



Teaching Units for High School Science Developed by  
Duke University Graduate Students in Pharmacology 693/694  
Master of Arts in Teaching (MAT)

<http://sites.duke.edu/rise/duke-courses/pharm-693694/>

## Daily Lesson Plan

<b>Course Name: AP Environmental Science/AP Biology</b>	<b>Ⓢ Standard Ⓢ Honors ● AP</b>
<b>Unit Title: Ecological Health of the Ellerbe Creek Watershed and its Environmental Implications</b>	<b>Day/Date: Day 16 of 16</b>
<b>Relevant NC Standard Course of Study Goal(s):</b> <ul style="list-style-type: none"> <li>• <b>Bio.2.2</b> Understand the impact of human activities on the environment.</li> <li>• <b>EEn.2.2</b> Understand how human influences impact the lithosphere.</li> <li>• <b>EEn.2.4</b> Evaluate how humans use water.</li> <li>• <b>EEn.2.8</b> Evaluate human behaviors in terms of how likely they are to ensure the ability to live sustainably on Earth.</li> </ul>	
<b>Specific Lesson Objectives</b>	
<b>Students will understand:</b> <ol style="list-style-type: none"> <li>1. Human activities (including population growth, urbanization, pollution, global warming, burning of fossil fuels, habitat destruction, and introduction of non-native species) may impact the environment from one generation to the next.</li> <li>2. Humans influence freshwater availability and quality in North Carolina's river basins, wetlands, and tidal environments.</li> </ol>	
<b>Students will know:</b> <ol style="list-style-type: none"> <li>1. How humans modify ecosystems through population growth, technology, resource consumption, and production of waste</li> <li>2. That urban development in the North Carolina Piedmont leads to habitat destruction and urban runoff</li> <li>3. The effects of pesticides, herbicides, and pharmaceuticals on freshwater ecosystem health</li> <li>4. Local environmental policies and organizations striving for effective conservation methods and stewardship</li> <li>5. How drinking water, stormwater, and wastewater systems impact the quantity and quality of water</li> <li>6. How to evaluate the quality of North Carolina streams (chemical &amp; physical properties and biotic indices)</li> </ol>	
<b>Students will be able to:</b> <ol style="list-style-type: none"> <li>1. Write a scientific research paper that includes the introduction, materials and methods, results, discussion, and literature cited sections</li> <li>2. Verbally present scientific findings to a group of peers and professionals</li> </ol>	

<b>Key Vocabulary for this Lesson</b>
<ul style="list-style-type: none"> <li>• <i>N/A</i></li> </ul>
<b>Materials</b>
<ul style="list-style-type: none"> <li>• Copies of the completed research paper</li> </ul>
<b>Technology Needs</b>
<ul style="list-style-type: none"> <li>• Computer</li> <li>• Projector</li> </ul>

<b>LESSON ACTIVITIES</b>			
<b>Opening (Hook, Warm-Up, Anticipatory Set, Review, etc.)</b>			
<i>Describe activity to elicit active involvement of students or refer to previous learning:</i> N/A			
<b>Procedure: Include all sections that apply to this lesson; combine as necessary.</b>			
<b>Section</b>	<b>Time</b>	<b>What the Teacher will do:</b>	<b>What the Students will do:</b>
<b>Statement of Objective &amp; Purpose</b>	X minutes	N/A	N/A
<b>Input, Modeling, &amp; Check for Understanding</b>	X minutes	N/A	N/A
<b>Guided Practice</b>	X minutes	N/A	N/A
<b>Independent Practice/ Homework</b>	X minutes	<ol style="list-style-type: none"> <li>1. Teacher will coordinate with the Durham City Council to ensure students will be given an opportunity to present the classes findings at a public meeting</li> <li>2. Teacher will ensure students have the necessary equipment for their presentation to the Durham City Council</li> </ol>	<ol style="list-style-type: none"> <li>1. A selected group of students will work with the teacher to develop a professional presentation to be delivered to the Durham City Council</li> <li>2. The group of students will present the classes findings to the Durham City Council at a public meeting</li> <li>3. Students will provide copies of their research paper to council members and citizens</li> </ol>
<b>Closing/ Summary</b>	X minutes	N/A	N/A
<b>Assessment of Student Learning</b>			
<i>How &amp; when will you know that the students have learned this material?</i> N/A			
<b>Differentiation Strategies*</b>			
<i>How will you adjust aspects of the lesson to accommodate student READINESS?</i>			
<b>Struggling Students:</b>	<b>Gifted/Advanced Students:</b>	<b>English Language Learners:</b>	
N/A	N/A	N/A	

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<b><i>How will you adjust aspects of the lesson to accommodate students' LEARNING PROFILES?</i></b>		
N/A		
<b><i>How will you adjust aspects of the lesson to accommodate students' INTERESTS?</i></b>		
N/A		