

## SENECA VALLEY SCHOOL DISTRICT

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### CURRICULUM

<b>Course Title:</b>	<b>Science</b>
<b>Grade Level(s):</b>	<b>2</b>
<b>Periods Per Week:</b>	<b>5</b>
<b>Length of Period:</b>	<b>40 Minutes</b>
<b>Length of Course:</b>	<b>Full Year</b>
<b>Faculty Author(s):</b>	<b>Lynn Davis, Kelly DelGreco, Marlene Brennan, Terri Keller</b>
<b>Date:</b>	<b>May 2, 2012</b>

### COURSE DESCRIPTION:

Science instruction in the SVSD will be based on inquiry-based learning process in a developmentally appropriate method using a learning cycle. At the 2nd grade level students will be actively engaged in learning related to the physical, earth, and life sciences.

**The state has developed anchors (points of focus) in Science. The anchors specify eligible content for the content areas. The anchors include standards 1.1, 1.2, and 1.3**

**The Objectives that address anchors have been bolded.**

The following outline provides a general overview of the course content, not a chronological timetable. The weeks denoted for each area provide an idea for the overall time spent working with a given topic throughout the school year.

COURSE OUTLINE	OBJECTIVES (PA standard)			
<p><b>I. Physical Science</b></p> <p><b>I. Matter</b></p> <p>A. Physical Change</p> <p>1. States of Matter</p> <p>a. Solid</p> <p>b. Liquid</p> <p>c. Gas</p> <p>2. Change of State</p> <p>a. Freezing</p> <p>b. Melting</p> <p>c. Evaporation</p> <p>d. Condensation</p> <p>3. Mixtures</p> <p>a. Solutions</p> <p>b. Separations</p> <p>B. Chemical Change</p> <p>1. Chemical Reactions</p> <p>a. New Substance</p> <p>b. Color Change</p> <p>c. Odor</p> <p>d. Heat</p>	<p>Predict, record, and explain the physical properties of matter. <b>S2.C.1.1.1</b></p> <p>Describe ways that physical changes affect objects. <b>S4.A.1.3.3</b></p> <p>Categorize and classify matter based on its physical properties. <b>S4.C.1.1.2</b></p> <p>Draw, record, and explain how water goes through phase change. <b>S4.D.1.3.2</b></p> <p>Develop question-generating strategies through discussions, prior knowledge, and charts to answer scientific questions. <b>S4.A.2.1.1</b></p> <p>Prepare and interpret an investigation using one variable. <b>S4.A.2.1.2</b></p> <p>Record and analyze predictions based on observations of natural phenomenon. <b>S4.A.2.1.3</b></p> <p>Record and report a conclusion based on information and data. <b>S4.A.2.1.4</b></p> <p>Select and use appropriate instruments to complete a task. <b>S4.A.2.2.1</b></p> <p>Record and discuss observable patterns. <b>S4.A.3.3.1</b></p> <p>List and discuss predictions of future conditions on observable patterns. <b>S4.A.3.3.2</b></p> <p>Name energy forms and list examples. <b>S4.C.2.1.1</b></p> <p>Record fact and opinion through predictions and observable results. <b>S4.A.1.1.1</b></p> <p>Collect data, compare, and graph measurable changes. <b>S4.A.1.3.1</b></p>			



COURSE OUTLINE	OBJECTIVES (PA standard)			
<p><b>II. Earth Science</b></p> <p><b>I. Air</b></p> <p>A. Exploring Air</p> <ol style="list-style-type: none"> <li>1. Air Properties</li> <li>2. Air Pressure               <ol style="list-style-type: none"> <li>a. Resistance</li> <li>b. Compressed</li> </ol> </li> </ol> <p><b>II. Weather</b></p> <p>A. Exploring Weather</p> <ol style="list-style-type: none"> <li>1. Weather Elements               <ol style="list-style-type: none"> <li>a. Conditions</li> <li>b. Temperature</li> </ol> </li> <li>2. Weather Tools               <ol style="list-style-type: none"> <li>a. Thermometer</li> <li>b. Anemometer</li> <li>c. Rain Gauge</li> <li>d. Wind Vane</li> <li>e. Wind Scale</li> </ol> </li> <li>3. Basic Clouds               <ol style="list-style-type: none"> <li>a. Cirrus</li> <li>b. Stratus</li> <li>c. Cumulus</li> </ol> </li> <li>4. Weather Patterns</li> <li>5. Seasonal Change</li> </ol>	<p>Identify and describe ways to measure size and distance. <b>S4.A.1.3.2</b></p> <p>Develop question-generating strategies through discussions, prior knowledge, and charts to answer scientific questions. <b>S4.A.2.1.1</b></p> <p>Record and analyze predictions based on observations of natural phenomenon. <b>S4.A.2.1.3</b></p> <p>Record and report a conclusion based on information and data. <b>S4.A.2.1.4</b></p> <p>Select and use appropriate instruments to complete a task. <b>S4.A.2.2.1</b></p> <p>Record and discuss observable patterns. <b>S4.A.3.3.1</b></p> <p>List and discuss predictions of future conditions on observable patterns. <b>S4.A.3.3.2</b></p> <p>Record fact and opinion through predictions and observable results. <b>S4.A.1.1.1</b></p> <p>Collect data, compare, and graph measurable changes. <b>S4.A.1.3.1</b></p> <p>Use models and record observations to explain how systems work. <b>S4.A.3.2.2</b></p> <p>Demonstrate the force of air pressure. <b>S4.C.3.1.1</b></p> <p>Name and describe the basic types of clouds and their effects on weather conditions. <b>S4.D.2.1.1</b></p> <p>Record and describe weather patterns from collected data using charts or graphs. <b>S4.D.2.1.2</b></p> <p>Use and describe appropriate weather instruments to study weather and what they measure. <b>S4.D.2.1.3</b></p>			

COURSE OUTLINE	OBJECTIVES (PA standard)			
	Recognize how the tilt of the Earth's axis causes seasonal change. <b>S4.D.3.1.3</b>			

COURSE OUTLINE	OBJECTIVES (PA standard)			
<p><b>III. Life Science</b></p> <p><b>I. PA Habitats</b></p> <p>A. Living/Non-living</p> <p>B. Types of Habitats</p> <ol style="list-style-type: none"> <li>1. Wetlands</li> <li>2. School/neighborhood</li> <li>3. Woodlands/Forest</li> <li>4. Meadow/Farmland</li> </ol> <p>C. Animals found in PA habitats</p> <p>D. Characteristics of Habitats</p> <p>E. Interaction with Environment</p> <ol style="list-style-type: none"> <li>1. Food Chain/Web</li> </ol>	<p>Indicate and discuss living and nonliving components of a local ecosystem. <b>S4.B.3.1.1</b></p> <p>Identify and list how living and nonliving components interact in a local environment. <b>S4.B.3.1.2</b></p> <p>List and describe ways living things changes when its habitat is changed. <b>S4.B.3.2.1</b></p> <p>Predict how changes in the environment affect systems. <b>S4.B.3.2.2</b></p> <p>Indicate and describe life processes. <b>S4.B.1.1.1</b></p> <p>Label and discuss external characteristics of organisms. <b>S4.B.1.1.2</b></p> <p>Record and describe the basic needs of living things. <b>S4.B.1.1.3</b></p> <p>List and describe how parts of living things work together to provide what an organism needs. <b>S4.B.1.1.4</b></p> <p>List and relate characteristic for plant and animal survival in different environments. <b>S4.B.2.1</b></p> <p>Indicate specific adaptations that help living organisms survive. <b>S4.B.2.1.2</b></p> <p>Identify and describe what different models represent. <b>S4.A.3.2.1</b></p> <p>Indicate and discuss living and nonliving components of a local ecosystem. <b>S4.B.3.1.1</b></p> <p>Illustrate, describe, and compare technological changes, past and present, in the community. <b>S4.A.1.1.2</b></p> <p>Discuss, predict, and infer the effects of environmental changes on living things. <b>S4.A.1.3.4</b></p> <p>Draw and describe how human behaviors impact the environment. <b>S4.A.1.3.5</b></p>			

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	<p>Identify and describe what different models represent. <b>S4.A.3.2.1</b></p> <p>Predict how changes in the environment affect systems. <b>S4.B.3.2.2</b></p> <p>Record and explain human activities that depend on the natural environment. <b>S4.B.3.3.1</b></p> <p>Differentiate between major land uses. <b>S4.B.3.3.4</b></p> <p>Draw and describe the effects of pollution. <b>S4.B.3.3.5</b></p> <p>Identify prominent Earth features. <b>S4.D.1.1.1</b></p> <p>Use models to locate various Earth structures. <b>S4.A.2.1.1</b></p> <p>Identify and discuss ways human benefit from the use of water resources. <b>S4.D.1.2.3</b></p> <p>Name and locate types of freshwater and saltwater bodies. <b>S4.D.1.3.1</b></p> <p>List and describe products and byproducts for meeting human wants and needs. <b>S4.D.1.2.1</b></p> <p>Identify and describe natural and man-made materials and their uses. <b>S4.D.1.2.2</b></p> <p>Predict how changes in the environment affect systems. <b>S4.B.3.2.2</b></p> <p>List and describe the characteristics of sound. <b>S4.C.2.1.4</b></p>			