

## SENECA VALLEY SCHOOL DISTRICT

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### CURRICULUM

Course Title:	Science
Grade Level(s):	6
Periods Per Week:	5
Length of Period:	40 Minutes
Length of Course:	27 Weeks plus 9 Weeks of Health
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Date:	October 2, 2013

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### COURSE DESCRIPTION:

Sixth grade science will encompass 27 weeks of Earth Science using the SEPUP Module *Issues & Earth Science*. Sections I, II and III are skills and processes to embed into the content areas in this curriculum. The first two sections will incorporate the PA Core Academic Standards for Reading in Science and Technology and Academic Standards for Writing in Science and Technical Subjects. The third section, Inquiry Process Skills, provides an overview of the inquiry based approach to teaching science. All three of these sections need to be addressed to support the delivery of the content.

Earth Science includes: Studying Soils Scientifically, Rocks and Minerals, Erosion and Deposition, Plate Tectonics, Weather and Atmosphere

Note: Nine weeks of science instruction is dedicated to the health curriculum (see sixth grade health curriculum document).

**This document is based on the PA Assessment Anchors and Eligible Content Anchors.  
Please review and follow the attached Pennsylvania Academic Standards for Science and Technology.**

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)			
<b>I. Reading in Science</b>	<p>CC.3.5.6-8.A. Cite specific textual evidence to support analysis of science and technical texts.</p> <p>CC.3.5.6-8.B. Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.</p> <p>CC.3.5.6-8.C. Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.</p> <p>CC.3.5.6-8.D. Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to <i>grades 6–8 texts and topics</i>.</p> <p>CC.3.5.6-8.E. Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to an understanding of the topic.</p> <p>CC.3.5.6-8.F. Analyze the author’s purpose in providing an explanation, describing a procedure, or discussing an experiment in a text.</p> <p>CC.3.5.6-8.G. Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in flowchart, diagram, model, graph, or table).</p> <p>CC.3.5.6-8.H. Distinguish among facts, reasoned judgment based on research findings, and speculation in a text.</p>			

<p><b>II. Writing in Science</b></p>	<p>CC.3.5.6-8.I. Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.</p> <p>CC.3.5.6-8.J. By the end of grade 8, read and comprehend science/technical texts in the grades 6–8 text complexity band independently and proficiently.</p> <p>CC.3.6.6-8.A. Write arguments focused on <i>discipline-specific content</i>.</p> <ul style="list-style-type: none"> <li>• Introduce claim(s) about a topic or issue, acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically.</li> <li>• Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources.</li> <li>• Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence.</li> <li>• Establish and maintain a formal style.</li> <li>• Provide a concluding statement or section that follows from and supports the argument presented.</li> </ul> <p>CC.3.6.6-8.B. * Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes.</p> <ul style="list-style-type: none"> <li>• Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories as appropriate to achieving purpose; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension.</li> <li>• Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples.</li> </ul> <ul style="list-style-type: none"> <li>• Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts.</li> <li>• Use precise language and domain-specific vocabulary to</li> </ul>			
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<p><b>III. Inquiry Process</b></p> <p>A. Scientific Method</p>	<p>inform about or explain the topic.</p> <ul style="list-style-type: none"> <li>• Establish and maintain a formal style and objective tone.</li> <li>• Provide a concluding statement or section that follows from and supports the information or explanation presented.</li> </ul> <p>CC.3.6.6-8.C. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p> <p>CC.3.6.6-8.D. With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.</p> <p>CC.3.6.6-8.E. Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.</p> <p>CC.3.6.6-8.J.I. Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.</p> <p>Differentiate fact and opinion using The Scientific Method. <b>S8.A.1.1.1</b></p>			
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<p>B. Conduct Investigations</p> <ol style="list-style-type: none"> <li>1. Pose questions</li> <li>2. Make claims</li> <li>3. Construct models</li> <li>4. Collect data/evidence</li> <li>5. Analyze data</li> <li>6. Draw conclusions</li> <li>7. Cite evidence</li> </ol>	<p>Students pose testable questions, conduct investigations, and make claims citing supporting evidence related to a specific content area. <b>S8.A.1.1.2</b></p> <p>Analyze data to make claims and support inferences with evidence. <b>S8.A.1.1.3</b></p> <p>Students will construct models to support their predictions using hypothesis-based evidence. <b>S8.A.1.1.4</b></p> <p>Students will associate how scientific and technological concepts explain the solution for everyday problems. <b>S8.A.1.2.3</b></p> <p>Define and explain ratios. <b>S8.A.1.3.1</b></p> <p>Interpret and analyze data to explain changes in a system over time. <b>S8.A.1.3.2</b></p> <p>Interpret and analyze variables and data to explain changes in a system over time. <b>S8.A.1.3.3</b></p> <p>Student will measure a variety of variables and interpret the data the use of content specific measurement. <b>S8.A.2.1.1</b></p> <p>Student will explore relationships in an inquiry-based environment. <b>S8.A.2.1.2</b></p> <p>Student will conduct controlled experiments based on course content. <b>S8.A.2.1.3</b></p> <p>Create and interpret various types of graphs, charts, and data tables. <b>S8.A.2.1.4</b></p>			
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COURSE OUTLINE	OBJECTIVES (PA standard)			
<p>D. Weather and Atmosphere</p>	<p>Describe ways technology extends and enhances human abilities for specific purposes (e.g., microscope, telescope, micrometer, hydraulics, and barometer). <b>S8.A.2.2.3</b></p> <p>Recognize the three methods of heat transfer. <b>S8.C.2.1.2</b></p> <p>Describe the water cycle and the physical processes on which it depends (i.e., evaporation, condensation, precipitation, transpiration, runoff, infiltration, energy inputs, and phase changes). <b>S8.D.1.3.1</b></p> <p>Compare and contrast characteristics of freshwater and saltwater systems on the basis of their physical characteristics (composition, density, and electrical conductivity) and their use as a natural resources. <b>S8.D.1.3.3</b></p> <p>Explain the impact of water systems on the local weather or the climate of a region (e.g., lake effect snow, land/ocean breezes). <b>S8.D.2.1.1</b></p> <p>Identify how global patterns of the atmospheric movement influence regional weather and climate. <b>S8.D.2.1.2</b></p> <p>Identify how cloud types, wind directions and barometric pressure changes are associated with weather patterns in different regions of the country. <b>S8.D.2.1.3</b></p>			

COURSE OUTLINE	OBJECTIVES (PA standard)			
<p><b>V. Health</b></p> <p>A. Drug and Alcohol Prevention</p> <p>    a. Making Good Choices</p> <p>    b. Red Ribbon Week</p> <ul style="list-style-type: none"> <li>• Drugs</li> <li>• Alcohol</li> <li>• Tobacco</li> <li>• Steroids</li> </ul> <p>B. HIV/AIDS</p>	<p>Encourage good character and a drug free lifestyle</p> <p>Explain factors that influence childhood and adolescent drug use (decision making/refusal skills). 10/1/6D</p> <p>Analyze environmental factors that impact health (indoor air quality, second hand smoke &amp; natural disasters). 10.2.6.E</p> <p>Describe strategies to avoid or manage conflict and violence (anger management/“Roid Rages” peer mediation, reflective listening, negotiation). 10.3.6.C</p> <p>Explain the media’s effect on health and safety issues. 10.2.6.C</p> <p>Follow effective precautions against diseases transmitted through blood and body fluids. 10.2.6</p> <p>Classify types and side effects of drugs, alcohol, tobacco, and steroids.</p>			





COURSE OUTLINE	OBJECTIVES (PA standard)			
	individual well-being (immunization & health examinations). 10.2.6.A			