
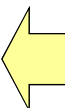



Kindergarten Science Scope and Sequence Overview 2009-2010 80% Hands-on!				
	1st 9wks Aug 24- Oct 23	2nd 9wks Oct 26 - Jan 15	3rd 9weeks Jan 18 - March 26 EXPO K-2	4th 9 weeks March 29 - June 4
Week One	★ Safety (K.1B) Show Safety PowerPoint Aug 24-28	Matter Investigation: Heating & Cooling (K.2; K.5B) Oct 26-30	Earth & Space: Rock & Soil Investigation (K.7AC) Jan 18-22	Organisms & Environments: Parts of an Animal Investigation (K.10B) March 29- April 2
Week Two	★ Introduction to Safety Equipment (K.1AB) Aug 31 - Sept 4	Force, Motion, & Energy Investigation: Light,Heat, & Sound Energy (K.6A) Nov 2-13	Earth & Space: Water Investigation (K.7BC) Jan 25-29	Organisms & Environments: Sorting Animals Investigation (K.10A) Apr 5-9
Week Three	★ Scientific Method (K.2) Sept 7-11		Earth & Space: Objects in the Sky Investigation (K.8C) Feb 1-12	Organisms & Environments: Sorting Plants Investigation (K.10A) Apr 12-16
Week Four	★ Scientific Investigation and Reasoning (K.2) Sept 14-18	Force, Motion, & Energy Investigation: Magnets (K.6B) Nov 16-20		Conserve/Reuse/Recycle Earth Day Activities (K.1C, K.3A) Apr 19-23
Week Five	★ Pattern Investigations Seasons:Fall Equinox (K.4; K.8AB) Sept 21-25	Force, Motion, & Energy Investigation: Movement and Location (K.6CD) Nov 30-Dec 11	EXPO PREPARATION Week 1 (K.2A-E) Feb 15-19	Organisms & Environments: Parts of a Plant Investigation (K.10B) April 26-30 Science TAKS 5th
Week Six	Matter Investigation: Bigger & Smaller (K.2; K.5A) Sept 28-Oct 2		EXPO PREPARATION Week 2 (K.2A-E) Feb 22-26	Organisms & Environments: Plant Life Cycle Investigation (K.10CD) May 3-14
Week Seven	Matter Investigation: Heavier & Lighter (K.2; K.5A) Oct 5-9	★ Pattern Investigations Seasons:Winter Solstice (K.4; K.8AB) December 14-18	EXPO WEEK Week 3 (K.2A-E) March 1-5	
Week Eight	Hands On District Assessment Oct 12-16	Hands On District Assessment Jan 4-8	★ Pattern Investigations Seasons:Spring Equinox (K.4; K.8AB) March 8-12 Hands on District Assessment	Hands On District Assessment May 17-21
Week Nine	Matter Investigation: Texture, Color, & Shape (K.2; K.5A) Oct. 19-23	Earth & Space: Rock & Soil Investigation (K.7AC) Jan 11-15	Organisms & Environments: Living & Nonliving Investigation and Basic Needs (K.9AB) Mar 22-26	★ Pattern Investigations Seasons:Summer Solstice (K.4; K.8AB) May 24-June 4
	Recurring Themes: Patterns, Cycles, Systems, Models, Change and Constancy			
★	Ongoing TEKS: Scientific Investigation and Reasoning (K.1, K.2, K.3, K.4) Day-to-day weather changes (K.8AB)			



2009- 2010 Clint ISD Instructional Planning Guide - Kindergarten- GO GREEN! 80% Investigations

First Nine Weeks (39 days of instruction) -Week 1-(August 24-28) Safety

New Standards	Old Standard	Skills/ Concepts	Prerequisite	Vocabulary	Resources/ Materials
<p>(K. 1) Scientific investigation and reasoning. The student for at least 80% of instructional time, conducts classroom and outdoor investigations following home and school safety procedures and uses environmentally appropriate and responsible practices. The student is expected to:</p> <p><u>(B) Discuss the importance of safe practices to keep self and others safe and healthy.</u></p> <p>(C) demonstrate how to use, conserve, and dispose of natural resources and materials such as conserving water and reusing or recycling of paper, plastic, and metal.</p>	<p>(K. 1) Student participates in classroom and field investigations following home and school safety procedures. The student is expected to:</p> <p>B. Learn how to use and conserve resources and materials.</p> <p>(K-2) Student develops abilities necessary to do scientific inquiry in the field and in the classroom.</p> <p>A. Ask questions about organisms, objects, and events.</p> <p>B. Plan and conduct simple descriptive investigations.</p> <p>C. Gather information using simple equipment and tools to extend the senses.</p> <p>D. Construct reasonable explanations using information.</p> <p>E. Communicate findings about simple investigations.</p> <p>▶</p> <p>▶</p>	<p>▶ repeated investigations may increase the reliability of results.</p> <div data-bbox="871 552 1039 641" style="border: 1px solid black; padding: 5px; display: inline-block;"> <p>Emphasis on Scientific Process and Making</p>  </div> <div data-bbox="861 755 1071 917" style="border: 1px solid black; padding: 5px; display: inline-block;"> <p>Scientific processes should be taught and reinforced throughout the curriculum instead of as an isolated unit.</p>  </div>	<p>Grade 1:</p> <p>1.1B recognize the importance of safe practices to keep self and others safe and healthy</p> <p>Pre-Kinder Guidelines:</p> <p>VI. D.1 Child practices good habits of personal safety.</p> <p>VI. D. 2 Child practices good habits of personal health and hygiene.</p> <div data-bbox="1123 941 1291 1177" style="border: 1px solid blue; padding: 5px; display: inline-block;">  <p>Draw pictures, in Interactive Journals , of the students that are using safe procedures.</p> </div>	<p>safety healthy poison dangerous investigations discuss</p>	<p>Internet Resources</p> <p>Video streaming www.education.com "teach density with kitchen science"</p> <p>Literature Connection: <u>Don't Be Hasty With Science Safety!</u> By: Bridget Pederson</p>


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First Nine Weeks - **Week Two**-(August 31-September 4) Safety Equipment

New Standards	Old Standard	Skills/ Concepts	Prerequisite	Vocabulary	Resources/ Materials
<p>(K. 1) Scientific investigation and reasoning. The student conducts classroom and outdoor investigations following home and school safety procedures and uses environmentally appropriate and responsible practices.</p> <p>The student is expected to:</p> <p>(A) identify and demonstrate safe practices as described in the Texas Safety Standards during classroom and outdoor investigations, including wearing safety goggles, washing hands, and using materials appropriately;</p> <p>(B) discuss the importance of safe practices to keep self and others safe and healthy</p>	<p>(K.1) Scientific processes. The student participates in 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>▶ Repeated investigations may increase the reliability of results</p> <p>▶ Tools can be used to observe and record changes in materials.</p>	<p>Grade 1:</p> <p>(1.1) Scientific investigation and reasoning. The student conducts classroom and outdoor investigations following home and school safety procedures and uses environmentally appropriate and responsible practices.</p> <p>The student is expected to:</p> <p>(A) recognize and demonstrate safe practices as described in the Texas Safety Standards during classroom and outdoor investigations, including wearing safety goggles, washing hands, and using materials appropriately;</p> <p>(B) recognize the importance of safe practices to keep self and others safe and healthy</p> <p>Pre-Kinder Guidelines:</p> <p>VI. D1 Child practices good habits of personal safety.</p> <p>VI. D2 Child practices good habits of personal health and hygiene.</p> <p>VI. D. 3 Child identifies good habits of nutrition and exercise.</p>	<p>demonstrate goggles materials investigation safety healthy poison dangerous</p>	<p>Internet Resources</p> <p>PBS kids.org </p> <p>Sid the Science Kid www.education.com</p> <p>Literature Connection: <u>Hands</u> By: Lois Ehler</p> <div data-bbox="1528 787 1717 971" style="border: 1px solid blue; padding: 5px; text-align: center;">  Draw 4 Safety tools that are used during an experiment </div>



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First Nine Weeks - Week Three -(September 7-11) Scientific Method

New Standards	Old Standard	Skills/ Concepts	Prerequisite	Vocabulary	Resources/ Materials
<p>(K. 2) Scientific investigation and reasoning. The student develops abilities to ask questions and seek answers in classroom and outdoor investigations. The student is expected to:</p> <p>(A) ask questions about organisms, objects, and events observed in the natural world;</p> <p>(B) plan and conduct simple descriptive investigations such as ways objects move;</p> <p>(C) collect data and make observations using simple equipment such as hand lenses, primary balances, and non-standard measurement tools;</p> <p>(D) record and organize data and observations using pictures, numbers, and words; and</p> <p>(E) communicate observations with others about simple descriptive investigations.</p>	<p>(K.2) Scientific processes. The student develops abilities necessary to do scientific inquiry in the field and the classroom. The student is expected to:</p> <p>(A) ask questions about organisms, objects, and events;</p> <p>(B) plan and conduct simple descriptive investigations;</p> <p>(C) gather information using simple equipment and tools to extend the senses;</p> <p>(D) construct reasonable explanations using information; and</p> <p>(E) communicate findings about simple investigations.</p>	<p>▶ Many types of change can occur</p> <p>▶ Repeated investigations may increase the reliability of results</p> <p>▶ Tools can be used to observe and record changes in materials.</p> <div style="text-align: center;">  <p>Students can draw the steps of their investigation. in their Interactive Journals.</p> </div>	<p>Grade 1: (1.2) Scientific investigation and reasoning. The student develops abilities to ask questions and seek answers in classroom and outdoor investigations. The student is expected to:</p> <p>(A) ask questions about organisms, objects, and events observed in the natural world;</p> <p>(B) plan and conduct simple descriptive investigations such as ways objects move;</p> <p>(C) collect data and make observations using simple equipment such as hand lenses, primary balances, and non-standard measurement tools;</p> <p>(D) record and organize data using pictures, numbers, and words; and 4</p> <p>Pre-Kinder Guidelines:</p> <p>V1. A1 Child describes, observes, and investigates properties and characteristics of common objects.</p> <p>V1. A2 Child investigates and describes position and motion of objects.</p> <p>V1. A3 Child uses simple measuring devices to learn about objects.</p> <p>V1. A4 Child investigates and describes sources of energy including light, heat, and electricity.</p> <p>V1. B1 Child identifies and describes the characteristics of organisms.</p> <p>V1. B2 Child describes life cycles of organisms.</p> <p>V1. B3 Child recognizes, observes, and discusses the relationship of organisms to their environments.</p> <p>V1. C1 Child identifies, compares, discusses earth materials, and their properties and uses.</p> <p>V1. C2 Child identifies, observes, and discusses objects in the sky.</p> <p>V1. C3 Child observes and describes what happens during changes in the earth and sky.</p>	<p>investigations reasoning questioning organisms observe hand lens balances non-standard tools collect data record describe</p>	<p>Internet Resources PBS kids.org Sid the Science Kid</p> <p>Science Experiments:</p> <p>▶ http://www.freesciencefairproject.com/index.html</p> <p>▶ http://www.all-science-fair-projects.com/category0.html</p> <p>▶ http://sciencefairproject.virtualave.net</p> <p>Literature Connection: <u>How to think like a Scientist</u> By: Stephen Kramer</p>



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First Nine Weeks - Week Four-(September 14-18) Scientific Reasoning

New Standards	Standard	Skills/ Concepts	Prerequisite	Vocabulary	Resources/ Materials
<p>(K. 2) Scientific investigation and reasoning. The student develops abilities to ask questions and seek answers in classroom and outdoor investigations.</p> <p>The student is expected to: (A) ask questions about organisms, objects, and events observed in the natural world</p>	<p>(K.2) Scientific processes. The student develops abilities necessary to do scientific inquiry in the field and the classroom. The student is expected to: (A) ask questions about organisms, objects, and events;</p>	<ul style="list-style-type: none"> ▶ Scientific Investigation and Reasoning ▶ Living Organisms grow and use energy from food. ▶ Repeated investigations may increase the reliability of results. 	<p>Grade 1: (1.2) Scientific investigation and reasoning. The student develops abilities to ask questions and seek answers in classroom and outdoor investigations. The student is expected to: (A) ask questions about organisms, objects, and events observed in the natural world; (B) plan and conduct simple descriptive investigations such as ways objects move; (C) collect data and make observations using simple equipment such as hand lenses, primary balances, and non-standard measurement tools; (D) record and organize data using pictures, numbers, and words; and (E) communicate observations and provide reasons for explanations using student-generated data from simple descriptive investigations. Pre-Kinder Guidelines: V1. A3 Child uses simple measuring devices to learn about objects. V1. B3 Child recognizes, observes, and discusses the relationship of organisms to their environments. V1. C1 Child identifies, compares, discusses earth materials, and their properties and uses. V1. C2 Child identifies, observes, and discusses objects in the sky.</p>	<p>collect data lenses balances measuring tools investigations organisms plan conduct record organize</p>	<p>Internet Resources </p> <p>Literature Connection: How to Think Like a Scientist By: Stephen Kramer</p> <div style="text-align: center; margin-top: 100px;">  <div style="border: 1px solid black; background-color: #ADD8E6; padding: 5px; width: fit-content; margin: 0 auto;"> Students can draw what they investigated into their Interactive Journals. </div> </div>


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First Nine Weeks - **Week Five** - (September 21-25) Fall Equinox

New Standards	Standard	Skills/ Concepts	Prerequisite	Vocabulary	Resources/ Materials
<p>Fall Equinox</p>  <p>(K.3) Scientific investigation and reasoning. The student knows that information and critical thinking are used in scientific problem solving. The student is expected to: (B) make predictions based on observable patterns in nature such as the shapes of leaves</p> <p>(K. 4) Scientific investigation and reasoning. The student uses age-appropriate tools and models to investigate the natural world. The student is expected to: (A) collect information using tools, including [cameras,] computers , [,] hand lenses , [,] primary balances, cups, bowls, magnets, collecting nets, and notebooks; timing devices, including clocks and timers; non-standard measuring items such as paper clips and clothespins; weather instruments such as demonstration thermometers and wind socks; [primary balances; cups; bowls; timing devices, including clocks and timers; magnets; collecting nets; notebooks;] and materials to support observations of habitats of organisms such as terrariums and aquariums; and (B) use senses as a tool of observation to identify properties and patterns of organisms, objects, and events in the environment.</p> <p>(K. 8) Earth and space. The student knows that there are recognizable patterns in the natural world and among objects in the sky. The student is expected to: (A) observe and describe weather changes from day to day and over seasons (B) identify events that have repeating patterns, including seasons of the year and day and night</p>	<p>(K.4) Scientific processes. The student uses age-appropriate tools and models to verify that organisms and objects can be observed, described, and measured. The student is expected to: (A) identify and use senses as tools of observation; and (B) make observations using tools including hand lenses, balances, cups, bowls, and computers.</p> <p>(K.5) Science concepts. The student knows that organisms, objects, and events have properties and patterns. The student is expected to: (B) observe and identify patterns including seasons, growth, and day and night and predict what happens next; and (C) recognize and copy patterns seen in charts and graphs.</p>	<p>► Many types of changes occur.</p> <div data-bbox="898 695 1033 776" style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p>Ideas: -Compare Leaves -Sort the leaves</p> </div> <div data-bbox="865 831 1050 974" style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p>This TEK will be ongoing all year. Teacher continuously needs to give students opportunity to talk and record the changes in weather and seasons.</p> </div> <div data-bbox="877 1036 1066 1230" style="border: 1px solid black; padding: 5px; margin: 10px 0;">  <p>Draw a Picture of an activity in the fall: what it looks like outside.</p> </div>	<p>Grade 1: (1.4) Scientific investigation and reasoning. The student uses age-appropriate tools and models to investigate the natural world. The student is expected to: (A) collect, record, and compare information using tools, including [cameras,] computers , [,] hand lenses , primary balances, cups, bowls, magnets, collecting nets, notebooks, and safety goggles; timing devices, including clocks and timers ; non-standard measuring items such as paper clips and clothespins; weather instruments [tools] such as classroom demonstration thermometers and wind socks; and [weather vanes; primary balances; cups; bowls; timing devices, including clocks and timers; magnets; collecting nets; notebooks;] materials to support observations of habitats of organisms such as aquariums and terrariums; and [safety goggles; and] (B) measure and compare organisms and objects using non-standard units.</p> <p>(1.8) Earth and space. The student knows that the natural world includes the air around us and objects in the sky. The student is expected to: (A) record weather information, including relative temperature, such as hot or cold, clear or cloudy, calm or windy, and rainy or icy; (B) observe and record changes in the appearance of objects in the sky such as clouds, the Moon, and stars, including the Sun; (C) identify characteristics of the seasons of the year and day and night</p> <p>Pre-Kinder Guidelines: V1. A1 Child describes, observes, and investigates properties and characteristics of common objects. V1. A3 Child uses simple measuring devices to learn about objects. V1. B1 Child identifies and describes the characteristics of organisms. V1. C2 Child identifies, observes, and discusses objects in the sky. V1. C3 Child observes and describes what happens during changes in the earth and sky.</p>	<p>changes weather Fall Autumn migration forecast temperature precipitation cloud coverage patterns</p>	<p>Internet Resources</p> <ul style="list-style-type: none"> ► U.S. Forecast: http://www.cnn.com/WEATHER/ vExtreme Weather Events: http://www.extremescience.com/weatherport.htm ► Meteorology Guide: http://ww2010.atmos.uiuc.edu/(Gh)/guides/mtr/home.rxml http://www.elnino.noaa.gov/ ► Internet 4Classrooms: <ol style="list-style-type: none"> 1. Seasons- story power point 2. Seasonal Changes leon plans ► http://www.teacherplante.com/resources/autumn.php ► http://casnov1.cas.muohio.edu/sciencefor/ohio/sfoMain/sitemap.html ► www.weatherbug.com <p>Literature Connection: Sunshine Makes the Seasons By: Franklyn Branley Fall Changes By: Ellen Senisi When Autumn Comes By: Robert Maass Why do Leaves Change Color By: Betsy Maestro Weather Words and What They Mean By: Gibbons What will the weather Be By: Lynda DeWitt What will the weather be like today By: Paul Rogers The apple nie tree By: Zoe Hall Leaf man By: Lois Ehlert What Makes Day & Night By: Franky Branley Red Leaf, Yellow Leaf By: Lois Ehlert Fall By: Nuria Roca Silly, Lilly and the Four Seasons By: Agnes Rosentstichl</p>


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First Nine Weeks - Week Six -(September 28-October 2) Bigger and Smaller

New Standards	Old Standard	Skills/ Concepts	Prerequisite	Vocabulary	Resources/ Materials
<p>(K. 2) Scientific investigation and reasoning. The student develops abilities to ask questions and seek answers in classroom and outdoor investigations. The student is expected to: (A) ask questions about organisms, objects, and events observed in the natural world; (B) plan and conduct simple descriptive investigations such as ways objects move; (C) collect data and make observations using simple equipment such as hand lenses, primary balances, and non-standard measurement tools; (D) record and organize data and observations using pictures, numbers, and words; and (E) communicate observations with others about simple descriptive investigations.</p> <p>(K. 5) Matter and energy. The student knows that objects have properties and patterns. The student is expected to: (A) observe and record properties of objects, including relative size and mass, such as bigger or smaller and heavier or lighter, shape, color, and texture</p>	<p>(K.2) Scientific processes. The student develops abilities necessary to do scientific inquiry in the field and the classroom. The student is expected to: (A) ask questions about organisms, objects, and events; (B) plan and conduct simple descriptive investigations; (C) gather information using simple equipment and tools to extend the senses; (D) construct reasonable explanations using information; (E) communicate findings about simple investigations.</p> <p>(K. 7) Science concepts. The student knows that many types of change occur. The student is expected to: (A) observe, describe, and record changes in size, mass, color, position, quantity, time, temperature, sound, and movement;</p>	<p>▶ Matter Investigation: Bigger vs. Smaller</p> <p>▶ Many types of changes occur.</p> <p>▶ Changes in he properties of matter can be observed using the five senses in this case sight and touch.</p> <p>▶ Tools can be used to observe and record changes in materials</p>	<p>Grade 1:</p> <p>1.2 Scientific investigation and reasoning. The student develops abilities to ask questions and seek answers in classroom and outdoor investigations. The student is expected to: (A) ask questions about organisms, objects, and events observed in the natural world; (B) plan and conduct simple descriptive investigations such as ways objects move; (C) collect data and make observations using simple equipment such as hand lenses, primary balances, and non-standard measurement tools; (D) record and organize data using pictures, numbers, and words; and (E) communicate observations and provide reasons for explanations using student-generated data from simple descriptive investigations.</p> <p>1.5 Matter and energy. The student knows that objects have properties and patterns. The student is expected to: (A) classify objects by observable properties of the materials from which they are made such as larger and smaller, heavier and lighter, shape, color, and texture</p> <p>Pre-Kiner Guidelines:</p> <p>V1. A1 Child describes, observes, and investigates properties and characteristics of common objects. V1. A3 Child uses simple measuring devices to learn about objects. V1. B1 Child identifies and describes the characteristics of organisms. V1. C1 Child identifies, compares, discusses earth materials, and their properties and uses. V1. C2 Child identifies, observes, and discusses objects in the sky. V1. C3 Child observes and describes what happens during changes in the earth and sky.</p>	<p>bigger smaller heavier lighter shape texture size mass record observe</p>	<p>Internet Resources</p> <p>▶ www.stevespanglerscience.com/experiment</p> <p>Literature Connection: <u>Big and Small</u> By: David Bedford</p> <div data-bbox="1541 850 1719 1008" style="border: 1px solid blue; padding: 5px; text-align: center;">  Students can draw something big and something small. </div>

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First Nine Weeks - **Week Seven** -(October 5-9) Heavier/Lighter

New Standards	Standard	Skills/ Concepts	Prerequisite	Vocabulary	Resources/ Materials
<p>(K. 2) Scientific investigation and reasoning. The student develops abilities to ask questions and seek answers in classroom and outdoor investigations. The student is expected to:</p> <p>(A) ask questions about organisms, objects, and events observed in the natural world;</p> <p>(B) plan and conduct simple descriptive investigations such as ways objects move;</p> <p>(C) collect data and make observations using simple equipment such as hand lenses, primary balances, and non-standard measurement tools;</p> <p>(D) record and organize data and observations using pictures, numbers, and words; and</p> <p>(E) communicate observations with others about simple descriptive investigations.</p> <p>(K. 5) Matter and energy. The student knows that objects have properties and patterns. The student is expected to:</p> <p>(A) observe and record properties of objects, including relative size and mass, such as bigger or smaller and heavier or lighter, shape, color, and texture</p>	<p>(K.2) Scientific processes. The student develops abilities necessary to do scientific inquiry in the field and the classroom. The student is expected to:</p> <p>(A) ask questions about organisms, objects, and events;</p> <p>(B) plan and conduct simple descriptive investigations;</p> <p>(C) gather information using simple equipment and tools to extend the senses;</p> <p>(D) construct reasonable explanations using information;</p> <p>(E) communicate findings about simple investigations.</p> <p>(K. 7) Science concepts. The student knows that many types of change occur. The student is expected to:</p> <p>(A) observe, describe, and record changes in size, mass, color, position, quantity, time, temperature, sound, and movement;</p>	<p>▶ Matter Investigation: Heavy vs. Light</p> <p>▶ Many types of changes occur.</p> <p>▶ Changes in he properties of matter can be observed using the five senses in this case sight and touch.</p> <p>▶ Tools can be used to observe and record changes in materials</p>	<p>Grade 1:</p> <p>(1.2) Scientific investigation and reasoning. The student develops abilities to ask questions and seek answers in classroom and outdoor investigations. The student is expected to:</p> <p>(A) ask questions about organisms, objects, and events observed in the natural world;</p> <p>(B) plan and conduct simple descriptive investigations such as ways objects move;</p> <p>(C) collect data and make observations using simple equipment such as hand lenses, primary balances, and non-standard measurement tools;</p> <p>(D) record and organize data using pictures, numbers, and words; and</p> <p>(E) communicate observations and provide reasons for explanations using student-generated data from simple descriptive investigations.</p> <p>(1.5) Matter and energy. The student knows that objects have properties and patterns. The student is expected to:</p> <p>(A) classify objects by observable properties of the materials from which they are made such as larger and smaller, heavier and lighter, shape, color, and texture</p> <p>Pre-Kinder Guidelines :</p> <p>V1. A1 Child describes, observes, and investigates properties and characteristics of common objects.</p> <p>V1. A3 Child uses simple measuring devices to learn about objects.</p> <p>V1. A4 Child investigates and describes sources of energy including light, heat, and electricity.</p> <p>V1. C1 Child identifies, compares, discusses earth materials, and their properties and uses.</p> <p>V1. C2 Child identifies, observes, and discusses objects in the sky.</p> <p>V1. C3 Child observes and describes what happens during changes in the earth and sky.</p>	<p>bigger smaller heavier lighter shape texture size mass collect data record organize organisms</p>	<p>Internet Resources</p> <p>▶ www.stevespanglerscience.com/experiment</p> <p>Literature Connection: Heavy and Light: Learning to Compare Weights of Objects</p> <p>How do You Lift a Lion By: Robert Wells</p> <div style="text-align: center;">  <p>Students can draw pictures of objects that are heavy and light.</p> </div>

New Standards	Standard	Skills/ Concepts	Prerequisite	Vocabulary	Resources/ Materials
<p>Assessment #1</p> <p>This year kindergarten students will be tested every 9 weeks using a project format evaluation. See instructions and rubric for experiment: Can you make a square bubble? Ask Science Leader for information.</p>					

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First Nine Weeks - **Week Nine** -(October 19-23) Color, shape and texture

New Standards	Standard	Skills/ Concepts	Prerequisite	Vocabulary	Resources/ Materials
<p>(K. 2) Scientific investigation and reasoning. The student develops abilities to ask questions and seek answers in classroom and outdoor investigations. The student is expected to:</p> <p>(A) ask questions about organisms, objects, and events observed in the natural world;</p> <p>(B) plan and conduct simple descriptive investigations such as ways objects move;</p> <p>(C) collect data and make observations using simple equipment such as hand lenses, primary balances, and non-standard measurement tools;</p> <p>(D) record and organize data and observations using pictures, numbers, and words; and</p> <p>(E) communicate observations with others about simple descriptive investigations.</p> <p>(K. 5) Matter and energy. The student knows that objects have properties and patterns. The student is expected to:</p> <p>(A) observe and record properties of objects, including relative size and mass, such as bigger or smaller and heavier or lighter, shape, color, and texture</p>	<p>K.2) Scientific processes. The student develops abilities necessary to do scientific inquiry in the field and the classroom. The student is expected to:</p> <p>(A) ask questions about organisms, objects, and events;</p> <p>(B) plan and conduct simple descriptive investigations;</p> <p>(C) gather information using simple equipment and tools to extend the senses;</p> <p>(D) construct reasonable explanations using information;</p> <p>(E) communicate findings about simple investigations.</p> <p>(K. 7) Science concepts. The student knows that many types of change occur. The student is expected to:</p> <p>(A) observe, describe, and record changes in size, mass, color, position, quantity, time, temperature, sound, and movement;</p>	<p>▶ Matter Investigation: Texture, color and shape</p> <p>▶ Many types of changes occur.</p> <p>▶ Changes in he properties of maeer can be observed using the five senses in this case sight and touch.</p> <p>▶ Tools can be used to observe and record changes in materials</p> <div style="text-align: center;">  <p>Students can cut and paste different textures, colors, and shapes and label them.</p> </div>	<p>Grade 1:</p> <p>(1.2) Scientific investigation and reasoning. The student develops abilities to ask questions and seek answers in classroom and outdoor investigations. The student is expected to:</p> <p>(A) ask questions about organisms, objects, and events observed in the natural world;</p> <p>(B) plan and conduct simple descriptive investigations such as ways objects move;</p> <p>(C) collect data and make observations using simple equipment such as hand lenses, primary balances, and non-standard measurement tools;</p> <p>(D) record and organize data using pictures, numbers, and words; and</p> <p>(E) communicate observations and provide reasons for explanations using student-generated data from simple descriptive investigations.</p> <p>(1.5) Matter and energy. The student knows that objects have properties and patterns. The student is expected to:</p> <p>(A) classify objects by observable properties of the materials from which they are made such as larger and smaller, heavier and lighter, shape, color, and texture</p> <p>Pre-Kinder Guidelines:</p> <p>V1. A1 Child describes, observes, and investigates properties and characteristics of common objects.</p> <p>V1. A3 Child uses simple measuring devices to learn about objects.</p> <p>V1. B1 Child identifies and describes the characteristics of organisms.</p> <p>V1. C1 Child identifies, compares, discusses earth materials, and their properties and uses.</p> <p>V1. C3 Child observes and describes what happens during changes in the earth and sky.</p>	<p>bigger smaller heavier lighter shape texture size mass</p>	<p>Internet Resources</p> <p>PbsKids.org Sid the science kid -Texture song -Texture investigation</p> <p>education.com -color science for kinder</p> <p>Literature Connection: Fuzzy Yellow Ducklings</p> <p>Fun with textures, Colors, and Shapes By: Matthew Van Fleet</p> <p>The Shape of Me and other Stuff by: Dr. Seuss</p> <p>Shapes, shapes, shapes by: Tana Hoban</p> <p>Little Blue, Little Yellow By: Leo Lionni</p> <p>Seven Blind Mice By: Ed Young</p> <p>Is it Rough, Is it Smooth, Is it Shiny By: Hoban</p>

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Second Nine Weeks (45 days of instruction) -Week 1- Oct 26-30 - Heating and Cooling

New Standards	Old Standard	Skills/ Concepts	Prerequisite	Vocabulary	Resources/ Materials
<p>(K.5) Matter and energy. The student knows that objects have properties and patterns. The student is expected to:</p> <p>(B) observe, record, and discuss how materials can be changed by heating or cooling.</p> <p>(K. 2) Scientific investigation and reasoning. The student develops abilities to ask questions and seek answers in classroom and outdoor investigations. The student is expected to:</p> <p>(A) ask questions about organisms, objects, and events observed in the natural world;</p> <p>(B) plan and conduct simple descriptive investigations such as ways objects move;</p> <p>(C) collect data and make observations using simple equipment such as hand lenses, primary balances, and non-standard measurement tools;</p> <p>(D) record and organize data and observations using pictures, numbers, and words; and</p> <p>(E) communicate observations with others about simple descriptive investigations.</p>	<p>(K.7) The student knows that many types of changes occur. The student is expected to:</p> <p>B. Identify that heat causes change, such as ice melting or the Sun warming the air and compare objects according to temperature</p> <p>(K.7) The student knows that many types of changes occur. The student is expected to:</p> <p>A. Observe, describe, and record changes in size, mass, color, position, quantity, time, temperature, sound, and movement</p>	<p>► Many types of changes occur.</p> <p>► Heat can melt solid ice and cause it to change to liquid water.</p> <p>► Heat is released when two things are rubbed together.</p> <p>► Fire, electrical appliances, and the Sun make heat.</p> <p>► Warm colors absorb more heat than cool colors.</p>	<p>Hot Spots: Have children find pictures of objects that give off heat. Have children choose a picture and tell how the object makes heat. For example: This is a candle. If you light it, it will give off heat. If desired, have children organize the pictures they find into a collage of heat sources.</p> <p>Hot Stuff Game: To play this game, have children name things that can make heat. For each object they correctly name, award one point. List the responses and tally the points on the board or on chart paper. If children can name ten objects, tell them they are "Hot Stuff".</p>	<p>heating cooling change temperature thermometer</p>	<p>Internet resources: PBS Kids.org Sid the Science Kid -Change caused by heat -Change caused by cold</p> <p>Literature: <u>Heating</u> by Patricia Whitehouse</p>
		<p>Dana Center Snapshot: Observe cookie dough balls before and after they are heated and identify changes.</p>	<p>What Things Make Heat? > Make mittens from aluminum foil and black construction paper per student. >Take children outside to stand in the Sun, or use incandescent lamps. >Direct children to place their hands in direct sunlight for 5 minutes. Have children discuss what they are feeling as the time passes. Children may say that the hand covered with foil is cooler than the hand covered with black construction paper. >Lead children to say that the foil reflected the light but that the black paper absorbed light and warmed their hands.</p>		<p>Guiding Questions: Why is it important to turn off electrical appliances when you have finished using them? When do we use heat? What objects are warm and give off heat? How is heat from burning wood different from heat that comes from a candle? Which color absorbs/reflects heat?</p>

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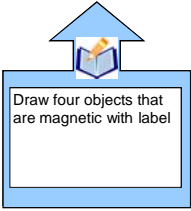
Second Nine Weeks (45 days of instruction) -Week Two and Three - Nov. 2 - 13 - Light, Heat, & Sound Energy

New Standards	Old Standard	Skills/ Concepts	Prerequisite	Vocabulary	Resources/ Materials
<p>(K.6) Force, motion and energy. The student knows that energy, force and motion are related and are a part of their everyday life. The student is expected to:</p> <p>(A) use the five senses to explore different forms of energy, such as light, heat, and sound;</p>	<p>(K. 7) Science concepts. The student knows that many types of change occur. The student is expected to:</p> <p>(A) observe, describe, and record changes in size, mass, color, position, quantity, time, temperature, sound, and movement;</p>	<p>► Many types of changes occur.</p> <p>► Changes in the properties of matter can be observed using the five senses in this case sight and touch.</p> <p>► Tools can be used to observe and record changes in materials</p> <p>► Vibrations make sounds. Sound waves can be felt.</p> <p>► When the vibration stops, the sound stops.</p> <p>► Warm colors absorb more heat than cool colors</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>>Students demonstrate ability to compare and identify loud and soft sounds.</p> <p>>Students demonstrate an understanding of hot and cold.</p> <p>>Discuss how the volume of sound is relative to the sounds being compared. For example, the honking of a car horn is loud when compared to the meowing of a cat, but would be soft when compared to a jet's roar.</p> </div>	<p>Pre-Kinder Guidelines VI.A.4. Child investigates and describes sources of energy including light, heat, and electricity.</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>>Invite children to pantomime what it would be like to touch something hot and something cold.</p> <p>>students to talk about their favorite hot and cold foods. Poll the class to determine the results.</p> <p>>Have students hold pairs of objects of differing weights. Say, "light" or "heavy," and have children demonstrate their understanding of the term by holding out the correct object.</p> </div>	<p>heat light sound pitch high low vibration</p>	<p>Internet resources:</p> <ul style="list-style-type: none"> ► www.sscience.com ► www.kidzone.org ► www.tryscience.com <p>Literature connection: <u>Primarily Physics:</u> Investigation in Sound light and Heat for K-3 by Evalyn Hoover</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>Guiding Questions: What sounds are louder or softer than your voice? What things are warmer or colder than your body? What objects are heavier or lighter than you? How are country sounds different from city sounds?</p> </div>

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Second Nine Weeks (45 days of instruction) - **Week Four** - Nov. 16-20 - Magnets

New Standards	Old Standard	Skills/ Concepts	Prerequisite	Vocabulary	Resources/ Materials
<p>(K.6) Force, motion and energy. The student knows that energy, force and motion are related and are a part of their everyday life. The student is expected to:</p> <p>(B) explore interactions between magnets and various materials;</p>	<p>New TEKS</p>	<p>► matter has physical properties. ► Matter can be described by properties such as hardness, color, smell, shape, density, magnetism, or melting point ► Metal objects made of iron, nickel, cobalt, and steel are attracted to magnets, and nonmetals are not magnetic</p>	<p>Pre-Kindergarten Guidelines VI. A. 1 Child describes, observes, and investigates properties and characteristics of common objects.</p> <p>Child will</p> <ul style="list-style-type: none"> • describes and compares the effects magnets have on other objects (attract to some things but not to others). 	<p>magnets magnetic nonmagnetic</p>	<p>Internet Resources:</p> <ul style="list-style-type: none"> ► www.uen.org/3-6interactives/science.shtml • Magnets in my kitchen • Electromagnet Activity ► http://internet4classrooms.com/science_elem_magnets.htm • Elementary Science topics: magnets ► www.srsd119.ca/os/elecandmag.html <p>Books:</p> <p>Teacher Resource Book: <u>Magnets and Electricity grades 2-5 Super Science Activities</u> by Teacher Created Resources TRC-3664</p> <p>Teacher Resource Book: <u>Science experiments for Young Learners</u> by Evan Moor - 2000</p> <p>Magnet Magic pages 76-77</p> <p>Metals Aren't All the same pages 78-79</p> <p>Strong Magnets pages 80-81</p> <p>The Force Moves Through pages 82-83</p> <p>Will It Attract or Repel pages 84-85</p> <p><u>What is a magnet?</u> by Franklyn Branley</p>





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First Nine Weeks - Week Five and Six - Nov 30 - Dec 11 - Movement and Location

New Standards	Standard	Skills/ Concepts	Prerequisite	Vocabulary	Resources/ Materials
<p>(K.6) Force, motion and energy. The student knows that energy, force and motion are related and are a part of their everyday life. The student is expected to:</p> <p>(C) observe and describe the <u>location</u> of an object in relation to another such as above, below, behind, in front of, and beside; and</p> <p>(D) observe and describe the ways that objects can <u>move</u> such as, in a straight line, zigzag, up and down, back and forth, round and round, fast and slow.</p>	<p>(K. 7) Science concepts. The student knows that many types of change occur. The student is expected to:</p> <p>(A) observe, describe, and record changes in size, mass, color, position, quantity, time, temperature, sound, and movement;</p>	<p>► Many types of changes occur.</p> <p>► Changes in the properties of matter can be observed using the five senses</p> <p>► Changes in matter can be observed using the five senses to determine differences in movement, position and time</p> <p>► Some objects roll, slide, or fly when they are pushed</p> <p>► The motion of an object can be changed by a push or pull.</p> <p>► The harder the push or pull, the further the object moves.</p> <p>► Tools can be used to observe and record changes in materials</p>	<p>VI. A. 2 Child investigates and describes position and motion of objects.</p> <div style="text-align: center;">  <p>Students can draw what they investigated into their Interactive Journals.</p> </div>	<p>above below behind in front beside position straight line zig zag up down back and forth round and round fast slow movement</p>	<p>Internet Resources:</p> <p>► Changing Places http://www.utdanacenter.org/science/toolkit/instruction/snapshots/k.php#k7</p> <p>► www.k.12.dc.us/dcps/standards/grade-level/kindergarten/ws-science-k-ads.pdf</p> <p>Literature Connection: <i>Forces makes things move</i> by Kimberly B Bradley</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>>Display cards with labels such as: up, down, fast, slow, straight, zigzag, push and pull. Read the labels aloud and have children act out the motion. Extend the activity by asking students to name the objects that move each way.</p> <p>>Take children outside to play shadow tag. The person who is "it" tries to step on the other children's shadows. When the game is over, discuss with children how they kept their shadow from being stepped on. When did their shadow move? Did it disappear?</p> </div>

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Second Nine Weeks - **Week Seven** - (December 14-18) Winter Solstice

New Standards	Standard	Skills/ Concepts	Prerequisite	Vocabulary	Resources/ Materials
<p>Winter Solstice</p>  <p>(K.3) Scientific investigation and reasoning. The student knows that information and critical thinking are used in scientific problem solving. The student is expected to: (B) make predictions based on observable patterns in nature such as the shapes of leaves</p> <p>(K. 4) Scientific investigation and reasoning. The student uses age-appropriate tools and models to investigate the natural world. The student is expected to: (A) collect information using tools, including [cameras;] computers , [;] hand lenses , [;] primary balances, cups, bowls, magnets, collecting nets, and notebooks; timing devices, including clocks and timers; non-standard measuring items such as paper clips and clothespins; weather instruments such as demonstration thermometers and wind socks; [primary balances; cups; bowls; timing devices, including clocks and timers; magnets; collecting nets; notebooks;] and materials to support observations of habitats of organisms such as terrariums and aquariums; and (B) use senses as a tool of observation to identify properties and patterns of organisms, objects, and events in the environment.</p> <p>(K. 8) Earth and space. The student knows that there are recognizable patterns in the natural world and among objects in the sky. The student is expected to: (A) observe and describe weather changes from day to day and over seasons (B) identify events that have repeating patterns, including seasons of the year and day and night</p>	<p>(K.4) Scientific processes. The student uses age-appropriate tools and models to verify that organisms and objects and parts of organisms and objects can be observed, described, and measured. The student is expected to: (A) identify and use senses as tools of observation; and (B) make observations using tools including hand lenses, balances, cups, bowls, and computers.</p> <p>(K.5) Science concepts. The student knows that organisms, objects, and events have properties and patterns. The student is expected to: (B) observe and identify patterns including seasons, growth, and day and night and predict what happens next; and (C) recognize and copy patterns seen in charts and graphs.</p>	<p>This TEK will be ongoing all year. Teacher continuously needs to give students opportunity to talk and record the changes in weather and seasons.</p>  <p>Draw a Picture of an activity in the winter: what it looks like outside.</p>	<p>Grade 1: (1.4) Scientific investigation and reasoning. The student uses age-appropriate tools and models to investigate the natural world. The student is expected to: (A) collect, record, and compare information using tools, including [cameras;] computers , [;] hand lenses , primary balances, cups, bowls, magnets, collecting nets, notebooks, and safety goggles; timing devices, including clocks and timers ; non-standard measuring items such as paper clips and clothespins; weather instruments [tools] such as classroom demonstration thermometers and wind socks; and [weather vanes; primary balances; cups; bowls; timing devices, including clocks and timers; magnets; collecting nets; notebooks;] materials to support observations of habitats of organisms such as aquariums and terrariums; and [safety goggles; and] (B) measure and compare organisms and objects using non-standard units. (1.8) Earth and space. The student knows that the natural world includes the air around us and objects in the sky. The student is expected to: (A) record weather information, including relative temperature, such as hot or cold, clear or cloudy, calm or windy, and rainy or icy; (B) observe and record changes in the appearance of objects in the sky such as clouds, the Moon, and stars, including the Sun; (C) identify characteristics of the seasons of the year and day and night Pre-Kinder Guidelines: V1. A1 Child describes, observes, and investigates properties and characteristics of common objects. V1. A3 Child uses simple measuring devices to learn about objects. V1. B1 Child identifies and describes the characteristics of organisms. V1. C2 Child identifies, observes, and discusses objects in the sky. V1. C3 Child observes and describes what happens during changes in the earth and sky.</p>	<p>changes weather Winter snow sleet forecast temperature precipitation cloud coverage patterns ski hibernate dormancy</p>	<p>Internet Resources</p> <ul style="list-style-type: none"> ► U.S. Forecast: http://www.cnn.com/WEATHER/vExtremeWeatherEvents ► Extreme Weather Events: http://www.extremescience.com/weatherport.htm ► Meteorology Guide: http://www.2010.atmos.uiuc.edu/(Gh)/guides/mtr/home.rxml ► http://www.elnino.noaa.gov/ ► Internet 4Classrooms: <ol style="list-style-type: none"> 1. Seasons- story power point 2. Seasonal Changes lecon plans ► http://www.teacherplante.com/resources/autumn.php ► http://casnov1.cas.muohio.edu/scienceforohio/sfoMain/sitemap.html ► www.weatherbug.com <p>Literature Connection: Snowballs by Louis Ehler Animals in winter by Henrietta Bancroft Winter by Nuria Roca The First Day of Winter by Denise Fleming In the Snow: Who's Been Here by Lindsay Barrett George Elmer In the Snow by David McKee Froggy Gets Dressed by Jonathan London The Mitten by Eric Carle A Winter Day by Douglas Florian A Busy Year by Leo Lionni</p>


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Second Nine Weeks - **Week Eight** -(January 4-8) Assessment

New Standards	Old Standard	Skills/ Concepts	Prerequisite	Vocabulary	Resources/ Materials
<p>Assessment #2</p> <p>This year kindergarten students will be tested every 9 weeks using a project format evaluation. See instructions and rubric for experiment: Magnets. Ask Science Leader for information.</p>					


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Second Nine Weeks - Week Nine - (Jan 11 - 15) Rock and Soil Investigation

New Standards	Standard	Skills/ Concepts	Prerequisite	Vocabulary	Resources/ Materials
<p>(K.7) Earth and space. The student knows that the natural world includes earth materials. The student is expected to:</p> <p>(A) observe, describe, compare, and sort rocks by size, shape, color, and texture;</p> <p>(C) give examples of ways rocks, soil, and water are useful.</p> <div data-bbox="386 870 611 1045" style="border: 1px solid blue; padding: 5px; margin-top: 20px;"> <p>Dana Center Snapshot: Have students brainstorm uses of water at home and school. Create a classroom list of those ideas.</p> </div>	<p>(K.10) The student knows that the natural world includes rocks, soil, and water.</p> <p>B. Give examples of ways that rocks, soil, and water are useful.</p>	<p>► Natural world includes rocks, soil, and water.</p> <ul style="list-style-type: none"> ► Living things need water to live ► Plants need soil to grow ► Animals get water from Earth to live. <div data-bbox="856 841 1052 1042" style="border: 1px solid blue; padding: 5px; margin-top: 20px; text-align: center;">  <p>Sort rocks by size, shape, texture, color and draw diagrams with many details.</p> </div>	<p>Earth and Space Skills VI.C.1.</p> <p>Child identifies, compares, discusses earth materials, and their properties and uses.</p> <div data-bbox="1104 915 1478 1146" style="border: 1px solid black; padding: 5px; margin-top: 20px; background-color: #ffffcc;"> <p>> Have pair of students look through discarded magazines for pictures that show how people use Earth materials. > Remind students of the importance of saving Earth's materials. Then have children sit in a circle. Invite volunteer to stand in the center of the circle and act out a way of saving an Earth material. > Children measure the amount of paper used in the classroom and think of ways to save paper.</p> </div>	<p>Earth hill land mountain plain conserve forest energy gas electricity</p>	<p>Literature connection: <u>Rocks and Soil: Gems, Metals and Minerals</u> by Sally Hewitt</p> <p><u>Rocks and Soil</u> by Jen Green</p> <p><u>Rocks</u> by Robin Nelson</p>

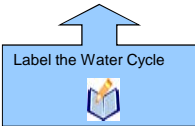
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Third Nine Weeks (38 days of instruction) -Week 1- Jan 19 - 22 - Rock and Soil Investigation

New Standards	Old Standard	Skills/ Concepts	Prerequisite	Vocabulary	Resources/ Materials
<p>(K.7)Earth and space. The student knows that the natural world includes earth materials. The student is expected to:</p> <p>(A) observe, describe, compare, and sort rocks by size, shape, color, and texture;</p> <p>(C) give examples of ways rocks, soil, and water are useful.</p> <div data-bbox="384 784 590 951" style="border: 1px solid blue; padding: 5px; margin-top: 10px;"> <p>Dana Center Snapshot: Observe rocks, soil, and water in separate containers and describe how they look and feel.</p> </div>	<p>(K.10) The student knows that the natural world includes rocks, soil, and water.</p> <p>A. Observe and describe properties of rocks, soil, and water</p> <p>B. Give examples of ways that rocks, soil, and water are useful.</p>	<p>► Natural world includes rocks, soil, and water.</p> <p>► Rocks and soil are solid materials that make up the Earth.</p> <p>► Plants need soil to grow</p> <div data-bbox="835 800 1209 889" style="border: 1px solid green; padding: 5px; margin-top: 10px;"> <p>Connection with K.5A Read the book <i>Everybody Needs a Rock</i> by Byrd Baylor (1985) and have students describe properties of the objects in the book.</p> </div> <div data-bbox="835 922 1209 1149" style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>> Have pair of students look through discarded magazines for pictures that show how people use Earth materials. > Remind students of the importance of saving Earth's materials. Then have children sit in a circle. Invite volunteer to stand in the center of the circle and act out a way of saving an Earth material. > Children measure the amount of paper used in the classroom and think of ways to save paper.</p> </div>	<p>1st Grade:</p> <p>1.10B Observe and describe differences in rocks and soil sample</p> <p>1.10C Identify how rocks, soil, and water are used and how they can be recycled.</p>	<p>observe describe compare sort size shpae color texture useful examples soil rocks</p>	<p>Internet Resources: http://www.saltthesandbox.org/rocks/index.htm</p> <p>PBSKids.org (SID the science Kid)</p> <p>Literature Connection: <i>If you Find a Rock</i> by Peggy Christians <u>Experiments with rocks and minerals</u> by Salvatorie Toeci <u>Earth Book for Kids</u> by Linda Schwartz</p> <div data-bbox="1654 849 1726 914" style="text-align: right;">  </div> <div data-bbox="1392 914 1713 1149" style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>> Children hunt for rocks at home or during recess. Brainstorm categories for sorting rocks. (smooth or rough) > Use an old toothbrush to scrub rocks. Use a paper clip to scratch the surface. Observe rocks with hand lens. > Make a picture dictionary of terms for Earth's water: lake, ocean, pond, river. Have students gather pictures of these words and have them glue it into the correct page in the book.</p> </div>

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Third Nine Weeks (38 days of instruction) -Week 2- Jan 25- 29 - Water Investigation

New Standards	Old Standard	Skills/ Concepts	Prerequisite	Vocabulary	Resources/ Materials
<p>(K.7) Earth and space. The student knows that the natural world includes earth materials. The student is expected to:</p> <p>(B) observe and describe physical properties of natural sources of water including color and clarity;</p> <p>(C) give examples of ways rocks, soil, and water are useful.</p> <div data-bbox="386 899 596 1065" style="border: 1px solid black; padding: 5px; margin-top: 20px;"> <p>Dana Center Snapshot: Have students brainstorm uses of water at home and school. Create a classroom list of those ideas.</p> </div>	<p>(K.10) The student knows that the natural world includes rocks, soil, and water.</p> <p>A. Observe and describe properties of rocks, soil, and water</p> <p>B. Give examples of ways that rocks, soil, and water are useful.</p>	<p>► Natural world includes rocks, soil, and water.</p> <p>► Water is a liquid at temperatures above freezing.</p> <p>► Water vapor is a gas, water at room temperature is a liquid, frozen water is ice.</p> <p>► Earth has more water than land area.</p> <p>► There are two types of water on Earth: salt water and fresh water.</p> <p>► Living things need water to live</p> <p>► Animals get water from Earth to live.</p>	<p>Grade 1 1.10A Identify and describe a variety of natural sources of water including streams, lakes, and oceans.</p>	<p>properties color clarity useful</p>	<p>Internet resources PBSKids.org/SidtheScienceKid</p> <p>Literature Connection A River Runs Wild by Lynne Cherry The Snow Flake a Watercycle Story by Neil Walmen The Water Cycle by Helen Frost The Water Cycle by Rebecca oleen</p> <div data-bbox="1520 862 1713 987" style="text-align: center; margin-top: 20px;">  <p>Label the Water Cycle</p> </div>


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Third Nine Weeks (38 days of instruction) -Week 3 and 4- Feb 1-12- Objects in the Sky Investigation

New Standards	Old Standard	Skills/ Concepts	Prerequisite	Vocabulary	Resources/ Materials
<p>(K.8) Earth and space. The student knows that there are recognizable patterns in the natural world and among objects in the sky. The student is expected to:</p> <p>(C) observe, describe, and illustrate objects in the sky such as the clouds, moon, and stars, including the Sun.</p>	<p>New to Grade Level</p>	<p>► Many types of changes occur.</p> <p>► Objects in the night sky have patterns of change, such as the moon's cycle</p> <p>► The moon has different phases such as new moon, first quarter, full moon, third quarter.</p> <p>► The lunar cycle takes about 28 days (about a month)</p>	<p>Grade 1 (1. 7) Science concepts. The student knows that many types of change occur. The student is expected to: (C) observe and record changes in weather from day to day and over seasons</p> <p>Grade 3 (3.6) Science concepts. The student knows that forces cause change. The student is expected to: (B) identify that the surface of the Earth can be changed by forces such as earthquakes and glaciers.</p>	<p>sky clouds moon star: Sun illustrates observe describe</p>	<p>Internet Activities:</p> <ul style="list-style-type: none"> ► www.weatherbug.com ► http://tycho.usno.navy.mil/vphase.html ► http://aa.usno.navy.mil/faq/docs/moon-phases.phs ► AIMS 2nd grade Earth Science: "Look at the Moon" page 41-63 ► AIMS song: "When the moon is in the sky" page 62-63 <p>Videostreaming</p> <ul style="list-style-type: none"> ► Phases of the Moon (2min. 30 sec Grade 2-8) ► Closer look at the moon, A space science series (20 min grades 2-5) ► Moon Man (8min 54sec Grade k-2, integrated with language Arts) <div style="border: 1px solid black; background-color: yellow; padding: 5px; margin-top: 10px;"> <p>Illustrate and record changes in the night sky for a 30 day period.</p> </div>



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Third Nine Weeks (38 days of instruction) -Week 5,6,and 7- Feb 15-March 5- EXPO Weeks

New Standards	Standard	Skills/ Concepts	Prerequisite	Vocabulary	Resources/ Materials
<p>(K.2) Scientific investigation and reasoning. The student develops abilities to ask questions and seek answers in classroom and outdoor investigations. The student is expected to:</p> <p>(A) ask questions about organisms, objects, and events observed in the natural world;</p> <p>(B) plan and conduct simple descriptive investigations such as ways objects move;</p> <p>(C) collect data and make observations using simple equipment such as hand lenses, primary balances, and nonstandard measurement tools;</p> <p>(D) record and organize data and observations using pictures, numbers, and words; and</p> <p>(E) communicate observations with others about simple descriptive investigations.</p>	<p>(K.1) Student participates in classroom and field investigations following home and school safety procedures.</p> <p>(K.2) The student develops abilities necessary to do scientific inquiry in the field and the classroom.</p> <p>A. Ask questions about organisms, objects, and events.</p> <p>B. Plan and conduct simple descriptive investigations.</p> <p>C. Gather information using simple equipment and tools to extend the senses.</p> <p>D. Construct reasonable explanations using information.</p> <p>E. Communicate findings about simple investigations.</p> <p>(K.3) The student knows that information and critical thinking are used in making decisions.</p> <p>A. Make decisions using information.</p> <p>B. Discuss and justify the merits of decisions.</p> <p>C. Explain a problem in his/her own words and propose a solution.</p> <p>(K.4) The student uses age-appropriate tools and models to verify that organism and objects and parts of organisms and objects can be observed, described, and measured.</p>	<p>▶repeated investigations may increase the reliability of results.</p> <div data-bbox="863 581 1052 737" style="border: 1px solid gray; padding: 5px; margin: 10px 0;"> <p>Emphasis on Scientific Process and Making Decisions.</p> </div> <div data-bbox="892 837 1031 1010" style="border: 1px solid yellow; padding: 5px; margin: 10px 0;"> <p>Scientific processes should be taught and reinforced throughout the curriculum instead of as an isolated unit.</p> </div>	<p>Grade 1: (1.2) Scientific investigation and reasoning. The student develops abilities to ask questions and seek answers in classroom and outdoor investigations. The student is expected to:</p> <p>(A) ask questions about organisms, objects, and events observed in the natural world;</p> <p>(B) plan and conduct simple descriptive investigations such as ways objects move;</p> <p>(C) collect data and make observations using simple equipment such as hand lenses, primary balances, and non-standard measurement tools;</p> <p>(D) record and organize data using pictures, numbers, and words; and 4</p> <p>Pre-Kinder Guidelines:</p> <p>V1. A1 Child describes, observes, and investigates properties and characteristics of common objects.</p> <p>V1. A2 Child investigates and describes position and motion of objects.</p> <p>V1. A3 Child uses simple measuring devices to learn about objects.</p> <p>V1. A4 Child investigates and describes sources of energy including light, heat, and electricity.</p> <p>V1. B1 Child identifies and describes the characteristics of organisms.</p> <p>V1. B2 Child describes life cycles of organisms.</p> <p>V1. B3 Child recognizes, observes, and discusses the relationship of organisms to their environments.</p> <p>V1. C1 Child identifies, compares, discusses earth materials, and their properties and uses.</p> <p>V1. C2 Child identifies, observes, and discusses objects in the sky.</p> <p>V1. C3 Child observes and describes what happens during changes in the earth and sky.</p>	<p>observation hand lenses tools balance data organize</p>	<p>Science Fair</p> <p>▶ http://www.freesciencefairproject.com/index.html</p> <p>▶ http://www.all-science-fair-projects.com/category0.html</p> <p>▶ http://sciencefairproject.virtualave.net/</p> <div data-bbox="1507 740 1730 971" style="border: 1px solid blue; padding: 10px; text-align: center;">  <p>Students can draw what they investigated into their Interactive Journals.</p> </div>

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Third Nine Weeks (38 days of instruction) -Week 8- March 8-12- Spring Equinox

New Standards	Standard	Skills/ Concepts	Prerequisite	Vocabulary	Resources/ Materials
<p>Winter Solstice</p>  <p>(K.3) Scientific investigation and reasoning. The student knows that information and critical thinking are used in scientific problem solving. The student is expected to: (B) make predictions based on observable patterns in nature such as the shapes of leaves</p> <p>(K. 4) Scientific investigation and reasoning. The student uses age-appropriate tools and models to investigate the natural world. The student is expected to: (A) collect information using tools, including [cameras;] computers, [;] hand lenses, [;] primary balances, cups, bowls, magnets, collecting nets, and notebooks; timing devices, including clocks and timers; non-standard measuring items such as paper clips and clothespins; weather instruments such as demonstration thermometers and wind socks; [primary balances; cups; bowls; timing devices, including clocks and timers; magnets; collecting nets; notebooks;] and materials to support observations of habitats of organisms such as terrariums and aquariums; and (B) use senses as a tool of observation to identify properties and patterns of organisms, objects, and events in the environment.</p> <p>(K. 8) Earth and space. The student knows that there are recognizable patterns in the natural world and among objects in the sky. The student is expected to: (A) observe and describe weather changes from day to day and over seasons (B) identify events that have repeating patterns, including seasons of the year and day and night</p>	<p>(K.4) Scientific processes. The student uses age-appropriate tools and models to verify that organisms and objects and parts of organisms and objects can be observed, described, and measured. The student is expected to: (A) identify and use senses as tools of observation; and (B) make observations using tools including hand lenses, balances, cups, bowls, and computers.</p> <p>(K.5) Science concepts. The student knows that organisms, objects, and events have properties and patterns. The student is expected to: (B) observe and identify patterns including seasons, growth, and day and night and predict what happens next; and (C) recognize and copy patterns seen in charts and graphs.</p>	<p>► Many types of changes occur.</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p>This TEK will be ongoing all year. Teacher continuously needs to give students opportunity to talk and record the changes in weather and seasons.</p> </div> <div style="text-align: center; margin-top: 20px;">  <p>Draw an activity done outside during Spring weather .</p> </div>	<p>Grade 1: (1.4) Scientific investigation and reasoning. The student uses age-appropriate tools and models to investigate the natural world. The student is expected to: (A) collect, record, and compare information using tools, including [cameras;] computers, [;] hand lenses, primary balances, cups, bowls, magnets, collecting nets, notebooks, and safety goggles; timing devices, including clocks and timers; non-standard measuring items such as paper clips and clothespins; weather instruments [tools] such as classroom demonstration thermometers and wind socks; and [weather vanes; primary balances; cups; bowls; timing devices, including clocks and timers; magnets; collecting nets; notebooks;] materials to support observations of habitats of organisms such as aquariums and terrariums; and [safety goggles; and] (B) measure and compare organisms and objects using non-standard units. (1.8) Earth and space. The student knows that the natural world includes the air around us and objects in the sky. The student is expected to: (A) record weather information, including relative temperature, such as hot or cold, clear or cloudy, calm or windy, and rainy or icy; (B) observe and record changes in the appearance of objects in the sky such as clouds, the Moon, and stars, including the Sun, (C) identify characteristics of the seasons of the year and day and night Pre-Kindergarten Guidelines: VI. A1 Child describes, observes, and investigates properties and characteristics of common objects. VI. A3 Child uses simple measuring devices to learn about objects. VI. B1 Child identifies and describes the characteristics of organisms. VI. C2 Child identifies, observes, and discusses objects in the sky. VI. C3 Child observes and describes what happens during changes in the earth and sky.</p>	<p>changes weather spring showers cool forecast temperature precipitation cloud coverage patterns buds</p>	<p>Internet Resources</p> <p>► U.S. Forecast: http://www.cnn.com/WEATHER/vExtreme Weather Events: http://www.extremescience.com/weatherport.htm ► Meteorology Guide: http://ww2010.atmos.uiuc.edu/(Gh)/guides/mtr/home.xml http://www.elnino.noaa.gov/ ► Internet 4Classrooms: 1. Seasons- story power point 2. Seasonal Changes leeon plans ► http://www.teacherplante.com/resources/autumn.php ► http://casnov1.cas.muohio.edu/scienceforohio/sfoMain/sitemap.html ► www.weatherbug.com</p> <p>Literature Connection: <u>Waiting for Wings</u> by Eric Carle <u>The Very Quiet Cricket</u> by Eric Carle <u>Clifford the Big Red Dog: Children's Spring Clean Up</u> by Norman Birdwell <u>Wake me in Spring</u> by James Preller <u>When Spring comes</u> by Charles Philp Fox <u>Pies in the Sky</u> by Louis Ebhart <u>Down Comes the Rain</u> by Franklyn Branley <u>Flash, Crash, Rumble and Roll</u> by Franklyn Branley <u>The Wind Blew</u> by Pat Hutchins <u>Gilberto and the Wind</u> by Marie Hallets</p>

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Third Nine Weeks (38 days of instruction) - ~~Week 8~~ - March 8-12 Continuation - Assessment

New Standards	Old Standard	Skills/ Concepts	Prerequisite	Vocabulary	Resources/ Materials
<p>Assessment #3</p> <p>This year kindergarten students will be tested every 9 weeks using a project format evaluation. See instructions and rubric for experiment: Water Cycle. Ask Science Leader for information.</p>					

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Third Nine Weeks (38 days of instruction) -**Week 9**- March 22-26 Living and Nonliving Investigation

New Standards	Standard	Skills/ Concepts	Prerequisite	Vocabulary	Resources/ Materials
<p>(K.9) Organisms and environments. The student knows that plants and animals have basic needs and depend on the living and nonliving things around them for survival. The student is expected to:</p> <p>(A) differentiate between living and non living things based upon whether they, have basic needs and produce offspring; and</p> <p>(B) examine evidence that living organisms have basic needs such as food, water, and shelter for animals, and air, water, nutrients, sunlight, and space for plants;</p> <div data-bbox="380 915 617 1230" style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>Guiding Questions: What are the difference between living and non-living things? What are the characteristics of living things? What are the characteristics of non-living things? What things move and grow? How do animals get the things they need for life? Where do animals find food? What lives in a pond? What lives in a meadow? What lives in a playground?</p> </div>	<p>(K.8) The student knows the difference between living organism and nonliving objects. The student is expected to:</p> <p>A. Identify a particular organism or object as living or nonliving</p> <p>B. Group organisms and objects as living or nonliving</p> <p>(K.9) The student knows that living organisms have basic needs. The student is expected to:</p> <p>A. Identify basic needs of living organisms</p>	<p>► Difference between living organism and nonliving objects</p> <ul style="list-style-type: none"> ► Living organisms grow and use energy from food ► Non-living objects do not use energy from food, and do not grow ► Living organisms have basic needs ► Living organisms need air, water, food, light, and space to live. ► Animals obtain food from plants and other animals. ► Food is anything that a living thing takes in that gives it energy to live and grow. ► Plants and animals live in environments that meet their needs 	<div data-bbox="1100 570 1346 1060" style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>>Working in pairs, have the students compare a real potted plant and an artificial plant. >After seeing a real potted plant and an artificial plant, with the help of the students, construct a Venn diagram or Double Bubble Map. > Write Living and Nonliving on the board. Ask children to read the words aloud. Discuss how living and nonliving things are alike and different. > Have each child trace his or her hands on a large sheet of paper. Tell children to label one hand Living and the other Nonliving. Then have children draw pictures of five living things and five nonliving things on the fingers.</p> </div> <div data-bbox="1100 1076 1346 1252" style="border: 1px solid black; padding: 5px;"> <p>Dana Center Snapshot: Use two sets of round, colored stickers to represent living and nonliving organisms. While taking a nature walk, have students put the stickers on living (plants) and nonliving objects. Remember to collect stickers after activity is over.</p> </div>	<p>living non-living basic needs shelter nutrients offspring space air</p>	<p>Internet Resources:</p> <ul style="list-style-type: none"> ► www.sfsience.com ► Hey Diddle Diddle <div data-bbox="1520 581 1719 1027" style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>>Students identify a variety of living things and demonstrate an understanding of the characteristics and needs of living things. >Students identify a variety of nonliving things and are able to classify living and nonliving things. >Have students explore picture books to discover which baby animals grow up and look like their parents and which do not.</p> </div> <div data-bbox="1520 1089 1719 1182" style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>Idea for Journal: Have students draw a picture of a living thing they might have seen on the way to school.</p> </div>