents are inherited or learned. The student is expected to:</p> <p>(A) distinguish between inherited traits and learned characteristics; and</p> <p>(B) identify and provide examples of inherited traits and learned characteristics.</p>	<p>AIMS Life Science Notebook</p> <p>●(5.10A) p. 185,193,202,213,222, 232,241</p> <p>●(5.10B) p. 249</p> <p>●(5.9A) p.59,115,109,161, 77,169, 163,128,135,140,147</p> <p>●(5.9B) p.59,101,68,77,90, 100, 128,135, 179</p> <p>●(5.9C) p. 163</p> <p>Some of these lessons might cover more than one TEK</p> <p>Measuring Up Page 54-58</p> <p>Online Resources: (5.9A,B,C) http://www.utdanacenter.org/sciencetoolkit/instruction/snapshots/5.php#b9</p>
<p>5.9A</p> <ul style="list-style-type: none"> + Animal regulation of body temperature + Animal securing food, water, and shelter + Animal reproduction (not in great detail) + Animal evading predators + Plant environment + Plant structure +Plant reproduction (not in great detail) <p>5.9C</p> <ul style="list-style-type: none"> + The adaptations necessary for survival in various regions and climates 		<p>Dana Center Snapshot 5.9B</p> <ul style="list-style-type: none"> + Visit an arboretum, garden center, city park to observe flowering plants and the animals living in the area. Record interactions between the organisms. Identify how interactions maintain the ecosystem. +Create a concept map of an organism in its environment to explain the "job" of that organism. 		<p>Dana Center Snapshot (5.10A)</p> <p>Collect information about three generations of a famous family, such as a political family. Including descriptive information like eye color, talents, body structure, hair, color, handedness, skin color, skills, etc.</p>	
<p>Instructional Services</p>					<p>Page 9 of 31</p>



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First Six Weeks- Life of Science- **Week Five** - Habitats, Ecosystems and Biomes

Standards 	F ² Lesson	Student Concepts	Vocabulary	Performance Indicator	Resources/ Materials
<p>3.8A Observe and describe the habitats of organisms within an ecosystem.</p> <p>3.8B Observe and identify organisms with similar needs that compete with one another for resources such as oxygen, water, food, or space.</p> <p>3.8C Describe environmental change in which some organisms would thrive, become ill, or perish</p> <p>3.8D Describe how living organisms modify their physical environment to meet their needs such as beavers building a dam or human building a home.</p> <p>5.9B Analyze and describe adaptive characteristics that result in an organism's unique niche in an ecosystem</p> <p>5.9C Predict some adaptive characteristics required for survival and reproduction by an organism in an ecosystem.</p>	<p>Habitats, Ecosystems, and Biomes</p>	<ul style="list-style-type: none"> ▶ Animals live in a home called habitat. Many habitats make up an ecosystem. ▶ How organisms interact with one another and the environment is called an ecosystem. ▶ A group of ecosystems in an area with the same climate and organisms is called a biome. ▶ Deserts, Tropical Rain Forests, Deciduous Forests, Tundra and Grasslands are types of biomes. ▶ Pollution causes harm to an ecosystem. It can cause organisms to become ill ▶ Things that harm an ecosystem can cause organisms to perish (die) ▶ Good things can cause organisms to thrive (live better) 	<p>habitat species population community ecosystem biome perish thrive</p> <div style="border: 1px solid black; background-color: yellow; padding: 5px; margin-top: 10px;"> <p>+An organism's specific role within a shared ecosystem</p> <p>+ Niches within a terrestrial environment</p> </div>	<p>Grade 3 3.8A Observe and describe the habitats of organisms within an ecosystem.</p> <p>3.8B Observe and identify organisms with similar needs that compete with one another for resources such as oxygen, water, food, or space.</p> <p>3.8C Describe environmental change in which some organisms would thrive, become ill, or perish</p> <p>3.8D Describe how living organisms modify their physical environment to meet their needs such as beavers building a dam or human building a home.</p>	<p>Step Up To TAKS p. 72-78</p> <p>Measuring Up Chapter 5</p> <div style="text-align: center; margin: 10px 0;">  </div> <div style="border: 1px solid black; background-color: yellow; padding: 5px; margin-top: 10px;"> <p>+An organism's specific role within a shared ecosystem</p> <p>+ Niches within a terrestrial environment</p> </div>




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First Six Weeks- Life of Science- **Week Six** - Life Cycles

Standards 	F ² Lesson	Student Concepts	Vocabulary	Prerequisites	Resources/ Materials
<p>5.6C Describe and compare life cycles of plants and animals</p> <div data-bbox="79 690 525 958" style="border: 1px solid blue; padding: 5px; margin-top: 10px;"> <p>DanaCenter Snapshot: Observe the life cycle of a plant and an insect. Create a chart that compares the two organisms.</p> </div>	<p>Life Cycles</p>	<ul style="list-style-type: none"> ▶ There are 4 basic stages of life: Birth, Maturity, Reproduction, and Death. ▶ All organisms go through a life cycle. Some go through a metamorphosis. ▶ Metamorphosis is a change, Complete metamorphosis is a major change. ▶ Grasshoppers and dragonflies go through incomplete metamorphosis. 	<p>life cycle stages pollution reproduce thrive metamorphosis</p>	<p>Grade 4 (4.6) Science concepts. The student knows that change can create recognizable patterns. The student is expected to:</p> <p>(A) identify patterns of change such as in weather, metamorphosis, and objects in the sky;</p>	<p>AIMS Life Science Notebook ●(5.6C) p. 9,10,12,19, 21,33,42,47</p> <p>Measuring Up Lessons 12/13</p> <div data-bbox="1780 917 1915 1036" style="text-align: center;">  </div>


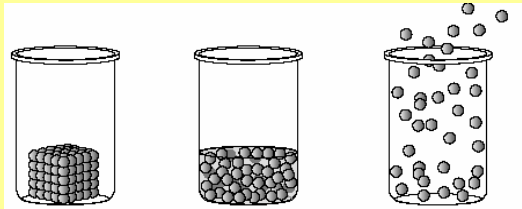

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Second Six Weeks - Life of Science- Week One - Unique Niche, Food Chains and Food Webs

Standards 	F ² Lesson	Student Concepts	Vocabulary	Prerequisites	Resources/ Materials
<p>5.9B Analyze and describe adaptive characteristics that result in an organism's unique niche in an ecosystem</p> <p>5.5A Describes some cycles structures, and processes that are found in a simple system.</p> <p>5.5B Describe some interactions that occur in a simple system</p> <p>3.8B Observe and identify organisms with similar needs that compete with one another for resources such as oxygen, water, food, or space</p> <div data-bbox="105 1068 468 1365" style="border: 1px solid black; padding: 5px; margin-top: 20px;"> <p>5.5 Strand: Systems- collection of cycles, structures & Processes + Processes - Photosynthesis + Environment - Organism system + Interactions - Food Webs</p> </div>	<p>Unique Niches, Food Chains, and Food Webs</p>	<ul style="list-style-type: none"> ▶ An animal's unique niche is its job (predator, prey, producer, consumer, etc) ▶ A predator is an animal that is hunted and eaten ▶ A producer makes its own food. All plants are producers. Producers are plants. ▶ Consumers eat things. Animals are consumers. ▶ Primary consumers eat plants. Secondary consumers eat animals. ▶ Herbivores eat plants. Carnivores eat meat. Omnivores eat both. ▶ Energy transfers from organism to organism in a food chain. This energy starts with the Sun. ▶ Many connected food chains are called food webs. 	<p>unique niche consumers herbivores carnivores omnivores predators prey decomposers food chain food web producers scavengers</p>	<p>Grade 3</p> <p>(3.8B) Observe and identify organisms with similar needs that compete with one another for resources such as oxygen, water, food, or space</p> <div data-bbox="1337 1036 1696 1333" style="border: 1px solid black; padding: 5px; margin-top: 20px;"> <p>5.5 Strand: Systems- collection of cycles, structures & Processes + Processes - Photosynthesis + Environment - Organism system + Interactions - Food Webs</p> </div>	<p>4th grade AIMS Life Science Notebook p. 9, 11, 20, 22, 60, 62, 78, 97, 157, 159, 174</p> <p>Step Up To TAKS ●(3.8B) p. 72-78</p> <p>Measuring Up Pages 109-112</p> <div data-bbox="1711 690 1785 755" style="text-align: center;">  </div> <ul style="list-style-type: none"> ●The Microscopic World ●Photosynthesis and Cellular Respiration ●The Living Cell <div data-bbox="1795 966 1921 1079" style="text-align: center; margin-top: 20px;">  </div>



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Second Six Weeks- Physical Science- **Week Three and Four** - State of Matter, Physical properties and Mixtures and solutions **part 1**

Standards 	F ² Lesson	Student Concepts	Vocabulary	Prerequisites	Resources/ Materials
<p>5.7A Classify matter based on its physical properties including magnetism, physical state, and the ability to conduct or insulate heat, electricity, and sound.</p> <div data-bbox="75 500 447 1045" style="border: 1px solid black; background-color: #ffffcc; padding: 5px; margin-top: 10px;"> <p>All matter has mass and takes up space. Matter in the solid state has tightly packed particles and does not change shape when moved from one container to the next. Matter in liquid state has loosely packed particles, flows when poured and takes the shape of its container. Matter in the gaseous state has widely spaced energetic particles that bounce against container walls and each other until they are completely spread out to fill the entire container.</p> </div>	<p>States of Matter</p>	<ul style="list-style-type: none"> ▶ Matter can be classified by color, smell, taste, temperature, texture, magnetism, or conductivity ▶ The three states of matter are: solid, liquid, gas. ▶ Matter can be classified by its' properties. ▶ As the temperature increases/rises (gets hotter) matter goes from a solid to a liquid to a gas. ▶ As the temperature decreases/fall (gets colder) matter goes from gas to a liquid to a solid. ▶ As the temperature increases: ice changes to water and then to water vapor. ▶ As the temperature decreases: water vapor changes to water and then to ice. <p style="text-align: center;">States of Matter</p> <div data-bbox="705 1084 1365 1393" style="border: 1px solid black; background-color: #ffffcc; padding: 10px; margin-top: 20px;"> <p style="text-align: center;">Liquid Solid Gas</p>  </div>	<p>state solid liquid gas physical change evaporate vapor</p>	<p>Grade 4 (4.7) Science concepts. The student knows that matter has physical properties. The student is expected to:</p> <p>(A) observe and record changes in the states of matter caused by the addition or reduction of heat; and</p> <p>(B) conduct tests, compare data, and draw conclusions about physical properties of matter including states of matter, conduction, density, and buoyancy.</p>	<p>Forde-Ferrier CVP p. 51-55 TAKS Review & Assessment p. 9 AIMS Physical Sci.Notebook p.19-25,26-37</p> <p>Observing the Properties of Matter Exploring Phases of Matter</p> <p>Online resources: Different games for “States of Matter” http://www.quia.com/jg/377547.html http://uteach.utexas.edu/~sbth/chemistry/week1.htm Interactive game “States of Matter Millionaire Game” http://www.quia.com/servlets/quia.activities.common.ActivityPlayer?AP_rand=1620613014&AP_activityType=10&AP_urlId=38085&AP_continuePlay=true&id=38085</p> <div data-bbox="1801 1208 1938 1325" style="text-align: right; margin-top: 20px;">  </div>



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Second Six Weeks- Physical Science- **Week Three and Four** - State of Matter, Physical properties and Mixtures and solutions **Part 2**

Standards 	F ² Lesson	Student Concepts	Vocabulary	Prerequisites	Resources/ Materials
<p>5.7A Classify matter based on its physical properties including magnetism, physical state, and the ability to conduct or insulate heat, electricity, and sound.</p> <p>5.7D Observe and measure characteristic properties of substances that remain constant such as boiling points and melting points</p>	<p>Physical Properties of Matter</p>	<ul style="list-style-type: none"> ▶ Matter can also be classified by boiling point and melting (freezing) point. ▶ The boiling point of water is 100 degrees Celsius. ▶ The boiling point of water is 212 degrees Fahrenheit. ▶ The melting point of water is 0 degrees Celsius. ▶ The melting point of water is 32 degrees Fahrenheit. ▶ The boiling point temperature remains the same. 	<p>physical property texture odor conductor insulator magnetic boiling point melting point Celsius Fahrenheit</p>	<p>Grade 4 (4.7) Science concepts. The student knows that matter has physical properties. The student is expected to:</p> <p>(A) observe and record changes in the states of matter caused by the addition or reduction of heat; and</p> <p>(B) conduct tests, compare data, and draw conclusions about physical properties of matter including states of matter, conduction, density, and buoyancy.</p>	<p>Forde-Ferrier CVP p. 57-61 TAKS Practice Book TAKS Review & Assessment p.10 AIMS Physical Sci. Notebook p.9-18</p> <p>Measuring Matter</p>
<div style="border: 1px solid blue; padding: 5px;"> <p>Dana Center Snapshot :(5.7A) Test a variety of objects for attraction to magnets and the ability to close a simple circuit. Classify the objects as magnetic or nonmagnetic and as insulators or conductors</p> </div>		<div style="border: 1px solid yellow; padding: 5px;"> <p>The Metric System is used across the world by scientists. Degrees in Fahrenheit are mention here with the purpose to connect students with what they know.</p> </div>			
		<div style="border: 1px solid blue; padding: 5px;"> <p>Dana Center Snapshot: (5.7D)</p> <ul style="list-style-type: none"> ▶ Determine that the boiling point of a liquid, such as corn syrup, milk, or water is constant. Boil the liquid, record its temperature, and repeat the process several times. ▶ Insert a thermometer into a container of ice, record temperature readings as the ice melts, and repeat the investigation several times to observe constancy. </div>			


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Second Six Weeks- Physical Science- **Week Three and Four** - State of Matter, Physical properties and Mixtures and solutions **Part 3**

Standards 	F ² Lesson	Student Concepts	Vocabulary	Prerequisites	Resources/ Materials
<p>5.7B Demonstrate that some mixtures maintain the physical properties of their ingredients</p> <p>5.7 C Identify changes that can occur in the physical properties of the ingredients of solutions such as dissolving sugar in water</p> <div data-bbox="58 760 459 1227" style="border: 1px solid blue; padding: 5px; margin-top: 10px;"> <p>Dana Center Snapshot: (5.7B) Have students make a mixture of salt and water in a plastic cup. Pour a small amount of the salt water into a pie pan so that it forms a thin layer. Allow the water to evaporate. Have students record observations before and after the water evaporates.</p> </div>	<p>Mixtures and Solutions</p>	<p>► Matter can be put together in mixtures and solutions. Some matter can be dissolved, but it does not disappear.</p> <p>► Mixtures are easily separated and in a solution, only the water evaporates.</p> <div data-bbox="688 565 1171 760" style="border: 1px solid green; padding: 5px; margin-top: 10px;"> <p>It is important for students to realize that solutions are a type of mixture. A mixture does not chemically change and it can be physically separated into its original components.</p> </div> <div data-bbox="705 821 1142 1162" style="border: 1px solid blue; padding: 5px; margin-top: 10px;"> <p>Dana Center Snapshot: (5.7C) Dissolve various amounts of an ingredient, such as flavored drink powder or instant tea, in water, Observe changes in the water, such as color, taste, or volume.</p> </div>	<p>mixture solution dissolve invisible decrease increase evaporate</p>	<p>Grade 4 (4.7) Science concepts. The student knows that matter has physical properties. The student is expected to:</p> <p>(A) observe and record changes in the states of matter caused by the addition or reduction of heat; and</p> <p>(B) conduct tests, compare data, and draw conclusions about physical properties of matter including states of matter, conduction, density, and buoyancy.</p>	<p>Forde-Ferrier CVP p. 63-67 TAKS Review & Assessment p.11 AIMS Physical Science Notebook p.35-37, p.38-46, p.47-55, p.67-73 Measuring Up lesson 30 page 163 lesson 31 page 167</p> <p>Changes in Matter</p> <p>Online resources: http://www.eduref.org/Virtual/Lessons/Science/Chemistry/CHM0013.html</p> <div data-bbox="1822 1081 1934 1175" style="text-align: center;">  </div> <div data-bbox="1734 1198 1990 1429" style="border: 1px solid yellow; padding: 5px; margin-top: 10px;"> <p>Students should experiment with different types of mixtures, such as liquid with liquid, liquid with solids, and solids with solids.</p> </div>



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Second Six Weeks- Physical Science- **Week Five** Matter, Mass and Weight **part 1**

Standards 	F ² Lesson	Student Concepts	Vocabulary	Prerequisites	Resources/ Materials
<p>5.7A Classify matter based on its physical properties including magnetism, physical state, and the ability to conduct or insulate heat, electricity, and sound.</p>	<p>Matter, Mass, and Weight</p>	<ul style="list-style-type: none"> ▶ All things are made of matter. Matter makes up everything. ▶ Atoms are the basic unit of all matter. ▶ The amount of matter in an object is its' mass. ▶ Weight of an object is based on the gravitational pull on the mass of the object. ▶ The more mass an object, the more it weighs. ▶ Weight can change depending on the force of gravity. The object's mass will not change. ▶ Weight and mass are not the same thing. 	<p>matter mass weight volume density classify</p>	<p>Grade 4 (4.7) Science concepts. The student knows that matter has physical properties. The student is expected to:</p> <p>(A) observe and record changes in the states of matter caused by the addition or reduction of heat; and</p> <p>(B) conduct tests, compare data, and draw conclusions about physical properties of matter including states of matter, conduction, density, and buoyancy</p>	<p>Forde-Ferrier CVP p. 45-49 TAKS Practice Book p.1 TAKS Review & Assessment p.8 AIMS Physical Sci.Notebook p.9-18 Measuring Up Lesson 29 page 159</p> <div align="center" data-bbox="1793 841 1919 951"> </div>




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Second Six Weeks- Physical Science- **Week Five** -Magnetisms **part 2**

Standards 	Lesson	Student Concepts	Vocabulary	Prerequisites	Resources/ Materials
<p>5.7A Classify matter based on its physical properties including magnetism, physical state, and the ability to conduct or insulate heat, electricity, and sound.</p>		<p>Note to teachers: Magnetism is not covered intensively with Forde-Ferrier. You will be given a set of lessons on the subject to include in this section. Students need to have hands-on experiences with magnets.</p>	<p>magnetism magnet attract repel</p>	<p>Grade 4 (4.7) Science concepts. The student knows that matter has physical properties. The student is expected to:</p> <p>(A) observe and record changes in the states of matter caused by the addition or reduction of heat; and</p> <p>(B) conduct tests, compare data, and draw conclusions about physical properties of matter including states of matter, conduction, density, and buoyancy</p>	<p>Internet Resources www.uen.org/3-6interactives/science.shtml <ul style="list-style-type: none"> ● Magnets in my kitchen ● Electromagnet Activity http://internet4classrooms.com/science_elem_magnets.htm <ul style="list-style-type: none"> ● Elementary Science topics: magnets www.srsd119.ca/os/elecandmag.html</p> 




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Third Six Weeks- Physical Science- Week One -Forms of Energy

Standards 	F ² Lesson	Student Concepts	Vocabulary	Prerequisites	Resources/ Materials
<p>5.8A Differentiate among forms of energy including light, heat, electrical, and solar energy</p> <div data-bbox="71 654 436 987" style="border: 1px solid black; background-color: #ffffcc; padding: 5px; margin-top: 10px;"> <p>Students should have the opportunity to experiment with different forms of energy in the classroom, laboratory, and field. Students should be able to identify different forms of energy such as light, electricity, and heat.</p> </div>	<p>Forms of Energy</p>	<ul style="list-style-type: none"> ▶ Energy can change from one form to another. ▶ Types of energy include chemical, electrical, magnetic, light, heat, sound, and solar energy. ▶ Electrical energy is caused by charged particles. ▶ Heat is energy produced by the movement of charged particles. 	<p>energy solar energy kinetic energy potential energy chemical electrical magnetic light heat sound solar</p>	<p>Grade 4 (4.7) Science concepts. The student knows that matter has physical properties. The student is expected to:</p> <p>(A) observe and record changes in the states of matter caused by the addition or reduction of heat; and</p>	<p>Forde-Ferrier CVP p. 87-91 TAKS Review & Assessment p.15 AIMS Physical Science Notebook</p> <div data-bbox="1734 667 1801 719" style="text-align: center;">  </div> <ul style="list-style-type: none"> ● Exploring Energy ● Heat Temperature and Energy ● Exploring Heat ● Measuring and Using Electricity <div data-bbox="1801 976 1927 1084" style="text-align: center; margin-top: 20px;">  </div>




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Third Six Weeks- Physical Science- Week Two - Light and Sound Part 1

Standards 	F ² Lesson	Student Concepts	Vocabulary	Prerequisites	Resources/ Materials
<p>5.8B Identify and demonstrate everyday examples of how light is reflected, such as from tinted windows, and refracted, such as in cameras, telescopes, and eyeglasses.</p> <div data-bbox="67 738 457 1140" style="border: 1px solid blue; padding: 5px; margin-top: 20px;"> <p>Dana Center Snapshot: (5.8B) Observe the ability of an object to reflect or refract light. Use a flashlight to test objects like aluminum foil, a wooden block, a glass of water, a plastic spoon, an eyeglass lens, a metal cup, and an index card.</p> </div>	<p>Light</p>	<ul style="list-style-type: none"> ▶ Light travels in rays. ▶ Light can be reflected (bounce back) or refracted (bend). ▶ A mirror, water, and tinted windows reflect light. ▶ Lenses in glasses (cameras and telescopes) and water refract light. ▶ Have students illustrate reflection & refraction. <div data-bbox="699 959 1182 1295" style="border: 1px solid black; background-color: #ffffcc; padding: 5px; margin-top: 20px;"> <p>The concept of light and sound tested at grade 5 are based on students' having hands-on-experiences that explore reflection, refractions, and vibrations. These investigations are the basis for understanding frequency, pitch, wavelength, and amplitude, which will be studied at the middle and high school levels.</p> </div>	<p>light reflection refraction convex lens concave lens opaque translucent transparent</p>	<p>Grade 4 (4.6) Science concepts. The student knows that change can create recognizable patterns. The student is expected to:</p> <p>(B) illustrate that certain characteristics of an object can remain constant even when the object is rotated like a spinning top, translated like a skater moving in a straight line, or reflected on a smooth surface</p>	<p>Forde-Ferrier CVP p. 75-79 TAKS Review & Assessment p.13</p> <p>Measuring Up Lesson 25 page 137</p> <div data-bbox="1717 641 1795 706" style="text-align: center;">  </div> <ul style="list-style-type: none"> ● Out of Darkness An Intro to Light ● Exploring Light and Color <div data-bbox="1785 885 1921 998" style="text-align: center; margin-top: 20px;">  </div>

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Third Six Weeks- Physical Science- **Week Two** - Light and Sound **Part 2**

Standards 	F ² Lesson	Student Concepts	Vocabulary	Prerequisites	Resources/ Materials
<p>5.8D Verify that vibrating an object can produce sound.</p> <div data-bbox="58 578 443 914" style="border: 1px solid blue; padding: 5px; margin-top: 10px;"> <p>Dana Center Snapshot: (5.8D) Explain and demonstrate how sound is produced using homemade instruments that vibrate when manipulated.</p> </div>	<p>Sound</p>	<ul style="list-style-type: none"> ▶ Sound travels in waves. ▶ Sound is made from vibrations. Vibrations make sound. ▶ Vibrations can be felt. ▶ Sound travels through a medium; such as air or water. ▶ Sound does not travel through space. <div data-bbox="699 906 1131 1133" style="border: 1px solid black; background-color: yellow; padding: 5px; margin-top: 10px;"> <p>Vibrating objects create sound waves that can be conducted by solids, liquids, and gases. Sound waves travel fastest through solid matter and slowest in gaseous matter</p> </div>	<p>sound vibrate waves frequency</p>	<p>Grade 3 and 4 did not touch the topic of sound</p> <p>Grade 2 (2.7) Science concepts. The student knows that many types of change occur. The student is expected to:</p> <p>(A) observe, measure, record, analyze, predict, and illustrate changes in size, mass, temperature, color, position, quantity, sound, and movement</p>	<p>Forde-Ferrier TAKS Review & Assessment p. 14 CVP p. 81-85</p> <p>Measuring Up lesson 27 page 147</p> <p>Exploring Sound</p> <div data-bbox="1730 818 1801 889" style="text-align: center;">  </div> <div data-bbox="1730 1045 1860 1159" style="text-align: center;">  </div>

Standards 	F ² Lesson	Student Concepts	Vocabulary	Prerequisites	Resources/ Materials
<p>5.8C Demonstrate that electricity can flow in a circuit and can produce heat, light, sound, and magnetic effects</p> <div data-bbox="65 626 470 1016" style="border: 1px solid blue; padding: 5px; margin-top: 10px;"> <p>Dana Center Snapshot: (5.8C) Assemble a multipurpose lab unit with motor, bell, buzzer, lights, switch, battery, and wires. Observe the productions of heat, light, sound, and magnetic effects.</p> </div>	<p>Flow of Energy</p>	<ul style="list-style-type: none"> ▶ Electricity flows in a closed circuit. ▶ An electrical current flows in a closed circuit. ▶ Closed circuit = lights on ▶ Open circuit = lights off <div data-bbox="722 537 1136 662" style="background-color: #00FF00; padding: 5px; margin-top: 10px;"> <p>Students should recognize that a circuit is a system with many parts.</p> </div>	<p>electricity current source of energy conductor insulator circuit open circuit closed circuit</p>	<p>Grade 4 (4.7) Science concepts. The student knows that matter has physical properties. The student is expected to:</p> <p>(B) conduct tests, compare data, and draw conclusions about physical properties of matter including states of matter, conduction, density, and buoyancy</p>	<p>Forde-Ferrier CVP p. 93-97 TAKS Review & Assessment p.16 AIMS Physical Science Notebook p.95-98, p.99-106</p> <p>Measuring up lesson 26 page 142</p> <p>Online Resources:</p> <ul style="list-style-type: none"> ●(5.9C) http://www.utdanacenter.org/sciencetoolkit/instruction/snapshots/5.php#b8 ●Online Activity: Building Circuits http://www.bbc.co.uk/schools/revisewise/science/physical/ <div data-bbox="1724 1016 1801 1081" style="text-align: center;">  </div> <ul style="list-style-type: none"> ●Electricity and Magnetism Static Electricity ●Electricity and Magnetism Current Electricity ●Magic of Magnets ●Hot Line: All About Electricity <div data-bbox="1829 1370 1934 1458" style="text-align: center; margin-top: 20px;">  </div>

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Third Six Weeks- Physical Science- **Week Four-** Force and Motion

Standards 	F ² Lesson	Student Concepts	Vocabulary	Prerequisites	Resources/ Materials
<p>5.5A describe some cycles, structures, and processes that are found in a simple system</p> <p>5.5B describe some interactions that occur in a simple system.</p> <p>4.6A Identify patterns of change such as in weather, metamorphosis, and objects in the sky.</p> <p>3.6A Measure and record changes in the position and direction of the motion of an object to which a force such as a push or pull is applied.</p>	<p>Force and Motion</p>	<ul style="list-style-type: none"> ▶ Gravity is a force. ▶ An object can move when a force is applied to it. ▶ Inertia keeps objects in motion or still until a force acts upon the object. ▶ Friction is how rough or smooth something is. The more friction, the harder it is to move. ▶ Newton's Laws of Motion: An object at rest stays at rest until a force acts upon it. An object in motion stays in motion until a force acts upon it. ▶ Gravity on the Moon is 1/6 the force of gravity on Earth. 	<p>force motion friction gravity inertia push pull pulley wedge fulcrum</p>	<p>Grade 4 (4.5) Science concepts. The student knows that complex systems may not work if some parts are removed. The student is expected to:</p> <p>(A) identify and describe the roles of some organisms in living systems such as plants in a schoolyard, and parts in nonliving systems such as a light bulb in a circuit; and</p> <p>(B) predict and draw conclusions about what happens when part of a system is removed.</p>	<p>Forde-Ferrier CVP p. 69-73 TAKS Review & Assessment p.12 AIMS Physical Science Notebook</p> <p>Online resources: Interactive Forces Game http://www.bbc.co.uk/schools/scienceclips/ages/10_11/forces_action.shtml</p> 

Students must recognize that change does not happen by itself. Some type of force must be present to cause change. For example, when a force is applied to a guitar string, the resulting vibration produces sound.




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Fourth Six Weeks- Earth Science- Week One - Weather and Climate

Standards 	F ² Lesson	Student Concepts	Vocabulary	Prerequisites	Resources/ Materials
<p>(5.6) Science concepts. The student knows that some change occurs in cycles. The student is expected to:</p> <p>(A) identify events and describe changes that occur on a regular basis such as in daily, weekly, lunar, and seasonal cycles.</p>	<p>Weather and Climate</p>	<p>► Weather (Climate) is different in different places on the Earth. It is warmer near the equator. It is colder near the North and South Poles. It rains more near oceans and mountains</p>	<p>climate precipitation weather weather map barometer nimbus cloud front air mass air pressure</p>	<p>Grade 4 (4.6) Science concepts. The student knows that change can create recognizable patterns. The student is expected to:</p> <p>(A) identify patterns of change such as in weather, metamorphosis, and objects in the sky</p> <p>Grade 2 (2.7) Science concepts. The student knows that many types of change occur. The student is expected to:</p> <p>(D) observe, measure, and record changes in weather, the night sky, and seasons.</p> <p>Grade 1 (1.7) Science concepts. The student knows that many types of change occur. The student is expected to:</p> <p>(C) observe and record changes in weather from day to day and over seasons;</p>	<p>Internet Resources www.uen.org/3-6interactives/science.shtml</p> <ul style="list-style-type: none"> •Interactive Weather Maker •Weather Flash <div data-bbox="1572 558 1923 997" style="border: 1px solid blue; padding: 5px;"> <p>DanaCenter Snapshot (5.6A) Assign student groups an area of the United States. Have them research the climate for that area (temperature, rainfall, etc.) for the past five years and create a chart to organize data and record trends.</p> </div> <div data-bbox="1703 1078 1797 1162" style="text-align: center;">  </div>

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Fourth Six Weeks- Earth Science- **Week Two** - Water cycle

Standards 	F ² Lesson	Student Concepts	Vocabulary	Prerequisites	Resources/ Materials
<p>5.6B Identify the significance of the water, carbon, and nitrogen cycles.</p> <div data-bbox="163 573 493 1015" style="border: 1px solid blue; padding: 5px; margin-top: 10px;"> <p>DanaCenter Snapshot (5.6B)</p> <p>Research the water, carbon, and nitrogen cycles. Identify how these cycles effect life on Earth. Create visual products for a presentation.</p> </div>	<p>The Water Cycle</p>	<ul style="list-style-type: none"> ▶ The water cycle has 4 main parts: Evaporation, Condensation, Precipitation, and Accumulation. ▶ The nitrogen cycle helps break down dead organisms and return nitrogen to the atmosphere. 	<p>water cycle evaporation condensation precipitation transpiration accumulation</p>	<p>Grade 3 and 4 does not touch this concept.</p> <p>Grade 2 (2.10) Science concepts. The student knows that the natural world includes rocks, soil, water, and gases of the atmosphere. The student is expected to:</p> <p>(A) describe and illustrate the water cycle</p>	<p>AIMS Earth Science Notebook Choose from the following: p. 149, 151, 156, 161, 167, 173, 188</p> <p>Step Up To TAKS p. 116, 117, 118</p>  <p>Video Streaming The Role of Abiotic Factors</p> <p>Online resources:</p> <ul style="list-style-type: none"> ●Who Wants to be a Millionaire in Earth Science? Game http://www.quia.com/rr/26427.html ●Online Graphic: Water Cycle http://ga.water.usgs.gov/edu/watercyclehi.html ●Interactive water cycle www.uen.org/3-6interactives/science.shtml 

Standards	F ² Lesson	Student Concepts	Vocabulary	Prerequisites	Resources/ Materials
<p>5.12A Interpret how land forms are the result of a combination of constructive and destructive forces such as deposition of sediment and weathering.</p> <p>5.11A Identify and observe actions that require time for change to be measurable, including growth, erosion, dissolving, weathering, and flow</p> <p>4.11B Summarize the effects of the oceans on land</p> <div data-bbox="170 784 485 938" style="border: 1px solid black; background-color: #ffffcc; padding: 5px; margin: 5px 0;"> <p>Examples of the "flow" mention in 5.11A might include materials such as mud, lava, ice or water.</p> </div> <div data-bbox="170 963 615 1182" style="border: 1px solid black; background-color: #e6f2ff; padding: 5px; margin: 5px 0;"> <p>Dana Center Snapshot: (5.11A) Devise a method for dripping water on a model of a mountain made from sugar cubes. Observe how the mountain dissolves over a period of time.</p> </div> <div data-bbox="170 1206 615 1458" style="border: 1px solid black; background-color: #e6f2ff; padding: 5px; margin: 5px 0;"> <p>Dana Center Snapshot: (5.12A) Observe erosion and how it forms rivers, tributaries, cliffs, deltas, etc. Create a model with water, a garden sprinkling can, and a tilted pan of sand and gravel.</p> </div>	<p>Landforms, Weathering, and Erosion</p>	<ul style="list-style-type: none"> ▶ The land is made up of many landforms such as mountains, canyons, valleys, volcanoes, and plains. ▶ Glaciers are large chunks of ice that move slowly across the land and can form valleys and lakes. ▶ Weathering is when rock and dirt is broken down into smaller pieces of rock by wind, water and plants. ▶ Erosion occurs after weathering when the small pieces of rock or sediments and dirt move to a new place. ▶ Deposition occurs when the pieces of rock and dirt are left in a new place after erosion. ▶ Canyons are formed when rivers weather away the land over thousands of years. ▶ Mountains are formed when the tectonic plates of land crash together or split apart. ▶ Volcanoes are formed when magma (melted/molten rock) pushes through the surface of the Earth. ▶ Earthquakes can change the surface of the Earth. ▶ Landforms are the results of a combination of constructive and destructive forces. ▶ Oceans weather away the land and form beaches. ▶ The rock cycle includes ign 	<p>weathering erosion deposition landform glacier fault earthquake volcano magma lava sediments tectonic plates constructive destructive igneous rock sedimentary rock metamorphic rock</p> <div data-bbox="1083 922 1572 1141" style="border: 1px solid black; background-color: #ffffcc; padding: 5px; margin: 5px 0;"> <p>▶ Use blocks of wood or clay to demonstrate the plate movements. Have students say "plates move toward each other," "plates move from each other," or "plates move past each other," as you show each type of movement.</p> </div>	<p>Grade 4 (4.10) Science concepts. The student knows that certain past events affect present and future events. The student is expected to:</p> <p>(A) identify and observe effects of events that require time for changes to be noticeable including growth, erosion, dissolving, weathering, and flow</p>	<p>AIMS Earth Science Notebook Choose from the following: p. 233, 194, 202, 211, 264, 236, 244, 257, 268, 276 Step Up To TAKS p. 108, 129 Measuring Up Page 175 - 178 Science Detective Page 74-77</p> <div data-bbox="1583 565 1629 602" style="text-align: center;">  </div> <p>Video Streaming</p> <ul style="list-style-type: none"> ●Cosmic Collisions ●Why Land Goes Up & Down ●Our Changing Earth ●Volcanoes, Mountains of Fire ●Why Mountains are so High <p>Online resources: (5.11A,B) http://www.utdanacenter.org/sciencetoolkit/instruction/snapshots/5.php#b8 ●Discover How Rocks Are Formed - Animations http://www.fi.edu/fellows/payton/rocks/create/index.html</p> <div data-bbox="1703 1344 1808 1442" style="text-align: center;">  </div>




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Fourth Six Weeks- Earth Science- **Week Four**- Learning about Earth's Past

Standards	F ² Lesson	Student Concepts	Vocabulary	Prerequisites	Resources/ Materials
<p>(5.11) Science concepts. The student knows that certain past events affect present and future events. The student is expected to:</p> <p>(A) identify and observe actions that require time for changes to be measurable, including growth, erosion, dissolving, weathering, and flow;</p> <p>(B) draw conclusions about "what happened before" using data such as from tree-growth rings and sedimentary rock sequences</p>	<p>Learning about Earth 's Past</p>	<p>► The rock cycle includes igneous, sedimentary and metamorphic rocks.</p>	<p>Sedimentary rock Igneous rock Metamorphic rock fossils layers surface</p>	<p>Grade 4 (4.10) Science concepts. The student knows that certain past events affect present and future events. The student is expected to:</p> <p>(A) identify and observe effects of events that require time for changes to be noticeable including growth, erosion, dissolving, weathering, and flow; and</p> <p>(B) draw conclusions about "what happened before" using fossils or charts and tables</p>	<p>Online resources:</p> <p>► http://www.classzone.com/books/earth_science/terc/content/investigations/es0602/es0602page02.cfm</p> <p>► http://www.classzone.com/books/earth_science/terc/content/investigations/es0602/es0602page03.cfm</p> <p>► http://www.windows.ucar.edu/tour/link=/earth/geology/rocks_intro.html</p> <p>► http://www.learner.org/interactives/rockcycle/</p> <p>► http://www.beyondbooks.com/ear82/7.asp</p> <div style="text-align: center;">  </div>


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Fourth Six Weeks- Earth Science- **Week Five-** Earth's Resources

Standards 	F ² Lesson	Student Concepts	Vocabulary	Prerequisites	Resources/ Materials
<p>5.11C Identify past events that led to the formation of the Earth's renewable, nonrenewable, and inexhaustible resources.</p> <p>5.11B Draw conclusions about "what happened before" using data such as from tree-growth rings and sedimentary rock sequences.</p> <p>4.11A Test properties of soils including texture, capacity to retain water, and ability to support life.</p> <div data-bbox="159 967 468 1455" style="border: 1px solid black; background-color: #ffffcc; padding: 5px;"> <p>Students must be familiar with renewable, nonrenewable, and inexhaustible resources, Lumber, a type of renewable resource, can be replaced in a relatively short period of time. Resources that can form or accumulate over a long time span, such as fossil fuels, are considered nonrenewable. Solar energy, which is so vast that it cannot be used up by human activity, is</p> </div>	<p>The Earth's Resources</p>	<ul style="list-style-type: none"> ▶ Soil is dirt. It helps plants grow. Some soils are better than others. Clay and sand are not good soils. Humus and Loam are good soils. ▶ Soils have textures (how they feel based on the size of the particles of dirt). ▶ Renewable resources are plants, trees, water, soil, oxygen, & carbon dioxide. ▶ Nonrenewable resources are fossil fuels (natural gas, oil, & coal) ▶ Inexhaustible resources are wind and solar energy. ▶ Tree rings can give information about the past (ex. a drought) as well as the age of the tree. ▶ The thickness of the tree ring can tell about the amount of water and the growth of the tree. ▶ The thicker the ring the more water and the more growth the tree has experienced. 	<p>natural resources fuels nonrenewable resources renewable resources inexhaustible resources fossil fuels humus loam soil</p>	<p>Grade 3 (3.11) Science concepts. The student knows that the natural world includes earth materials and objects in the sky. The student is expected to: (A) identify and describe the importance of earth materials including rocks, soil, water, and gases of the atmosphere in the local area and classify them as renewable, nonrenewable, or inexhaustible resources;</p> <p>Grade 4 (4.10) Science concepts. The student knows that certain past events affect present and future events. The student is expected to: (B) draw conclusions about "what happened before" using fossils or charts and tables</p>	<p>AIMS Earth Science Notebook Choose from the following: 5.11B p. 10, 16, 24, 32, 45 5.11C p. 286, 299, 305, 306, 312</p> <p>Step Up To TAKS 5.11B p.112, 113 5.11C p. 114, 127, 128 4.11A p. 119, 120</p> <p>Video Streaming  ●Water Quality (4.11A)</p> <p>Online resources: ●Fossil Fuels: Play and Learn http://www.ecokids.ca/pub/eco_info/topics/energy/ecostats/index.cfm</p> <div data-bbox="1703 987 1787 1062" style="text-align: center;">  </div> <div data-bbox="1581 1094 1929 1450" style="border: 1px solid black; background-color: #ffffcc; padding: 5px;"> <p>Students will identify and describe properties of earth materials such as soil, rocks, water, and atmospheric gases. Items in the test will be based on classroom, laboratory, and field experiences that allow students to investigate and test properties of earth materials.</p> </div>



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Fourth Six Weeks- Earth Science- **Week Six** - Soil and the Nitrogen cycle

Standards	F ² Lesson	Student Concepts	Vocabulary	Prerequisites	Resources/ Materials
<p>5.6B Identify the significance of the water, carbon, and nitrogen cycles.</p>	<p>Soil and the Nitrogen Cycle</p>	<p>► Soil is dirt. It helps plants grow. Some soils are better than others. Clay and sand are not good soils. Humus and Loam are good soils.</p> <p>► Soils have textures (how they feel based on the size of the particles of dirt).</p>	<p>soil humus loam nitrogen cycle decomposes</p>	<p>Nitrogen cycles is a new concept to Grade 5</p>	<p>Internet Resources</p> <ul style="list-style-type: none"> ► http://www.windows.ucar.edu/tour/link=/earth/Life/nitrogen_cycle.html ► http://library.thinkquest.org/11353/nitrogen.htm ► http://www.enviroliteracy.org/article.php/479.html <div style="border: 1px solid blue; padding: 5px; margin-top: 10px;"> <p>Dana Center Snapshot: (5.6B)</p> <p>Research the water, carbon, and nitrogen cycles. Identify how these cycles affect life on Earth. Create visual products for a presentation.</p> </div> <div align="center" style="margin-top: 10px;">  </div>

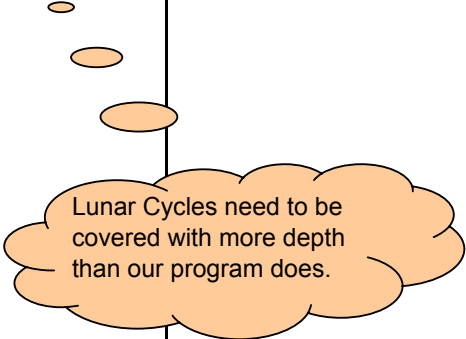
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Fourth Six Weeks- Earth Science- **Week Seven** - The Solar System and Objects in the sky

Standards 	F ² Lesson	Student Concepts	Vocabulary	Prerequisites	Resources/ Materials
<p>4.6A Identify patterns of change such as in weather, metamorphosis, and objects in the sky.</p> <div data-bbox="157 868 466 1112" style="border: 1px solid black; background-color: yellow; padding: 5px; margin-top: 10px;"> <p>"Objects in the sky" listed in 4.6A are defined as celestial bodies, such as planets, comets, and stars, or as weather phenomena, such as clouds or lightning.</p> </div>	<p>The Solar System and Objects in the Sky</p>	<ul style="list-style-type: none"> ▶ The eight planets in order from the closest to the sun are: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, & Neptune ▶ Weather (climate) is different in different places on the Earth. It is warmer near the equator. It is colder near the North and South Poles. It rains more near oceans and mountains. <div data-bbox="718 885 1005 1047" style="border: 1px solid black; background-color: yellow; padding: 5px; margin-top: 10px;"> <p>Remember that Pluto is now classified as a dwarf planet.</p> </div>	<p>planets celestial bodies stars Solar System</p>		<p>AIMS</p> 

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Fifth Six Weeks- Earth Science- Week One - Characteristics of the Sun


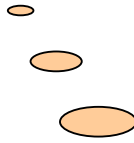
Standards	F ² Lesson	Student Concepts	Vocabulary	Prerequisites	Resources/ Materials
<p>4.11C Identify the Sun as the major source of energy for the Earth and understand its role in the growth of plants, in the creation of winds, and in the water cycle.</p> <p>3.11C Describe the characteristics of the Sun.</p> <p>4.6A Identify patterns of change such as in weather, metamorphosis, and objects in the sky.</p>	<p>Characteristics of the Sun</p>	<p>► The Sun is the major source of energy of the Earth. The Sun's energy is called solar energy.</p> <p>► The Sun has a Corona, (the light around it) and sunspots (cool areas on the Sun that look darker). Solar flare (an eruption of flame)</p> <p>► The Sun is made up of only hot gases.</p> <p>► The eight planets in order from the closest to the sun are: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, & Neptune</p> <p>► Weather (climate) is different in different places on the Earth. It is warmer near the equator. It is colder near the North and South Poles. It rains more near oceans and mountains.</p>	<p>source sunspot solar flare corona solar energy wind tilt revolve</p>  <p>Lunar Cycles need to be covered with more depth than our program does.</p>	<p>Notice that this TEKS are not from 5th Grade. We are doing a full review of Grade 4 and 3.</p>	<p>AIMS Earth Science Notebook Choose from the following: p. 72, 67, 167 Step Up To TAKS p. 122, 123, 124, 126 Video Streaming</p> <ul style="list-style-type: none"> •Water: A User's Cycle •What Is a Water Shed? •Water, Water Everywhere? <p>Online resources:</p> <ul style="list-style-type: none"> •The Earth's Tilt and Seasons Millionaire Game http://www.quia.com/rr/37247.html

Moon Phases Theater:
Students act as the earth and walk around a lighted lamp bulb (the sun) holding a tennis ball (the moon) They say the phases, move to the phases, and write the phases in their Interactive Notebooks.

► Write the words rotation and revolution on the board. Have students demonstrate the meaning of rotation by turning around. Have two students demonstrate revolution by one moving or 'revolving' around the other

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Fifth Six Weeks- Earth Science- **Week Two**- Characteristics of the Earth and Moon

Standards 	F ² Lesson	Student Concepts	Vocabulary	Prerequisites	Resources/ Materials
<p>5.12C Identify the physical characteristics of the Earth and compare them to the physical characteristics of the moon.</p> <p>5.6A Identify events and describe changes that occur on a regular basis such as in daily, weekly, lunar, and seasonal cycles.</p> <div data-bbox="170 899 510 1289" style="border: 1px solid blue; padding: 5px; margin-top: 10px;"> <p>Dana Center Snapshot: (5.12C) Create model of the Earth and moon to compare physical characteristics of the two objects. Create a Venn diagram to compare the Earth and the moon.</p> </div>	<p>Characteristics of the Earth and the Moon</p>	<ul style="list-style-type: none"> ▶ The Earth and Moon are alike because they are both spheres and are made up of rock and dirt. ▶ The Earth has water, living things, and an atmosphere. The Moon does not. ▶ The Earth revolves around the Sun. The Moon revolves around the Earth. ▶ The Earth has more gravity than the Moon. The Earth is larger than the Moon. ▶ Objects weight less on the moon than the Earth because the moon has less gravitational pull. ▶ The Earth is warmer than the moon. The light of the moon is the reflection of the Sun. ▶ The moon has 4 main phases: which begin with new moon, first quarter, a full moon, a third (last) quarter, then a new moon again. ▶ The lunar cycle (the 4 phases) takes 28 days (about a month). ▶ The oceans rise and fall (tides) due to the gravity of the moon (a force). ▶ The tides rise and fall twice daily 	<p>Lithosphere Atmosphere Hydrosphere Axis Rotation Orbit Tide Lunar eclipse Solar eclipse</p>  <div data-bbox="1060 829 1522 1003" style="border: 1px solid orange; border-radius: 50%; padding: 10px; margin-top: 10px; background-color: #fde9d9;"> <p>Lunar Cycles need to be covered with more depth than our program does.</p> </div> <div data-bbox="1052 1089 1346 1469" style="border: 1px solid yellow; padding: 5px; margin-top: 10px; background-color: #ffffcc;"> <p>Moon Phases Theater: Students act as the earth and walk around a lighted lamp bulb (the sun) holding a tennis ball (the moon) They say the phases, move to the phases, and write the phases in their Interactive Notebooks.</p> </div>	<p>Grade 4 (4.6) Science concepts. The student knows that change can create recognizable patterns. The student is expected to:</p> <p>(A) identify patterns of change such as in weather, metamorphosis, and objects in the sky</p> <p>NOTE: New to 5th grade is the comparson of physical characteristics between the Moon and Earth.</p> <div data-bbox="1442 1252 1904 1482" style="border: 1px solid yellow; padding: 5px; margin-top: 10px; background-color: #ffffcc;"> <p>▶ Write the words rotation and revolution on the board. Have students demonstrate the meaning of rotation by turning around. Have two students demonstrate revolution by one moving or 'revolving' around the other</p> </div>	<p>AIMS Earth Science Notebook Choose from the following: p. 125,131 Step Up To TAKS p. 109 Measuring Up Page 188-191</p> <p>Video Streaming</p> <ul style="list-style-type: none"> ●Tides ● Moon Dance ●There's No Place Like Earth ● What's Inside the Earth <p>Online resources:</p> <ul style="list-style-type: none"> ●Moon Phases - Animation http://www.harcourtschool.com/activity/moon_phases/ ●Solar Images http://umbra.nascom.nasa.gov/sdac.html ●Tides Animation http://www.sfgate.com/getoutside/1996/jun/tides.html