

Teacher/Grade: K.Langdon 4	Topic: Water Quality and Impact on People/Environment	Month/Time span: Nov.-Dec
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EIC Curriculum Map
Pennsylvania Academic Standards:

<u>Environment & Ecology</u>		<u>Reading, Writing, Speaking & Listening</u>	
<ul style="list-style-type: none"> • 4.1.4A,B,C • 4.3.5C • 4.8.4C • 4.9.4A 		<ul style="list-style-type: none"> • 1.1.5A,B,D,H • 1.4.5B • 1.6.5A 	
<u>Science & Technology</u>		<u>Math</u>	
<ul style="list-style-type: none"> • 3.5.4D • 3.3.4A • 3.7.4 C,D,E 		<ul style="list-style-type: none"> • 2.6.5(A) 	
<u>Civics & Government</u>		<u>Geography</u>	
<ul style="list-style-type: none"> • 6.3.6A • 6.3.6B 		<ul style="list-style-type: none"> • 7.4.6A • 7.4.6B 	
<u>History</u>		<u>Career Education and Work</u>	
<ul style="list-style-type: none"> • NA 		<ul style="list-style-type: none"> • N/A 	
<u>Health Safety and Physical Education</u>		<u>Family and Consumer Science</u>	
<ul style="list-style-type: none"> • N/A 		<ul style="list-style-type: none"> • N/A 	
<u>Arts and Humanities</u>			
<ul style="list-style-type: none"> • 9.1.5A,B,C,D 			
<u>Economics</u>			
<ul style="list-style-type: none"> • N/A 			
<u>World Languages</u>			
<ul style="list-style-type: none"> • N/A 			

Goals and Objectives:

- 4.1.4(A,B,C) Explore physical properties of water cycle
- 4.8.4(C) Explain how human activities impact/change the environment.
- 4.9.4(A) Know that there are laws and regulations for the environment
- 3.5.4(D) Recognize the earth's water resources.
- 6.3.6(A) Explain how scarcity influences choices and behaviors.
- 6.3.6(B) Explain how limited resources cause scarcity.
- 7.4.6(A) Describe the impact of physical systems on people.
- 7.4.6(B) Describe the impact of people on physical systems.
- 1.4.5(B) Write informational piece.
- 1.6.5(A) Present orally to an audience
- 2.6.5(A) Organize and display data using graphs.

Overview of Integrated Activities:

<ul style="list-style-type: none"> • Create a KWL chart based on water quality and introduce 4 main types of pollution. • Perform water quality tests at Smith's Run (DO, nitrates, phosphates, pH, temperature, and turbidity) • Collaboratively brainstorm and record various uses and overuses of water in a community. • Using Enviro-scape as a visual, identify and record different types of pollution. • Work in groups to create their own community based on "Dream-A-Stream" highlighting things necessary in a human habitat. • In lab groups, discuss water uses in order to complete "Fred the Fish", and "Farmer Brown" water quality lab. • Read stream laws and regulation from Pennsylvania. Discuss the definition of a Bill of Rights for the United States. • Collaboratively complete "Deadly Waters" handout. 	<ul style="list-style-type: none"> • In groups, read and understand every step of water filtering, and the water filter process. • As a whole, analyze various water quality tests results. • Brainstorm the importance of clean water and why it is necessary for a state to maintain strict water regulations. • Technology activity: Create water quality safety flyer for SCEE using computer • Entries for the Clean Water Contest sponsored by the Philadelphia Water Department and Partnership for the Delaware Estuary.
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Assessment

<ul style="list-style-type: none"> • 4.1.4(A,B,C) Perform tests on Smith's Run and record 	<ul style="list-style-type: none"> • 4.1.4(A,B,C) Create a drinking water filter.
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<p>observations in Water Quality Manual.</p> <ul style="list-style-type: none"> • 1.4.5(B) Maintain Nature Journal on various topics. • 4.8.4(C) Create a diagram of a community located by a stream. • 3.5.4(D), 6.3.6(B),7.4.6(B),4.8.4(C) Write an individual “Water Bill of Rights” based on regulations and discussion of water. • 4.8.4(C), 3.5.4(D) Graph water pollution based on “Deadly Waters” • 4.1.4(A,B,C), 2.6.5(A) Analyze and graph samples of water pollution test results. 	<ul style="list-style-type: none"> • 1.4.5(B) Write a persuasive essay to a state representative highlighting the need for strict water regulations.
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Resources

<p>Eco-Van Workbook</p> <p>Project Wet- Migration Headache</p> <p>Water Quality Manual/ Teacher’s Guide</p> <p>La Motte Green Water Monitoring Kit</p> <p><i>History Alive!</i></p>	
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