

Sampson County Public Schools  
Science Pacing Guide

Second Grade  
2009-2010

Time (approximate teaching days)	Major Concepts	Objective (North Carolina Standard Course of Study)	Strategies	Recommended Resources
First Nine Weeks	Air and Wind	<b>2.01</b> Investigate and describe how moving air interacts with objects.	Observe Pinwheels or weather vanes, Meteorologist Visits; Small Groups; Paired Activities; Thinking Maps; Journals; Promethean Planet	Internet Sites; Thinking Maps Book; 2nd Grade Conference; SKIS/FOSS Science Kits; United Streaming; Brain Pop; Trade Books
First Nine Weeks	Observing Air Pressure	<b>2.02</b> Observe the force of air pressure pushing on objects.	Meteorologist Visits; Small Groups; Paired Activities; Thinking Maps; Journals; Parachutes/Balloon Rockets; Film Canister Experiment; Promethean Planet	Internet Sites; Thinking Maps Book; 2nd Grade Conference; SKIS/FOSS Science Kits; United Streaming; Brain Pop; Trade Books
First Nine Weeks	Using Weather Tools	<b>2.04</b> Identify and use common tools to measure weather: <ul style="list-style-type: none"> <li>• Wind vane and anemometer.</li> <li>• Thermometer.</li> <li>• Rain gauge.</li> </ul>	Wind Vane; Thermometer; Rain Gauges; Making Weather Stations; Journals; Small Group Activities; Thinking Maps; Promethean Planet; Using Sun Dials	DPI Strategies Resource Book; WRAL Weather; Internet Sites; Thinking Maps Book; 2nd Grade Conference; SKIS/FOSS Science Kits; United Streaming; Brain Pop; Trade Books <a href="http://www.ncpublicschools.org/curriculum/science/units/elementary/">http://www.ncpublicschools.org/curriculum/science/units/elementary/</a>
First Nine Weeks	Describing	<b>2.03</b> Describe	Journals; Using Rain Gauges,	Rain Gauges, Temperature Gauges,

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<b>Weeks</b>  <b>First Nine Weeks</b>	Weather Using Quantitative Measures	weather using quantitative measures of: <ul style="list-style-type: none"> <li>• Temperature</li> <li>• Wind direction.</li> <li>• Wind speed.</li> <li>• Precipitation</li> </ul>	Temperature Gauges, Weather Vanes, Pinwheels, Kites; Strategies in DPI Science Book; Meteorologist Visits; Group Activities; Thinking Maps; Promethean Planet	<b>Weather Vanes, Pinwheels, Kites; DPI Strategies Resource Book; WRAL Weather; Internet Sites; Thinking Maps Book; 2nd Grade Conference; SKIS/FOSS Science Kits; United Streaming; Brain Pop; Trade Books</b> <a href="http://www.ncpublicschools.org/curriculum/science/units/elementary/">http://www.ncpublicschools.org/curriculum/science/units/elementary/</a>
<b>First Nine Weeks</b>	Water Cycle	<b>2.05</b> Discuss and determine how energy from the sun warms the land, air and water.	Promethean Planet; Thinking Maps; Journals; Terrariums; Aquariums; Brainpop; Strategies in DPI Science Book; Condensation Bags	<b>Rain Gauges; Temperature Gauges; DPI Strategies Resource Book; WRAL Weather; Internet Sites; Thinking Maps Book; 2nd Grade Conference; SKIS/FOSS Science Kits; United Streaming; Brain Pop; Trade Books</b>
<b>First Nine Weeks</b>	Weather Changes	<b>2.06</b> Observe and record weather changes over time and relate to time of day and time of year.	Weather Graphs; Thinking Maps; Weather Calendar; Journals; Small Group Activities; Seasons; Globes; Models of the earth, sun, moon	<b>Rain Gauges; Temperature Gauges; DPI Strategies Resource Book; WRAL Weather; Internet Sites; Thinking Maps Book; 2nd Grade Conference; SKIS/FOSS Science Kits; United Streaming; Brain Pop; Trade Books</b>
<b>Second Nine Weeks</b>	Sound Production	<b>4.01</b> Demonstrate how sound is produced by vibrating objects and vibrating columns of air.	Journals; United Streaming; Brain Pop; Strategies in DPI Science Book; Musical Instruments: Kazoo, rattles, Noise makers; Strings...guitars; Whisper Phones/PVC pipes; Thinking Maps	<b>DPI Science Units, Elementary/High School Music/Band Teacher; Alexander G. Bell Video; Various noisemakers &amp; Instruments; Class Visitors; Model of the ear; Thinking Maps Book; 2nd Grade Conference;</b>

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				<p><b>SKIS/FOSS Science Kits; United Streaming; Brain Pop; Trade Books; DPI Strategies Resource Book; <i>Polar Express</i></b>  <a href="http://www.ncpublicschools.org/curriculum/science/units/elementary/">http://www.ncpublicschools.org/curriculum/science/units/elementary/</a></p>
<b>Second Nine Weeks</b>	Rate of vibration alters frequency	<b>4.02</b> Show how the frequency can be changed by altering the rate of the vibration	String Activity; Musical Instruments; Tuning Forks; Comb/waxed paper/plastic wrap activity;	<b>Elementary/High School Music/Band Teacher; Alexander G. Bell Video; Thinking Maps Book; 2nd Grade Conference; SKIS/FOSS Science Kits; United Streaming; Brain Pop; Trade Books; DPI Strategies Resource Book; <i>Polar Express</i></b>
<b>Second Nine Weeks</b>	Size/Shape of instrument – Alters Frequency	<b>4.03</b> Show how the frequency can be changed by altering the size and shape of a variety of instruments.	Handmade instruments from boxes, etc.; xylophone; bell; small/large drum; volunteers; stuffed animal “noises;” United Streaming; Mystery Sound Website; Brain Pop; Thinking Maps	<b>Elementary/High School Music/Band Teacher; Ear Model; Ear/Nose/Throat Doctor Visit; Thinking Maps Book; 2nd Grade Conference; SKIS/FOSS Science Kits; United Streaming; Brain Pop; Trade Books; DPI Strategies Resource Book; <i>Polar Express</i></b>
<b>Second Nine Weeks</b>	How the Ear Works	<b>4.04</b> Show how the human ear detects sound by having a membrane that vibrates when sound reaches it.	Ear Model; Whisper Phones/PVC Pipes; Audiologist Visit; Journals; Health Resources; Thinking Maps; Small group activities; Speech Pathologist Visit; Journals	<b>Ear Model; Ear/Nose/Throat Doctor Visit; Thinking Maps Book; 2nd Grade Conference; SKIS/FOSS Science Kits; United Streaming; Brain Pop; Trade Books; DPI Strategies Resource Book; Health-Related Objectives; <i>Polar Express</i></b>
	How	<b>4.05</b> Observe and	Vocal Cord Investigations; Speech	<b>Elementary/High School</b>

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<b>2<sup>nd</sup> Nine Weeks</b>	Sounds are Produced	describe how sounds are made by using a variety of instruments and other "sound makers" including the human vocal cords.	Pathologist Visit; Thinking Maps; Small group activities; Journals; Strategies from DPI Science Resource Book; Orchestra Video from United Streaming, etc.	<b>Music/Band Teacher; Thinking Maps Book; 2nd Grade Conference; SKIS/FOSS Science Kits; United Streaming; Brain Pop; Trade Books; DPI Strategies Resource Book; Polar Express</b>
<b>Third Nine Weeks</b>	Solids, Liquids, & Gases	<b>3.01</b> Identify three states of matter: <ul style="list-style-type: none"> <li>• Solid.</li> <li>• Liquid.</li> <li>• Gas.</li> </ul>	Models; Melting and Evaporation Experiments; Making Oobleck; <a href="http://www.instructables.com/id/Oobleck/">http://www.instructables.com/id/Oobleck/</a> ; Promethean Planet Flip Charts; Make Ice Cream; Thinking Maps – Tree Maps w/ Pics; Circle Maps w/ Pics; Bridge Map – Changes in States of Matter; Strategies from DPI Science Resource Book	<b>Bartholomew and the Oobleck Book; Thinking Maps Book; 2nd Grade Conference; SKIS/FOSS Science Kits; United Streaming; Brain Pop; Trade Books; Promethean</b>
<b>Third Nine Weeks</b>	Changes in States of Matter (+ or – heat)	<b>3.02</b> Observe changes in state due to heating and cooling of common materials.	Heating experiments; Make popsicles; Ice Experiments; Dry Ease; Body changes due to changes in weather; Thinking Maps; Promethean Flip Charts	<b>Thinking Maps Book; 2nd Grade Conference; SKIS/FOSS Science Kits; United Streaming; Brain Pop; Trade Books; Promethean Planet; Various Sizes Pots and Pans</b>
<b>Third Nine Weeks</b>	Transfer of Heat	<b>3.03</b> Explain how heat is produced and can move from one material or object to another.	Heating experiments; Rubbing Hands Together; Boy Scout Leader Visit; Discovery Streaming; Promethean Planet; Brain Pop; Heating Experiments; Thinking Maps	<b>Thinking Maps Book; 2nd Grade Conference; SKIS/FOSS Science Kits; United Streaming; Brain Pop; Trade Books; DPI Strategies Resource Book; Promethean Planet; Various Sizes Pots and Pans</b>
	Properties	<b>3.04</b> Show that	Thinking Maps; Journals; Small	<b>Use all previously recorded</b>

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<b>Third Nine Weeks</b>	of Matter	solids, liquids and gases can be characterized by their properties.	group activities; Promethean/ACTIV Board Activities	<b>resources.</b>
<b>Third Nine Weeks</b>	Mixtures (Reversible)	<b>3.05</b> Investigate and observe how mixtures can be made by combining solids, liquids or gases and how they can be separated again.	Salt & Pepper/Trail Mix Experiments; Thinking Maps: Brace Map; Brain Pop; Egg Separation; Journals	<b>Thinking Maps Book; 2nd Grade Conference; SKIS/FOSS Science Kits; United Streaming; Brain Pop; Trade Books; Promethean Planet</b>
<b>Third Nine Weeks</b>	Chemical Changes (Irreversible )	<b>3.06</b> Observe that a new material is made by combining two or more materials with properties different from the original material.	Balloon/Baking Soda/Vinegar Experiment; Oil/Water-Lava Lamp Experiment; Salt Water Experiment; Make cookies & pizza; Thinking Maps; Journals; Strategies from DPI Science Resource Book;	<b>Thinking Maps Book; 2nd Grade Conference; SKIS/FOSS Science Kits; United Streaming; Brain Pop; Trade Books; DPI Strategies Resource Book; Promethean Planet</b>
<b>Fourth Nine Weeks</b>	Life Cycles of Animals	<b>1.01</b> Describe the life cycle of animals including: <ul style="list-style-type: none"> <li>• Birth.</li> <li>• Developing into an adult.</li> <li>• Reproducing.</li> <li>• Aging and</li> </ul>	Thinking Maps; Promethean Planet; Baby Pictures; Pictures of Stages of Life; Flow map on stages of Life; Journals; Frogs; Butterflies; Mealworms; Ladybugs; Discovery Streaming, Strategies from DPI Science Resource Book	<b>Thinking Maps Book; 2nd Grade Conference; SKIS/FOSS Science Kits; United Streaming; Brain Pop; Trade Books; DPI Strategies Resource Book; Promethean Planet; Live Animals; Aquariums</b> <a href="http://www.ncpublicschools.org/curriculum/science/units/elementary/">http://www.ncpublicschools.org/curriculum/science/units/elementary/</a>

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<b>Fourth Nine Weeks</b>	Needs of an Insect	<b>1.02</b> Observe that insects need food, air and space to grow.	Observe Habitats; Thinking Maps; Promethean Planet; United Streaming; Nature Walks; Mike's Farm; Strategies from DPI Science Resource Book; Journals for Observations	<b>Thinking Maps Book; 2nd Grade Conference; SKIS/FOSS Science Kits; United Streaming; Brain Pop; Trade Books; DPI Strategies Resource Book; Promethean Planet; Live Animals; Eric Carle Books</b>
<b>Fourth Nine Weeks</b>	Life Cycle of an Insect	<b>1.03</b> Observe the different stages of an insect life cycle.	Live Animals; Journals for Observations; United Streaming; Promethean Planet; Thinking Maps: Flow Maps, Etc.	<b>Eric Carle Books; Thinking Maps Book; 2nd Grade Conference; SKIS/FOSS Science Kits; United Streaming; Brain Pop; Trade Books; DPI Strategies Resource Book; Promethean Planet; Live Animals; Eric Carle Books</b>
<b>Fourth Nine Weeks</b>	<b>Compare and Contrast Life Cycles</b>	<b>1.04</b> Compare and contrast life cycles of other animals such as mealworms, ladybugs, crickets, guppies or frogs.	<b>Field Trip to the Museum of Life and Science; Live Animals; Journals; Thinking Maps: Flow/Double Bubble;</b>	<b>Eric Carle Books; Thinking Maps Book; 2nd Grade Conference; SKIS/FOSS Science Kits; United Streaming; Brain Pop; Trade Books; DPI Strategies Resource Book; Promethean Planet; Live Animals; Eric Carle Books</b>