
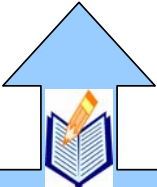


2nd Grade Science Scope and Sequence Overview 2009-2010 60% Hands-on!						
	1st 6wks Aug 24- Oct 2	2nd 6wks Oct 5 - Nov 6	3rd 6weeks Nov 9- Dec 18	4th 6 weeks Jan 5-Feb19	5th 6 weeks Feb 22 - April 16	6th 6 weeks April 19 - June 4
Week One	★ Safety Show Safety PowerPoint (2.1 ABC) Aug 24- 28	Matter and Energy: Change Physical Properties (2.5BC) Oct 5 -9	Force, Motion, & Energy: Motion (2.6D) Nov 9-13	Earth and Space: Objects in the Sky (2.8D) Jan 5-8	EXPO PREPARATION Week 2 Feb 22-26	Investigation and Reasoning Conserve/Reuse/ Recycle Earth Day Activities (2.1C) Apr 19-23
Week Two	Scientific Method (2.1 - 2.4) ★ Aug 31-Sept. 4	Matter and Energy Combination of Materials (2.5D) Oct 12-16	Force, Motion, & Energy: Changes in the Position of an Object (2.6C) Nov 16-20	Earth and Space: Natural and Manmade Resources (2.7C) Jan 11-15	Science EXPO K-2 Week 3 Mar 1-5	Organisms and Environments: Physical Characteristics of Animals (2.10A) April 26- May 7
Week Three	Matter and Energy: Shape, Texture, & Flexibility (2.5A) Sept 7 - 11	Force, Motion, & Energy: Light, Heat, and Sound Energy (2.6A) Oct 19-30	Physical Science Review and Assessment Nov 30-Dec 4	Earth and Space: Sizes of Rocks (2.7A) Jan 18-22	Weather and Seasons: Spring Equinox (2.8AB) ★ Mar 8-12	
Week Four	Matter and Energy: Mass (2.5A) Sept 14-18		Earth and Space: Objects in the Sky (2.8D) Dec 7-11	Earth and Space: Freshwater and Saltwater (2.7B) Jan 25-29	Organisms and Environments: Basic Needs of Plants and Animals (2.9A) Mar 22-26	Organisms and Environments: Physical Characteristics of Plants (2.10B) May 10-14
Week Five	Weather and Seasons: Fall Equinox (2.8AB) ★ Sept 21- 25	Force, Motion, & Energy: Magnets (2.6B) Nov 2-6	Weather and Seasons: Winter Solstice (2.8AB) ★ Dec 14-18	Earth and Space: Water Cycle (2.8C) Feb 1-5	Organisms and Environments: Factors in the Environment (2.9B) Mar 29- April 9	Organisms and Environments: Life Cycles (2.10C) May 17-21
Week Six	Matter and Energy: Solid, Liquid, & Temperature (2.5A) Sept 28-Oct 2			Earth Science Review and Assessment Feb 8-12		Life Science Review and Assessment May 24-28
Week seven				EXPO PREPARATION Week 1 Feb 15-19	Organisms and Environments: Food Chains (2.9C) Apr 12-16	Weather and Seasons: Summer Solstice (2.8AB) ★ May 31 - June 4
	Recurring Themes: Patterns, Cycles, Systems, Models, Change and Constancy					
★	Ongoing TEKS: Scientific Investigation and Reasoning (2.1) (2.2) (2.3) (2.4) Day-to-day weather changes (2.8AB)					

2nd Grade Science Scope and Sequence Overview 2009-2010 60% Hands-on!

First Six Weeks - Week One- August 24-28 - Safety

Standards	New Standard	Processes/ Skills/ Concepts	Vocabulary	Prerequisites	Resources/ Materials
<p>(2.1) Scientific processes. The student 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) learn how to use and conserve resources and materials.</p> <div data-bbox="67 878 386 1346" style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>Set up Interactive Notebook </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>	<p>(2.1) Scientific investigation and reasoning. The student, for at least 60% of the time, conducts classroom and outdoor investigations following home and school safety procedures. 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) describe the importance of safe practices;</p>	<p>► Be safe during experiments. Follow lab rules and talk to the teacher if there is a problem.</p> <p>► Conserve resources and materials in the science lab when possible.</p> <div data-bbox="814 506 1150 597" style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p>Emphasis on SAFETY and tools. Make connection between both of them.</p> </div> <div data-bbox="890 623 1079 938" style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p>Scientific processes should be taught and reinforced throughout the curriculum instead of as an isolated unit.</p> </div> <div data-bbox="793 701 890 863" style="font-size: 2em; color: yellow;">←</div> <div data-bbox="793 984 1146 1153" style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p>Clear Expectations: With student input, create a criteria chart that lists characteristics of quality</p> </div> <div data-bbox="793 1195 1348 1390" style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <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>experiment lab safety goggles gloves hand lens symbols observe investigation equipment</p>	<p>1st grade (1.1) Scientific processes. The student conducts classroom and field investigations following home and school safety procedures. The student is expected to: (A) demonstrate safe practices during classroom and field investigations; and (B) learn how to use and conserve resources and dispose of materials</p> <p>3rd Grade (3.1) Scientific processes. The student conducts field and laboratory investigations following home and school safety procedures and environmentally appropriate and ethical practices. The student is expected to: (A) demonstrate safe practices during field and laboratory investigations; and (B) make wise choices in the use and conservation of resources and the disposal or recycling of materials</p>	<p>Internet Activities:</p> <ul style="list-style-type: none"> ► Balance Scale Online Tutorial www.ohaus.com/products/education/tutorials.asp?source+2 ► Virtual Microscope http://www.udel.edu/biology/ketcham/microscope [Click on virtual microscope] ► www.CSSS-science.org/downloads/sciaf_cal.pdf ► www.sciencesafetyconsulting.com/pdf/k5activities.pdf <p>AIMS Hands on Safe Science</p> <div data-bbox="1692 786 2024 857" style="border: 1px solid black; padding: 5px; margin: 10px 0; background-color: yellow;"> <p>Make safety posters for display in classroom.</p> </div> <div data-bbox="1692 883 1999 1383" style="border: 1px solid black; padding: 10px; margin: 10px 0; background-color: lightblue;"> <div style="text-align: center;">  </div> <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <p>Right Side: How do you protect your</p> </div> <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <p>Left Side: eyes - goggles hand - gloves feet - closed shoes</p> </div> </div>

2nd Grade Science Scope and Sequence Overview 2009-2010 60% Hands-on!

First Six Weeks - Week Two- Aug 31 - Sept 4 - Scientific Method

Standards	New Standard	Concepts	Vocabulary	Prerequisites	Resources/ Materials
<p>(2.2) 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 conducts simple descriptive investigations</p> <p>C. Compare results of investigations with what students and scientists know about the world;</p> <p>D. Gather information using simple equipment and tools to extend the senses;</p> <p>E. Constructs reasonable explanations and draws conclusions using information and prior knowledge; and</p> <p>F. Communicate explanations about investigations.</p>	<p>(2.2) Scientific investigation and reasoning. The student develops abilities necessary to do scientific inquiry in the classroom and outdoor investigations. The student is expected to:</p> <p>(A) ask questions about organisms, objects, and events during observations and investigations;</p> <p>(B) plan and conduct descriptive investigations such as how organisms grow;</p> <p>(C) collect data from observations using simple equipment such as hand lenses, primary balances, thermometers and non-standard measurement tools;</p> <p>(D) record and organize data using pictures, numbers, and words;</p> <p>(E) communicate observations and justify explanations using student-generated data from simple descriptive investigations; and</p> <p>(F) compare results of investigations with what students and scientists know about the world.</p>	<p>► repeated investigations may increase the reliability of results.</p> <div data-bbox="850 391 1081 467" style="border: 1px solid gray; padding: 5px; margin: 10px 0;"> <p align="center">Emphasis on Scientific Process</p> </div> <div data-bbox="919 493 1129 831" style="border: 1px solid yellow; padding: 10px; margin: 10px 0;"> <p align="center">Scientific processes should be taught and reinforced throughout the curriculum instead of as an isolated unit.</p> </div> <div data-bbox="1041 984 1346 1318" style="border: 1px solid blue; padding: 10px; margin: 10px 0;"> <p align="center">Right Side; Vocabulary words and notes on the scientific method steps Left Side: Do class experiment to familiarized students with terms</p> </div>	<p>experiment lab observation tools safety information prediction hypothesis results materials results</p>	<p>Most of these TEKS are the same for kinder and 2nd grade listed below are the differences:</p> <p>Grade 1 (1.2) Scientific processes. The student develops abilities necessary to do scientific inquiry in the field and the classroom. The student is expected to: (D) construct reasonable explanations and draw conclusions; Students in Grade 1 are not expected to complete results (2.2C)</p> <p>Grade 3 (3.3) Scientific processes. The student knows that information, critical thinking, and scientific problem solving are used in making decisions. The student is expected to: (A) analyze, review, and critique scientific explanations, including hypotheses and theories, as to their strengths and weaknesses using scientific evidence and information; (B) draw inferences based on information related to promotional materials for products and services; (C) represent the natural world using models and identify their limitations; (D) evaluate the impact of research on scientific thought, society, and the environment; and (E) connect Grade 3 science concepts with the history of science and contributi</p>	<p>Investigation What do plants need? (AIMS)</p> <p>Scott Foresman Book Pages A-8 to A-17 Internet Resources: www.uga.edu/srel/kidsdoscience/kidsdoscience-fun.htm</p> <div data-bbox="1707 589 2011 751" style="border: 1px solid yellow; padding: 5px; margin: 10px 0;"> <p align="center">Scientific method RAP Make a Scientific method Rubber Band book (Show students how to assemble one Page 8)</p> </div> <div data-bbox="1707 773 2022 1271" style="border: 1px solid orange; padding: 10px; margin: 10px 0;"> <p align="center">Guiding Questions:</p> <p>Why do Scientists complete experiments? How do scientists develop a hypothesis for their experiment? How do they identify which definitions to operationally define? How do scientists plan their experiment? How do scientists complete an experiment? How do scientists document an experiment?</p> </div>

2nd Grade Science Scope and Sequence Overview 2009-2010 60% Hands-on!

First Six Weeks - Week Three-September 7 -11 - Shape, Texture and Flexibility

Standards	New Standard	Concepts	Vocabulary	Prerequisites	Resources/ Materials
<p>(2.7) The student knows that many types of changes occur.</p> <p>A. Observe, measure, record, analyze, predict, and illustrate changes in size, mass, temperature, color, position, quantity, sound, and movement</p>	<p>(2.5) Matter and energy. The student knows that matter has physical properties and those properties determine how it is described, classified, changed and used. The student is expected to:</p> <p>(A) classify matter by physical properties including shape, relative mass and temperature, texture, flexibility, and whether material is a solid or liquid;</p>	<p>► Many types of changes occur.</p> <p>► Objects with more mass require more force to move them</p> <p>► Objects with less mass require less force to move them</p> <p>► Sound travels differently through different states of matter. Sound travel faster through solids than through</p>	<p>pattern properties change shape texture rough smooth flexibility attributes geometric bendable rigid stiff</p>	<p>Grade one (1.7) Science concepts. The student knows that many types of change occur. The student is expected to: (A) observe, measure, and record changes in size, mass, color, position, quantity, sound, and movement</p> <p>Grade Three (3.6) Science concepts. The student knows that forces cause change. The student is expected to: (A) 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 has been applied</p>	<p>Internet Resources: ► www.sfsience.com ► www.fossweb.com ► www.tryscience.com ► www.weatherbug.com</p> <p>AIMS Second Grade Physical Science "Property problems" pages 83-89 "Rubberband books" pages 27-28 "Patterns, Properties, and Parts" pages 90-101 "Shapes on the Move" pages 74-82 "Texture, texture, rough, smooth" pages 67-73</p>



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First Six Weeks - Week Four - September 14-18 Mass

Standards	New Standard	Concepts	Vocabulary	Prerequisites	Resources/ Materials
<p>(2.7) The student knows that many types of changes occur.</p> <p>A. Observe, measure, record, analyze, predict, and illustrate changes in size, mass, temperature, color, position, quantity, sound, and movement</p>	<p>(2.5) Matter and energy. The student knows that matter has physical properties and those properties determine how it is described, classified, changed and used. The student is expected to:</p> <p>(A) classify matter by physical properties including shape, relative mass and temperature, texture, flexibility, and whether material is a solid or liquid;</p>	<p>► Many types of changes occur.</p> <p>► Objects with more mass require more force to move them</p> <p>► Objects with less mass require less force to move them</p>	<p>mass balance relative mass data chart table graphs</p>	<p>Grade one (1.7) Science concepts. The student knows that many types of change occur. The student is expected to: (A) observe, measure, and record changes in size, mass, color, position, quantity, sound, and movement</p> <p>Grade Three (3.6) Science concepts. The student knows that forces cause change. The student is expected to: (A) 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 has been applied</p>	<p>Internet Resources:</p> <p>► www.vrml.k12.la.us/dcarroll/science%20quizzes.htm</p> <p>► BBC School Science Clips ages 6-7 grouping and changing materials.</p> <p>AIMS Rubber band Books: "The Way Things Change" "Measuring Mass" page 102-108</p> <p>Teacher resource Book, Science Experiment for YOUNG Learners by Evan Moor (2000) (Students weigh mass of objects pages 16,17,18,19.</p>


2nd Grade Science Scope and Sequence Overview 2009-2010 60% Hands-on!

First Six Weeks - Week Five- September 21-25 Fall Equinox

Standards	New Standard	Concepts	Vocabulary	Prerequisites	Resources/ Materials
<p>Fall Equinox</p> <p>(2.7) The student knows that many types of changes occur. The student is expected to:</p> <p>D. Observe, measure, and record changes in weather, the night sky, and seasons</p> 	<p>(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>(A) measure, record, and graph weather information including temperature, wind conditions, precipitation, and cloud coverage in order to identify patterns in the data;</p> <p>(B) identify the importance of weather and seasonal information to make choices in clothing, activities, and transportation;</p> <div data-bbox="464 1073 741 1295" style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <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>	<p>► Many types of changes occur.</p>	<p>changes weather Fall Autumn migration forecast temperature precipitation cloud coverage patterns</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> <div data-bbox="1360 982 1665 1328" style="border: 1px solid blue; padding: 10px; margin-top: 20px;">  <p>Illustrate different events that are unique to the fall season.</p> </div>	<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/scienceforohio/sfoMain/sitemap.html ► www.weatherbug.com <p>Literature Connection:</p> <p>Fall with Clifford Red Leaf, yello Leaf by L Ehlert Fall for All by J. Holt Fall Is not easy by Marty kelley</p> <div data-bbox="1690 1122 2013 1317" style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>Experiment for the week; Why Do Leaves Change Color in the Fall? By Science Made Simple project 1: separate color in a green leaf.</p> </div>

2nd Grade Science Scope and Sequence Overview 2009-2010 60% Hands-on!

First Six Weeks - **Week Six** - September Sept. 28 - October 2 Solid, Liquid, Temperature

Standards	New Standard	Concepts	Vocabulary	Prerequisites	Resources/ Materials
<p>(2.7) The student knows that many types of changes occur.</p> <p>A. Observe, measure, record, analyze, predict, and illustrate changes in size, mass, temperature, color, position, quantity, sound, and movement</p>	<p>(2.5) Matter and energy. The student knows that matter has physical properties and those properties determine how it is described, classified, changed and used. The student is expected to:</p> <p>(A) classify matter by physical properties including shape, relative mass and temperature, texture, flexibility, and whether material is a solid or liquid;</p>	<p>► Many types of changes occur.</p>	<p>mass balance relative mass</p>	<p>Grade one (1.7) Science concepts. The student knows that many types of change occur. The student is expected to: (A) observe, measure, and record changes in size, mass, color, position, quantity, sound, and movement</p> <p>Grade Three (3.6) Science concepts. The student knows that forces cause change. The student is expected to: (A) 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 has been applied</p>	<p>Internet Resources:</p> <ul style="list-style-type: none"> ► www.vrml.k12.la.us/dcarroll/science%20quizzes.htm ► BBC - Keeping Warm Interactive. <p>Teacher resource Book, <u>Science Experiment for Young Learners</u> by Evan Moor (2000)</p> <div style="text-align: center;">  <p>Collage of different objects by state of matter.</p> </div>

2nd Grade Science Scope and Sequence Overview 2009-2010 60% Hands-on!

Second Six Weeks - Week One- October 5-9- Changes of Physical Properties


Standards	New Standard	Processes/ Skills/ Concepts	Vocabulary	Prerequisites	Resources/ Materials
<p>(2.7) The student knows that many types of changes occur. The student is expected to:</p> <p>B. Identify, predict, and test uses of heat to cause change such as melting and evaporation</p> <p>A. Observe, measure, record, analyze, predict, and illustrate changes in size, mass, temperature, color, position, quantity, sound, and movement</p>	<p>(2.5) Matter and energy. The student knows that matter has physical properties and those properties determine how it is described, classified, changed and used. The student is expected to:</p> <p>(B) compare changes in materials caused by heating and cooling;</p> <p>(C) demonstrate that things can be done to materials such as cutting, folding, sanding and melting to change physical properties;</p>	<p>► Many types of changes occur.</p> <p>► Heat can change dissolving rates</p> <p>► Heat can cause changes in color</p> <p>► Heat can cause a change in the position of an object</p> <p>► Heat can cause a change in state</p> <p>► Heat can melt a solid into a liquid</p> <p>► Heat can cause a liquid to evaporate into a gas</p> <p>► Adding heat can cause matter to expand, while removing heat can cause matter to contract.</p>	<p>heat melting evaporation thermometer change increase decrease expand contract</p>	<p>Grade One (1.7) Science concepts. The student knows that many types of change occur. The student is expected to: (B) identify and test ways that heat may cause change such as when ice melts</p> <p>Grade Three (3.7) Science concepts. The student knows that matter has physical properties. The student is expected to: (A) gather information including temperature, magnetism, hardness, and mass using appropriate tools to identify physical properties of matter</p>	<p>Internet resources:</p> <p>► EANES ISD (Texas) - TEKS http://fte.eanes.k12.tx.us/science_curriculum/2-matter.htm</p> <p>► http://www.vrml.k12.la.us/dcarroll/science%20quizzes.htm</p> <p>► http://aa.usno.navy.mil/faq/docs/moon-phases.phs</p> <p>Books: Teacher Resource Book: <u>Science experiments for Young Learners</u> by Evan Moor - 2000 pages 38-39 (ice Cube on a String)</p> <p>AIMS: Frosty forms pages 119-129 Water to Ice pages 133-136 A Matter of Change pages 140-164 Souper Changes pages 165-172</p>

Dana Center Snapshot:

Add the same amount of hot, ice cold, and room temperature water to three different containers of the same size. Place a thermometer in each container and record the temperature every two minutes. Analyze the data recorded.

2nd Grade Science Scope and Sequence Overview 2009-2010 60% Hands-on!

Second Six Weeks - **Week Two** - October 12-16- Combination of Materials

Standards	New Standard	Processes/ Skills/ Concepts	Vocabulary	Prerequisites	Resources/ Materials
<p>(2.6) The student knows that systems have parts and are composed of organisms and objects. The student is expected to:</p> <p>B. Manipulate, predict, and identify parts that, when put together, can do things they cannot do by themselves, such as a guitar and guitar strings</p>	<p>(2.5) Matter and energy. The student knows that matter has physical properties and those properties determine how it is described, classified, changed and used. The student is expected to:</p> <p>(D) combine materials that when put together can do things that they cannot do by themselves such as building a tower or a bridge and justify the <u>selection</u> of those materials based on their physical properties.</p>	<p>► Systems have parts and are composed of organisms and objects.</p> <p>► The parts of a system influence each other, so a system may not work if parts are missing or broken</p> <p>► Natural resources are important parts of environmental systems, which will not work well if resources such as clean water, air, and soil are missing.</p> <p>► Systems have parts that interact and work together</p>	<p>materials selection physical properties system whole parts</p>	<p>Grade 1 (1.6) Science concepts. The student knows that systems have parts and are composed of organisms and objects. The student is expected to: (D) identify parts that, when put together, can do things they cannot do by themselves, such as a working camera with film, a car moving with a motor, and an airplane flying with fuel.</p> <p>Grade 3 (3.5) Science concepts. The student knows that systems exist in the world. The student is expected to: (A) observe and identify simple systems such as a sprouted seed and a wooden toy car; and (B) observe a simple system and describe the role of various parts such as a yo-yo and string</p>	<p>Internet resources:</p> <p>► www.technologyiselementary.com/userfiles/file/2nd%20grade%20shape%20and%20structures.pdf (Google:2nd grade science build an object science from Ohio)</p> <div style="border: 1px solid black; background-color: yellow; padding: 5px; width: fit-content; margin: 10px auto;"> <p>Build a bridge using 3D shapes as support</p> </div> <div style="text-align: center; margin: 10px auto;">  </div> <div style="border: 1px solid blue; padding: 5px; width: fit-content; margin: 10px auto;"> <p>Record steps for experiment procedures</p> </div>



2nd Grade Science Scope and Sequence Overview 2009-2010 60% Hands-on!

Second Six Weeks - **Week Three and Four** - October 19-30- Light, Heat, Sound Energy

Standards	New Standard	Processes/ Skills/ Concepts	Vocabulary	Prerequisites	Resources/ Materials
<p>(2.7) The student knows that many types of changes occur. The student is expected to:</p> <p>B. Identify, predict, and test uses of heat to cause change such as melting and evaporation</p> <p>A. Observe, measure, record, analyze, predict, and illustrate changes in size, mass, temperature, color, position, quantity, sound, and movement</p>	<p>(6) Force, motion, and energy. The student knows that forces cause change and energy exists in many forms. The student is expected to:</p> <p>(A) investigate the effects on an object by <u>increasing or decreasing</u> amounts of light, heat, and sound energy such as how the color of an object appears differently in dimmer light or heat melting butter;</p>	<p>► Many types of changes occur.</p> <p>► Sound travels differently through different states of matter. Sound travel faster through solids than through liquids or gases.</p> <p>► Sound is energy that you hear.</p> <p>► Sound is made when matter vibrates.</p> <p>► Sound can be described by pitch and volume.</p>	<p>Change size pitch: high and low vibrate volume: loud and soft sound sound waves heat melting evaporation increase decrease Light: dim and bright expand contract</p>	<p>Grade one (1.7) Science concepts. The student knows that many types of change occur. The student is expected to: (A) observe, measure, and record changes in size, mass, color, position, quantity, sound, and movement</p> <p>Grade Three (3.6) Science concepts. The student knows that forces cause change. The student is expected to: (A) 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 has been applied</p>	<p>Internet Resources: ► http://www.vrml.k12.la.us/dcarroll/science%20quizzes.htm</p> <p>Books: Teacher Resource Book: Science experiments for Young Learners by Evan Moor - 2000 Where will light go? pages 62-63 Reflecting Light pages 68-69 Making Shadows pages 72-73 Feeling Heat pages 74-75 Making Water Music (Vibration) pages 60-61</p> <p>AIMS Curriculum Physical Science Book Page 109 - 172 "Changes"</p> <p>Tune Thumpers pages 173-182 Musical Bottles pages 183-191 Amplificups pages 192-198 (Rubber Band Book Included)</p>


2nd Grade Science Scope and Sequence Overview 2009-2010 60% Hands-on!

Second Six Weeks - **Week Five** - Nov 2-6 - Magnets

Standards	New Standard	Processes/ Skills/ Concepts	Vocabulary	Prerequisites	Resources/ Materials
New TEKS	<p>(6) Force, motion, and energy. The student knows that forces cause change and energy exists in many forms. The student is expected to:</p> <p>(B) observe and identify how magnets are used in everyday life;</p> <div data-bbox="388 820 724 1307" style="border: 1px solid black; padding: 5px;"> <p>Dana Center Snapshot: Test various metal objects- such as a penny, aluminum foil, brass screws, metal thimble, metal bottle caps or steel paper clips- with a magnet. Gather information about which object respond to the magnet.</p> </div>	<p>► matter has physical properties.</p> <p>► Matter can be described by properties such as hardness, color, smell, shape, density, magnetism, or melting point</p> <p>► Metal objects made of iron, nickel, cobalt, and steel are attracted to magnets, and nonmetals are not magnetic</p> <div data-bbox="745 1144 1060 1372" style="border: 1px solid black; padding: 5px; text-align: center;">  Make a list of magnetic and non-magnetic objects </div>	<p>magnet iron steel magnetic non-magnetic iron poles repel attract magnetic field</p>	<p>Concept introduce at Grade 3 Not very specific at Grade 4</p> <p>Grade 5 </p> <p>(7) Science concepts. The student knows that matter has physical properties. The student is expected to:</p> <p>(A) 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="1239 738 1564 893" style="border: 1px solid black; padding: 5px; background-color: #ffffcc;"> <p>Use Venn Diagram or Double Bubble to compare magnetic and non magnetic objects.</p> </div> <div data-bbox="1249 941 1585 1347" style="border: 1px solid black; padding: 5px; background-color: #ffcc99;"> <p>Guiding Questions: What are magnets? What happens when two objects with magnetic fields are brought near each other?</p> </div>	<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>


2nd Grade Science Scope and Sequence Overview 2009-2010 60% Hands-on!

Third Six Weeks - **Week One**- Nov. 9-13- Motion

Standards	New Standard	Processes/ Skills/ Concepts	Vocabulary	Prerequisites	Resources/ Materials
<p>(2.7) The student knows that many types of changes occur.</p> <p>A. Observe, measure, record, analyze, predict, and illustrate changes in size, mass, temperature, color, position, quantity, sound, and movement</p>	<p>(2.6) Force, motion, and energy. The student knows that forces cause change and energy exists in many forms. The student is expected to:</p> <p>(D) compare patterns of movement of objects, such as sliding, rolling, and spinning.</p>	<p>► Forces cause change.</p>	<p>force energy patterns movement sliding rolling spinning</p>	<p>Grade one (1.7) Science concepts. The student knows that many types of change occur. The student is expected to: (A) observe, measure, and record changes in size, mass, color, position, quantity, sound, and movement</p> <p>Grade Three (3.6) Science concepts. The student knows that forces cause change. The student is expected to: (A) 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 has been applied</p>	<p>AIMS Curriculum Physical Science Book Page 109 - 172 "Changes"</p> 

2nd Grade Science Scope and Sequence Overview 2009-2010 60% Hands-on!

Third Six Weeks - Week Two- Nov. 9-13- Motion

Standards	New Standard	Processes/ Skills/ Concepts	Vocabulary	Prerequisites	Resources/ Materials
<p>(2.7) The student knows that many types of changes occur.</p> <p>A. Observe, measure, record, analyze, predict, and illustrate changes in size, mass, temperature, color, position, quantity, sound, and movement</p> <p>C. Demonstrate a change in the motion of an object by giving the object a push or a pull</p>	<p>(2.6) Force, motion, and energy. The student knows that forces cause change and energy exists in many forms. The student is expected to:</p> <p>(C) trace the <u>changes in the position</u> of an object <u>over time</u> such as a cup rolling on the floor and a car rolling down a ramp; and</p>	<p>► Many types of changes occur.</p> <p>► A force is a push or pull</p> <p>► Forces can cause objects to start moving, stop moving, or change direction</p>	<p>force friction push pull gravity direction motion ramp roll slope wheel lever pulley position</p>	<p>Grade One Introduced in Grade Two</p> <p>Grade Three (3.6) Science concepts. The student knows that forces cause change. The student is expected to: (A) 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 has been applied;</p>	<p>Motion Unit (See Attachment) Motion Word Web</p> <p>Reader's Theater Measure Motion</p> 

Guiding Questions:
 How do objects move?
 What causes an object to move?
 What machines move objects?


2nd Grade Science Scope and Sequence Overview 2009-2010 60% Hands-on!

Third Six Weeks - **Week Three**- Nov. 30- Dec 4- Review and Physical Science Assessment

Standards	New Standard	Processes/ Skills/ Concepts	Vocabulary	Prerequisites	Resources/ Materials
<h1>PHYSICAL SCIENCE ASSESSMENT</h1>					



2nd Grade Science Scope and Sequence Overview 2009-2010 60% Hands-on!

Third Six Weeks - **Week Four**- Dec 7-11 - Earth Science: Objects in the Sky

Standards	New Standard	Processes/ Skills/ Concepts	Vocabulary	Prerequisites	Resources/ Materials
<p>(2.7) The student knows that many types of changes occur. The student is expected to:</p> <p>D. Observe, measure, and record changes in weather, the night sky, and seasons</p>	<p>(2.8) 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>(D) observe, describe, and record <u>patterns</u> caused by objects in the sky including shadows and the appearance of the moon.</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>changes weather night day daily weekly lunar cycle phases new moon full moon crescent shadows noon</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 cau</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 <div align="center">  </div> <div align="center" style="border: 1px solid black; background-color: yellow; padding: 5px; margin-top: 10px;"> <p>Make a diagram illustrating the moon path during the day.</p> </div>


2nd Grade Science Scope and Sequence Overview 2009-2010 60% Hands-on!

Third Six Weeks - **Week Five**- Dec 14-18- Winter Solstice

Standards	New Standard	Processes/ Skills/ Concepts	Vocabulary	Prerequisites	Resources/ Materials
<p>Fall Equinox</p> <p>(2.7) The student knows that many types of changes occur. The student is expected to:</p> <p>D. Observe, measure, and record changes in weather, the night sky, and seasons</p> 	<p>(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>(A) measure, record, and graph weather information including temperature, wind conditions, precipitation, and cloud coverage in order to identify patterns in the data;</p> <p>(B) identify the importance of weather and seasonal information to make choices in clothing, activities, and transportation;</p>	<p>► Many types of changes occur.</p> <div style="border: 1px solid black; background-color: yellow; padding: 5px; margin-top: 20px;"> <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>	<p>changes weather Winter snow sleet forecast temperature precipitation cloud coverage patterns ski hibernate dormancy</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> <div style="text-align: center; margin-top: 20px;">  <div style="border: 2px solid blue; padding: 10px; width: fit-content; margin: 0 auto;"> <p>Illustrate different events that are unique to the winter season.</p> </div> </div>	<p>Internet Resources;</p> <p>► U.S. Forecast: http://www.cnn.com/WEATHER/</p> <p>vExtreme Weather Events: http://www.extremescience.com/weatherport.htm</p> <p>► Meteorology Guide: http://ww2010.atmos.uiuc.edu/(Gh)/guides/mtr/home.rxml</p> <p>http://www.elnino.noaa.gov/</p> <p>► Internet 4Classrooms:</p> <ol style="list-style-type: none"> Seasons- story power point Seasonal Changes leenon plans <p>► www.weatherbug.com</p> <p>► http://weather.cnn.com/weather/forecast.jsp</p> <p>► http://www.lawrencehallofscience.org/sepup/students/iaes/simulations/SEPUP_Seasons_Interactive.swf</p> <p>► http://seasons.pppst.com/reasons.htm</p>

2nd Grade Science Scope and Sequence Overview 2009-2010 60% Hands-on!

Fourth Six Weeks - Week One- Jan 5-8 - Objects in the Sky

Standards	New Standard	Processes/ Skills/ Concepts	Vocabulary	Prerequisites	Resources/ Materials
<p>(2.7) The student knows that many types of changes occur. The student is expected to:</p> <p>D. Observe, measure, and record changes in weather, the night sky, and seasons</p>	<p>(2.8) 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>(D) observe, describe, and record patterns caused by objects in the sky including shadows and the appearance of the moon.</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>changes weather night day daily weekly lunar cycle phases new moon full moon crescent shadows noon</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 cau</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 <div style="text-align: center;">  </div> <div style="border: 1px solid black; background-color: #ffffcc; padding: 5px; margin-top: 10px;"> <p>Make a diagram illustrating the moon and Sun path during the day.</p> </div>

2nd Grade Science Scope and Sequence Overview 2009-2010 60% Hands-on!

Fourth Six Weeks - **Week Two**- Jan 11-15 - Natural and Manmade Resources

Standards	New Standard	Processes/ Skills/ Concepts	Vocabulary	Prerequisites	Resources/ Materials
<p>(2.10) The student knows that the natural world includes rocks, soil, water and gases of the atmosphere. The student is expected to:</p> <p>B. Identify uses of natural resources</p>	<p>(2.7) Earth and space. The student knows that the natural world includes earth materials. The student is expected to:</p> <p>(C) distinguish between <u>natural</u> and <u>manmade</u> resources;</p>	<p>► The natural world includes rocks, soil, water and gases of the atmosphere.</p> <p>► Fresh water found in streams, rivers, and lakes is needed for plants and animals to live</p> <p>► Rocks and soil are the surface of the Earth</p> <p>► Plants need soil to grow</p> <p>► Sunlight provides light and heat for the Earth</p> <p>► Natural resources are important parts of environmental systems, which will not work well if resources such as clean water, air, and soil are missing.</p>	<p>natural resource</p> <p>manmade resources</p> <p>Earth materials</p>	<p>Grade 1 (1.10) Science concepts. The student knows that the natural world includes rocks, soil, and water. The student is expected to:</p> <p>(A) identify and describe a variety of natural sources of water including streams, lakes, and oceans;</p> <p>(B) observe and describe differences in rocks and soil samples; and</p> <p>(C) identify how rocks, soil, and water are used and how they can be recycled</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:</p> <p>(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>Internet Activities:</p> <p>► <u><i>Do You See What I See?</i></u></p> <p>► <u><i>Here It Comes Again</i></u> http://www.utdanacenter.org/sciencetoolkit/instruction/snapshots/2.php#b7</p> <p>" Made by Nature and Made by Me" AIMS 2007</p> <div style="border: 1px solid black; background-color: #fce4d6; padding: 5px; width: fit-content; margin-top: 10px;"> <p>Guiding Questions: What can be recycled? How can you help protect the Earth? What Resources do we get from Earth?</p> </div>

2nd Grade Science Scope and Sequence Overview 2009-2010 60% Hands-on!

Fourth Six Weeks - **Week Three**- Jan 18-22 - Size of Rocks

Standards	New Standard	Processes/ Skills/ Concepts	Vocabulary	Prerequisites	Resources/ Materials
<p>(2.10) The student knows that the natural world includes rocks, soil, water and gases of the atmosphere. The student is expected to:</p> <p>B. Identify uses of natural resources</p>	<p>(2.7) Earth and space. The student knows that the natural world includes earth materials. The student is expected to:</p> <p>(A) observe and describe the various sizes of rock, such as boulders and gravel;</p>	<p>► The natural world includes rocks, soil, water and gases of the atmosphere.</p> <p>► Rocks and soil are the surface of the Earth</p> <p>► There are various sizes of rocks</p> <p>► Natural resources are important parts of environmental systems, which will not work well if resources such as clean water, air, and soil are missing.</p>	<p>rocks size gravel boulder pebble</p>	<p>Grade 1 (1.10) Science concepts. The student knows that the natural world includes rocks, soil, and water. The student is expected to: (A) identify and describe a variety of natural sources of water including streams, lakes, and oceans; (B) observe and describe differences in rocks and soil samples; and (C) identify how rocks, soil, and water are used and how they can be recycled</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>	


2nd Grade Science Scope and Sequence Overview 2009-2010 60% Hands-on!

Fourth Six Weeks - **Week Four**- Jan 25-29 - Freshwater and Saltwater

Standards	New Standard	Processes/ Skills/ Concepts	Vocabulary	Prerequisites	Resources/ Materials
<p>(2.10) 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>B. Identify uses of natural resources</p>	<p>(2.7) Earth and space. The student knows that the natural world includes earth materials. The student is expected to:</p> <p>(B) identify and compare the properties of natural sources of <u>freshwater and saltwater</u>;</p>	<p>► The natural world includes rocks, soil, water and gases of the atmosphere.</p> <p>► Fresh water found in streams, rivers, and lakes is needed for plants and animals to live</p> <p>► Natural resources are important parts of environmental systems, which will not work well if resources such as clean water, air, and soil are missing.</p>	<p>properties saltwater freshwater</p>	<p>Grade 1 (1.10) Science concepts. The student knows that the natural world includes rocks, soil, and water. The student is expected to: (A) identify and describe a variety of natural sources of water including streams, lakes, and oceans; (B) observe and describe differences in rocks and soil samples; and (C) identify how rocks, soil, and water are used and how they can be recycled</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>	

2nd Grade Science Scope and Sequence Overview 2009-2010 60% Hands-on!

Fourth Six Weeks - **Week Five**- feb. 1-5 - Water Cycle

Standards	New Standard	Processes/ Skills/ Concepts	Vocabulary	Prerequisites	Resources/ Materials
<p>(2.10) 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>(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) explore the processes in the <u>water cycle</u> including evaporation, condensation, and precipitation as <u>connected</u> to weather conditions</p>	<p>► The natural world includes rocks, soil, water and gases of the atmosphere.</p> <p>► Water travels in a continuous cycle as it evaporates from the Earth’s surface and from living organisms, condenses in the cool atmosphere, and falls back to Earth as precipitation</p> <p>► The Sun’s heat provides the energy for the water cycle</p>	<p>cycle water cycle evaporation condensation precipitation water vapor rain snow sleet hail accumulation</p>	<p>Grade One (1.10) Science concepts. The student knows that the natural world includes rocks, soil, and water. The student is expected to: (A) identify and describe a variety of natural sources of water including streams, lakes, and oceans; (C) identify how rocks, soil, and water are used and how they can be recycled.</p> <p>Grade Five (6) Science concepts. The student knows that some change occurs in cycles. The student is expected to: (B) identify the significance of the water, carbon, and nitrogen cycles</p>	<p>Internet Activities:</p> <p>► <i>The Rain Maker</i> ► <i>Here Comes the Rain</i> ► <i>Up, Up, and Away</i> http://www.utdanacenter.org/sciencetoolkit/instruction/snapshots/2.php</p> <p>► www.sfscience.com ► www.fossweb.com ► www.tryscience.com ► www.weatherbug.com</p> <p>AIMS Curriculum Book page 13 -18 "Whirligig"</p> <div align="center">  </div>

2nd Grade Science Scope and Sequence Overview 2009-2010 60% Hands-on!

Fourth Six Weeks - Week Six- Feb 8-12 - Review and Earth Science Assessment

Standards	New Standard	Processes/ Skills/ Concepts	Vocabulary	Prerequisites	Resources/ Materials
<h1>EARTH SCIENCE ASSESSMENT</h1>					

2nd Grade Science Scope and Sequence Overview 2009-2010 60% Hands-on!

Fourth Six Weeks - Week Seven- Feb. 15-19 - Science EXPO Preparation

Standards	New Standard	Processes/ Skills/ Concepts	Vocabulary	Prerequisites	Resources/ Materials
<p>(2.2) 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 conducts simple descriptive investigations</p> <p>C. Compare results of investigations with what students and scientists know about the world;</p> <p>D. Gather information using simple equipment and tools to extend the senses;</p> <p>E. Constructs reasonable explanations and draws conclusions using information and prior knowledge; and</p> <p>F. Communicate explanations about investigations.</p>	<p>(2.2) Scientific investigation and reasoning. The student develops abilities necessary to do scientific inquiry in the classroom and outdoor investigations. The student is expected to:</p> <p>(A) ask questions about organisms, objects, and events during observations and investigations;</p> <p>(B) plan and conduct descriptive investigations such as how organisms grow;</p> <p>(C) collect data from observations using simple equipment such as hand lenses, primary balances, thermometers and non-standard measurement tools;</p> <p>(D) record and organize data using pictures, numbers, and words;</p> <p>(E) communicate observations and justify explanations using student-generated data from simple descriptive investigations; and</p> <p>(F) compare results of investigations with what students and scientists know about the world.</p>	<p>► repeated investigations may increase the reliability of results.</p> <div style="border: 1px solid black; background-color: #ffffcc; padding: 5px; margin: 10px 0;"> <p>Scientific processes should be taught and reinforced throughout the curriculum instead of as an isolated unit.</p> </div> <div style="border: 2px solid orange; padding: 10px; margin: 10px 0;"> <p>Guiding Questions:</p> <p>Why do Scientists complete experiments?</p> <p>How do scientists develop a hypothesis for their experiment?</p> <p>How do they identify which definitions to operationally define?</p> <p>How do scientists plan their experiment?</p> <p>How do scientists complete an experiment?</p> <p>How do scientists document an experiment?</p> </div>	<p>experiment lab observation tools safety information prediction hypothesis results materials results</p>	<p>Most of these TEKS are the same for kinder and 2nd grade listed below are the differences:</p> <p>Grade 1 (1.2) Scientific processes. The student develops abilities necessary to do scientific inquiry in the field and the classroom. The student is expected to: (D) construct reasonable explanations and draw conclusions; Students in Grade 1 are not expected to compate results (2.2C)</p> <p>Grade 3 (3.3) Scientific processes. The student knows that information, critical thinking, and scientific problem solving are used in making decisions. The student is expected to: (A) analyze, review, and critique scientific explanations, including hypotheses and theories, as to their strengths and weaknesses using scientific evidence and information; (B) draw inferences based on information related to promotional materials for products and services; (C) represent the natural world using models and identify their limitations; (D) evaluate the impact of research on scientific thought, society, and the environment; and (E) connect Grade 3 science concepts with the history of science and contribut</p>	<p>Internet Activities:</p> <p>► www.ohaus.com/products/education/tutorials.asp?source=2</p> <p>► www.sfscience.com</p> <p>► www.fossweb.com</p> <p>► <i>Science Fair</i></p> <p>http://www.freesciencefairproject.com/index.html</p> <p>http://www.all-science-fair-projects.com/category0.html</p>



2nd Grade Science Scope and Sequence Overview 2009-2010 60% Hands-on!

Fifth Six Weeks - Week One and Two - Feb. 22-March 5- EXPO Preparation

Standards	New Standard	Processes/ Skills/ Concepts	Vocabulary	Prerequisites	Resources/ Materials
<p>(2.2) 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 conducts simple descriptive investigations</p> <p>C. Compare results of investigations with what students and scientists know about the world;</p> <p>D. Gather information using simple equipment and tools to extend the senses;</p> <p>E. Constructs reasonable explanations and draws conclusions using information and prior knowledge; and</p> <p>F. Communicate explanations about investigations.</p>	<p>(2.2) Scientific investigation and reasoning. The student develops abilities necessary to do scientific inquiry in the classroom and outdoor investigations. The student is expected to:</p> <p>(A) ask questions about organisms, objects, and events during observations and investigations;</p> <p>(B) plan and conduct descriptive investigations such as how organisms grow;</p> <p>(C) collect data from observations using simple equipment such as hand lenses, primary balances, thermometers and non-standard measurement tools;</p> <p>(D) record and organize data using pictures, numbers, and words;</p> <p>(E) communicate observations and justify explanations using student-generated data from simple descriptive investigations; and</p> <p>(F) compare results of investigations with what students and scientists know about the world.</p>	<p>► repeated investigations may increase the reliability of results.</p> <div data-bbox="718 402 1035 537" style="border: 1px solid black; background-color: 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> <div data-bbox="741 727 1255 1235" style="border: 2px solid orange; border-radius: 15px; padding: 10px; margin: 10px 0;"> <p>Guiding Questions:</p> <p>Why do Scientists complete experiments?</p> <p>How do scientists develop a hypothesis for their experiment? How do they identify which definitions to operationally define?</p> <p>How do scientists plan their experiment?</p> <p>How do scientists complete an experiment?</p> <p>How do scientists document an experiment?</p> </div>	<p>experiment lab observation tools safety information prediction hypothesis results materials results</p>	<p>Most of these TEKS are the same for kinder and 2nd grade listed below are the differences:</p> <p>Grade 1 (1.2) Scientific processes. The student develops abilities necessary to do scientific inquiry in the field and the classroom. The student is expected to: (D) construct reasonable explanations and draw conclusions; Students in Grade 1 are not expected to complete results (2.2C)</p> <p>Grade 3 (3.3) Scientific processes. The student knows that information, critical thinking, and scientific problem solving are used in making decisions. The student is expected to: (A) analyze, review, and critique scientific explanations, including hypotheses and theories, as to their strengths and weaknesses using scientific evidence and information; (B) draw inferences based on information related to promotional materials for products and services; (C) represent the natural world using models and identify their limitations; (D) evaluate the impact of research on scientific thought, society, and the environment; and (E) connect Grade 3 science concepts with the history of science and contributions of science.</p>	<p>Internet Activities:</p> <p>► www.ohaus.com/products/education/tutorials.asp?source=2</p> <p>► www.sfsience.com</p> <p>► www.fossweb.com</p> <p>► <i>Science Fair</i> http://www.freesciencefairproject.com/index.html http://www.all-science-fair-projects.com/category0.html</p>



2nd Grade Science Scope and Sequence Overview 2009-2010 60% Hands-on!

Fifth Six Weeks - **Week Three**- March 8-12 - Spring Equinox

Standards	New Standard	Processes/ Skills/ Concepts	Vocabulary	Prerequisites	Resources/ Materials
<p>Fall Equinox</p> <p>(2.7) The student knows that many types of changes occur. The student is expected to:</p> <p>D. Observe, measure, and record changes in weather, the night sky, and seasons</p> 	<p>(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>(A) measure, record, and graph weather information including temperature, wind conditions, precipitation, and cloud coverage in order to identify patterns in the data;</p> <p>(B) identify the importance of weather and seasonal information to make choices in clothing, activities, and transportation;</p>	<p>► Many types of changes occur.</p> <div style="border: 1px solid black; background-color: yellow; padding: 5px; margin-top: 10px;"> <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>	<p>changes weather</p> <p>Spring forecast</p> <p>temperature</p> <p>precipitation</p> <p>cloud coverage</p> <p>patterns</p>	<p>Grade 1</p> <p>(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>Grade 3</p> <p>(3.6) Science concepts. The student knows that forces cause change. The student is expected to:</p> <p>(B) identify that the surface of the Earth can be changed by forces such as earthquakes and glaciers.</p> <div style="border: 1px solid blue; padding: 10px; text-align: center; margin-top: 20px;">  <p>Illustrate different events that are unique to the Spring season.</p> </div>	<p>Internet Resources;</p> <p>► U.S. Forecast: http://www.cnn.com/WEATHER/</p> <p>vExtreme Weather Events: http://www.extremescience.com/ weatherport.htm</p> <p>► Meteorology Guide: http://ww2010.atmos.uiuc.edu/(Gh)/guides/mtr/home.rxml http://www.elnino.noaa.gov/</p> <p>► Internet 4Classrooms:</p> <ol style="list-style-type: none"> Seasons- story power point Seasonal Changes leon plans <p>► www.weatherbug.com</p> <p>► http://weather.cnn.com/weather/forecast.jsp</p> <p>► http://www.lawrencehallofscience.org/sepup/students/iaes/simulations/SEPUP_Seasons_Interactive.swf</p> <p>► http://seasons.pppst.com/reasons.htm</p>

2nd Grade Science Scope and Sequence Overview 2009-2010 60% Hands-on!

Fifth Six Weeks - **Week Four** March 22-26 - Basic Needs of Plants and Animals

Standards 	New Standard	Processes/ Skills/ Concepts	Vocabulary	Prerequisites	Resources/ Materials
<p>(2.9) The student knows that living organisms have basic needs. The student is expected to:</p> <p>A. Identify the external characteristics of different kinds of plants and animals that allow <u>their needs</u> to be met</p>	<p>(2.9) Organisms and environments. The student knows that living organisms have basic needs that must be met for them to survive within their environment. The student is expected to:</p> <p>(A) identify the <u>basic needs</u> of plants and animals;</p>	<p>► Organisms have basic needs.</p> <p>► Living organisms need air, water, food, light, and space to live</p> <p>► Animals can breathe in oxygen from the air or out of water if they have gills</p> <p>► Most animals can move about to find food</p> <p>► Plants have leaves to catch sunlight and absorb gases in air</p> <p>► Plants have roots and stems to get water from the soil to the leaves</p> <p>► Plants make their own food using sunlight energy</p>	<p>Basic Need Air Water Food Light Space survive organisms environment</p>	<p>Grade One (1.9) Science concepts. The student knows that living organisms have basic needs. The student is expected to: (A) identify characteristics of living organisms that allow their basic needs to be met</p> <p>Grade Three (3.9) Science concepts. The student knows that species have different adaptations that help them survive and reproduce in their environment. The student is expected to: (A) observe and identify characteristics among species that allow each to survive and reproduce; and (B) analyze how adaptive characteristics help individuals within a species to survive and reproduce</p>	<p>Internet Activities:</p> <p>► <u><i>What Beautiful</i></u> ► <u><i>Caterpillars!</i></u> http://www.utdanacenter.org/sciencetoolkit/instruction/snapshots/2.php</p> <p>AIMS- Life Science 2nd grade "Observation of a Leaf" Page 169-172 "Plant Part" Page 202-207 "Rubber band books" Page 123, 153, 168</p> 

Dana Center Snapshot:

Examine a variety of animals (living pictures, preserved specimens, models) to discuss what covers the animals' bodies. Identify how the body coverings keep the animal warm, dry, protected, and hidden.


2nd Grade Science Scope and Sequence Overview 2009-2010 60% Hands-on!

Fifth Six Weeks - **Week Five and Six** March 29 - April 9- Factors in the Environment

Standards	New Standard	Processes/ Skills/ Concepts	Vocabulary	Prerequisites	Resources/ Materials
<p>New TEKS</p>	<p>(2.9) Organisms and environments. The student knows that living organisms have basic needs that must be met for them to survive within their environment. The student is expected to:</p> <p>(B) identify <u>factors</u> in the environment including temperature and precipitation that affect growth and behavior such as migration, hibernation, and dormancy of living things;</p>	<p>► Living organisms have basic needs that must be met for them to survive within their environmen</p>	<p>factors environment temperature precipitation growth behavior migration hibernation dormancy</p>		




2nd Grade Science Scope and Sequence Overview 2009-2010 60% Hands-on!

Fifth Six Weeks - **Week seven** April 12-16- Food Chains

Standards 	New Standard	Processes/ Skills/ Concepts	Vocabulary	Prerequisites	Resources/ Materials
<p>(2.9) The student knows that living organisms have basic needs. The student is expected to:</p> <p>B. Compare and give examples of the ways living organisms depend on each other and on their environments</p>	<p>(2.9) Organisms and environments. The student knows that living organisms have basic needs that must be met for them to survive within their environment. The student is expected to:</p> <p>(C) compare and give examples of the ways living organisms <u>depend on each other and on their environments</u>, such as food chains within a garden, park, beach, lake, and wooded area.</p>	<p>► Organisms have basic needs.</p> <p>► Plants produce a gas called oxygen that animals need to live</p> <p>► Animals breathe out gases that plants need to live</p> <p>► Plants make food using sunlight, and animals eat plants, or meat from animals that ate plants</p>	<p>environment compare interdependence habitat food chain survival dependency Basic needs</p>	<p>Grade One (1.9) Science concepts. The student knows that living organisms have basic needs. The student is expected to: (B) compare and give examples of the ways living organisms depend on each other for their basic needs</p> <p>Grade Three (3.9) Science concepts. The student knows that species have different adaptations that help them survive and reproduce in their environment. The student is expected to: (A) observe and identify characteristics among species that allow each to survive and reproduce; and (B) analyze how adaptive characteristics help individuals within a species to survive and reproduce</p>	<p>AIMS- 2nd Grade Life Science page 209-223 "Where do we belong?" Page 238-247 "We Need Each other" Page 224-237 "A Walk in the Park"</p> <div style="border: 1px solid black; background-color: yellow; padding: 5px; margin-top: 20px;"> <p>Make an animal and match it to the correct habitat and explain why.</p> </div>

2nd Grade Science Scope and Sequence Overview 2009-2010 60% Hands-on!

Sixth Six Weeks - **Week One**- April 19-23 - Earth Day Activities

 Standards	New Standard	Processes/ Skills/ Concepts	Vocabulary	Prerequisites	Resources/ Materials
<p>(2.1) Scientific processes. The student conducts 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 dispose of materials</p>	<p>(2.1) Scientific investigation and reasoning. The student, for at least 60% of the time, conducts classroom and outdoor investigations following home and school safety procedures. The student is expected to:</p> <p>(C) identify and demonstrate how to <u>use, conserve, and dispose</u> of natural resources and materials such as conserving water and reuse or recycling of paper, plastic, and metal.</p>	<div data-bbox="737 505 1083 748" style="border: 1px solid black; padding: 5px; background-color: #fff9c4;"> <p>Guiding Questions: What is conservation? How do people conserve natural resources?</p> </div>	<p>use reusing conservation recycling dispose</p>	<p>These expectations are part of all grade levels from kindergarten to fifth grade.</p> <div data-bbox="1297 451 1705 786" style="border: 1px solid #add8e6; padding: 10px; text-align: center;">  <p>Have students draw or explain how they conserve and use natural resources in their everyday life.</p> </div>	<p>AIMS <u>Cycles of Knowing and Growing</u> "Paper- A pressing issue" "A sign of the Times" "Waste Watchers" <u>Sensational Springtime</u> "Just a Little Drip" "Waste Not, Want Not" Magazine: Vol 18, No 10 "Isn't It Interesting:Down the Drain"</p> <div data-bbox="1612 1032 1961 1367" style="border: 1px solid #add8e6; padding: 10px; margin-top: 20px;"> <p>Earth Day Resources www.earthday.net http://holidays.kaboose.com/earth-day/ www.planetpals.com www.epa.gov/teachers/ www.seussville.com/games/lorax/</p> </div> <div data-bbox="1037 1049 1390 1386" style="border: 1px solid #add8e6; padding: 10px; margin-top: 20px; text-align: center;">  <p>40th Anniversary of Earth Day</p> </div>

2nd Grade Science Scope and Sequence Overview 2009-2010 60% Hands-on!

Sixth Six Weeks - **Week Two and Three** - April 26-May 7 - Physical Characteristics of Animals

Standards	New Standard	Processes/ Skills/ Concepts	Vocabulary	Prerequisites	Resources/ Materials
<p>(2.6) The student knows that systems have parts and are composed of organisms and objects. The student is expected to</p> <p>D. Observe and record the functions of animal parts.</p> <p>(2.9) The student knows that living organisms have basic needs. The student is expected to:</p> <p>A. Identify the external characteristics of different kinds of plants and animals that allow <u>their needs to be met</u></p>	<p>(2.10) Organisms and environments. The student knows that organisms resemble their parents and have structures and processes that help them survive within their environments.</p> <p>(A) observe, record and compare how the <u>physical characteristics and behaviors</u> of animals help them <u>meet their basic needs</u> such as fins help fish move and balance in the water;</p>	<p>► Systems have parts and are composed of organisms and objects.</p> <p>► Animals can breathe in oxygen from the air or out of water if they have gills</p> <p>► Most animals can move about using legs, wings, or fins to find food and protect themselves</p> <p>► Most animals have sense organs, such as eyes to see, ears to hear, nose to smell, a tongue to taste, and skin to feel</p> <p>► Animal’s tails can help them to protect themselves, to change direction, and to send signals of danger to other animals</p> <p>► Living organisms need air, water, food, light, and space to live</p> <p>► Animals can breathe in oxygen from the air or out of water if they have gills</p> <p>► Most animals can move about to find food</p>	<p>parts of animals such as:</p> <p>tail gills beak paws wings skin scales etc...</p> <p>life cycle</p>	<p>Grade One (1.6) Science concepts. The student knows that systems have parts and are composed of organisms and objects. The student is expected to: (B) observe and describe the parts of plants and animals;</p> <p>Grade Three (3.10) Science concepts. The student knows that many likenesses between offspring and parents are inherited from the parents. The student is expected to: (B) identify some inherited traits of animals.</p>	<div data-bbox="1318 933 1959 1247" style="border: 1px solid black; background-color: #e0f0ff; padding: 10px; margin: 10px auto; width: fit-content;"> <p>Dana Center Snapshot: Observe a classroom pet or watch birds outdoors and write about the ways animals use different body parts like teeth, feet, tongue, beak, wings.</p> </div>

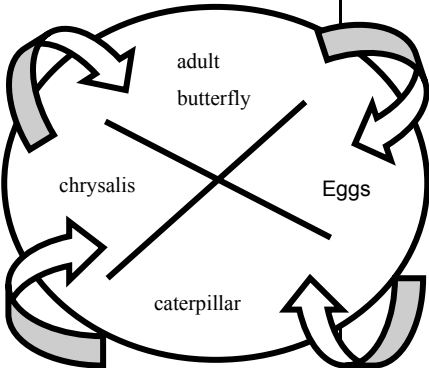
2nd Grade Science Scope and Sequence Overview 2009-2010 60% Hands-on!

Fourth Six Weeks - Week Four - May 10-14 - Physical Characteristics of Plants

Standards	New Standard	Processes/ Skills/ Concepts	Vocabulary	Prerequisites	Resources/ Materials
<p>(2.6) The student knows that systems have parts and are composed of organisms and objects. The student is expected to</p> <p>D. Observe and record the functions of plant parts.</p> <p>(2.9) The student knows that living organisms have basic needs. The student is expected to:</p> <p>A. Identify the external characteristics of different kinds of plants and animals that allow <u>their needs to be met</u></p>	<p>(2.10) Organisms and environments. The student knows that organisms resemble their parents and have structures and processes that help them survive within their environments.</p> <p>(B) observe, record, and compare how the <u>physical characteristics of plants help them meet their basic needs</u> such as stems carry water throughout the plant;</p>	<p>► Organisms have basic needs.</p> <p>► Living organisms need air, water, food, light, and space to live</p> <p>► Plants have leaves to catch sunlight and absorb gases in air</p> <p>► Plants have roots and stems to get water from the soil to the leaves</p> <p>► Plants make their own food using sunlight energy</p> <p>► Plants have leaves to catch sunlight and absorb gases in air</p>	<p>basic need air water food light space energy root stem petal leaf seed bulb pollen fruit</p>	<p>Grade 1 (1.9) Science concepts. The student knows that living organisms have basic needs. The student is expected to: (A) identify characteristics of living organisms that allow their basic needs to be met</p> <p>Grade 3 (3.9) Science concepts. The student knows that species have different adaptations that help them survive and reproduce in their environment. The student is expected to: (A) observe and identify characteristics among species that allow each to survive and reproduce; and (B) analyze how adaptive characteristics help individuals within a species to survive and reproduce</p>	<p>AIMS- Life Science 2nd grade "Observation of a Leaf" Page 169-172 "Plant Part" Page 202-207 "Rubber band books" Page 123, 153, 168</p> <div style="border: 2px solid black; background-color: yellow; padding: 10px; margin-top: 10px;"> <p>Have the students work with a partner to construct a compare and contrast graphic organizer to show how the needs of people and plants are alike and different.</p> </div>

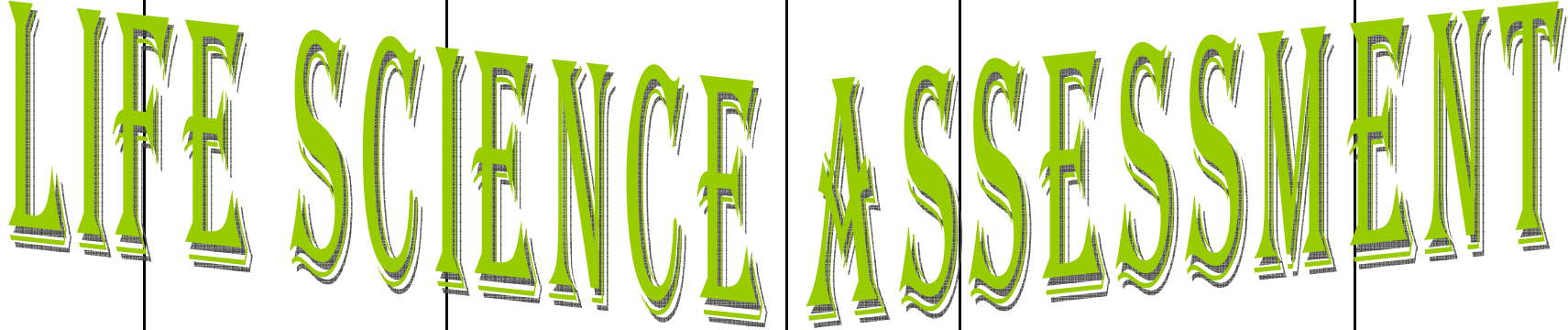
2nd Grade Science Scope and Sequence Overview 2009-2010 60% Hands-on!

Sixth Six Weeks - **Week Five**- May 17-21 - Life Cycles

Standards	New Standard	Processes/ Skills/ Concepts	Vocabulary	Prerequisites	Resources/ Materials
<p>New TEKS</p>	<p>(2.10) Organisms and environments. The student knows that organisms resemble their parents and have structures and processes that help them survive within their environments.</p> <p>(C) investigate and record some of the unique stages that insects undergo during their <u>life cycle</u>.</p>		<p>life cycle stages insect</p>		<p>Internet Activities: http://www.butterflyalphabet.com/</p>



2nd Grade Science Scope and Sequence Overview 2009-2010 60% Hands-on!

Sixth Six Weeks - **Week Six** - May 24-28 - Review and Life Science Assessment

Standards	New Standard	Processes/ Skills/ Concepts	Vocabulary	Prerequisites	Resources/ Materials
					

2nd Grade Science Scope and Sequence Overview 2009-2010 60% Hands-on!

Sixth Six Weeks - **Week Seven**- May 31 - June 4- Summer Solstice

Standards	New Standard	Processes/ Skills/ Concepts	Vocabulary	Prerequisites	Resources/ Materials
<p>Fall Equinox</p> <p>(2.7) The student knows that many types of changes occur. The student is expected to:</p> <p>D. Observe, measure, and record changes in weather, the night sky, and seasons</p> 	<p>(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>(A) measure, record, and graph weather information including temperature, wind conditions, precipitation, and cloud coverage in order to identify patterns in the data;</p> <p>(B) identify the importance of weather and seasonal information to make choices in clothing, activities, and transportation;</p>	<p>► Many types of changes occur.</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <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>	<p>changes weather Summer forecast temperature precipitation cloud coverage patterns heat air conditioning</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> <div style="text-align: center; margin-top: 20px;">  <div style="border: 1px solid blue; padding: 10px; width: fit-content; margin: 0 auto;"> <p>Illustrate different events that are unique to the Summer season.</p> </div> </div>	<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.rxml http://www.elnino.noaa.gov/ ► Internet 4Classrooms: 1. Seasons- story power point 2. Seasonal Changes leon plans ► www.weatherbug.com ► http://weather.cnn.com/weather/forecast.jsp ► http://www.lawrencehallofscience.org/sepup/students/iaes/simulations/SEPUP_Seasons_Interactive.swf ► http://seasons.pppst.com/reasons.htm</p>