

Rachel Carson Estuary Coastal Project

Biology/English 9/Computer Applications I

Rationale Statement: Students complete the standard course of study objectives for ecology unit in biology via hands-on, team-based approach.

Duration of Lesson: 1 full day trip, 1 week out of class time for final product completion, 1 hour videoconference.

Objectives:

1. Provide students with the opportunity to learn about the NC coastal environment and what unique plants and animals are found in a healthy estuary system
2. Use of digital equipment – cameras, probes, and calculators
3. Use of online research skills connected with local university (Duke)
4. Practice videoconferencing skills comparing data collected from NC coast with data from a Pacific marine ecosystem.
5. Develop teamwork, leadership, oral presentation, and computer application skills
6. Generate a professional lab report using desktop publishing with MLA style, quantitative and qualitative writing skills
7. Create a professional presentation for the videoconference using PowerPoint
8. Create a professional video for the videoconference (optional)

Project: Create a PowerPoint Presentation required for the videoconference with Pacific Coast biologists. Coastal data must be accurate and understandable and be reflected in the lab report.

Lab Report

1. ___ Title must describe topic of report
2. ___ Hypothesis must express your expectations of the result as an answer to the problem statement
3. ___ List all lab equipment and other materials needed to perform the experiment
4. ___ Describe each step of the experience
5. ___ Show all data, measurements, tables, sketches, and graphs used to arrive at conclusion
6. ___ Conclude if hypothesis is supported or rejected, give an analysis of collected data

Components of PowerPoint

1. ___ Title and end slides included
2. ___ Use of tables
3. ___ Use of Excel formulas
4. ___ Colors used are appropriate and font is easy to read
5. ___ Transitions are used
6. ___ Custom animation used
7. ___ Information in logical order
8. ___ Works Cited Slide (MLA Style)

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Presentation

1. ___ Voice clear and appropriate volume
2. ___ Correct pronunciations, terms and grammar
3. ___ Target audience appropriate
4. ___ Eye contact on audience, not reading from slides
5. ___ Prepared and professional
6. ___ Examples given
7. ___ Ask and answer questions
8. ___ Engages audience

Use of Technology

1. ___ Use of digital camera and digital video cameras
2. ___ Use of online research using MLA format
3. ___ Use of calculators and CBL 2 probes

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Category	Weight/ Points	A	B	C	D/F	GRADE
Science: Lab Report		All 6 sections addressed correctly/completely. Report is logically organized and meaningful. Strong conclusion supported by data.	5 questions sections addressed correctly/completely. Report shows organization and meaning but lacks a full scope.	4 sections addressed correctly/completely. Report lacks organization and meaning. It does not provide enough detail.	3 or fewer sections addressed correctly/completely. Report shows no organization and lacks meaning.	
Science Presentation		Clearly evident what presenters wanted us to know about topic. Thought given about topic before research began. Examples, details, and data help the audience understand how and why data was collected. Evidence of a higher level of thinking.	Evident what presenters wanted to know about topic. Good conclusions supported with research. Evidence that the researcher derived meaning from the field trip experience and thought through the topic.	Unclear what interested the presenters about the topic. Weak conclusions drawn. Some meaning derived from field trip experience.	No evidence presenters thought about what they wanted to know about the topic. No clear evidence that presenters came up with their own conclusions. No evidence of meaning derived from field trip experience and no clear appreciation for topic.	
Presentation Skills		Excellent lead draws the audience in. Presenters demonstrate professional presentation skills: voice, eye contact, addressing target audience, correct terms and pronunciations, well prepared with examples and data.	Good lead. Presenters demonstrate strong presentation skills with only minor errors.	Weak lead. Presenters lacking in several presentation skills, not well prepared.	No lead. Presenters not prepared to give presentation, lacking examples and data with poor presentation skills.	
English Mechanics		Fewer than three grammar/spelling errors. Sources cited where appropriate.	Five or fewer grammar/spelling errors. Sources cited where appropriate.	No more than ten grammar/spelling mistakes. Some source citations issues noted.	More than ten grammar/spelling errors. No sources cited.	
Technology		All PowerPoint components used. Easy to read, easy for audience to follow and understand. All equipment used properly with accurate readings.	All but one PowerPoint component used. Easy to read and for audience to follow. All equipment used properly with accurate readings.	Missing two or more PowerPoint components. Not easy for audience to follow. All equipment used, but not accurate readings.	Did not follow PowerPoint instructions, hard to read and for audience to follow. Did not use all equipment properly.	

Field Trip Planning Checklist

Interdisciplinary PBL Checklist:

- Teachers brainstorm ideas for interdisciplinary integrated projects
- Teachers develop project
 - Assignment
 - Rubric/Assessment
- Choose location based on project
- Choose date based on school calendar and curriculum
- Submit field trip request with school/district (if needed)
- Determine costs and make necessary reservations
 - Buses
 - Admissions (museums, national parks, etc)
 - Meals
- Determine cost per student or other funding
- Create itinerary and dress code with teachers
- Provide itinerary to students and parents
- Arrange substitute teachers and funding if needed
- Confirm reservations, payments, collections, etc.

Linville Caverns Website Project

Earth Science/English 10/Computer Applications II

Rationale Statement: Students complete individual websites after studying and visiting the Linville Falls and Linville Caverns in the mountains of NC.

Duration of Lesson: 1 full day trip, 1 week of class time in computer applications II, some class time in earth science and English 10

Objectives:

1. Provide students with the opportunity to learn about the NC mountain environment and the development of the topography in person
2. Practical application of web design
3. Practical application of research skills – both online and in person
4. Practical application of sensory poetry and mechanics

Project: You have been hired to design and create a web page for Linville Caverns/Falls. Use the following requirements to make an attractive and effective five-page site.

Home Page: The Caverns [Save as “index.html”]

1. ____ Design and create a Linville logo – place it appropriately on the top of page near title
2. ____ Picture of Linville Cavern – centered near top of webpage
3. ____ Describe the difference between caverns and caves and how they were created
4. ____ Describe the climate in the caves
5. ____ Menu buttons/bar linking all four pages
6. ____ Body link, V-link, and A-link colors
7. ____ Animated bulleted list
8. ____ At least one table (at least one row and 3 data cells)
9. ____ Animated Image Link to your email
10. ____ Web Page Counter

Page 2: The Bottomless Lake

1. ____ Describe the lake and develop a theory for the formation. Specify it is a theory.
2. ____ Links to all four pages
3. ____ One link to another place on the **same page** (Ex. back to the top)
4. ____ An animated horizontal rule
5. ____ An animated picture
6. ____ One image link to a URL on the Internet
7. ____ At least one table (at least one row and 3 data cells)

Linville Caverns Website Project

Earth Science/English 10/Computer Applications II

Page 3: The Falls

1. ___ Links to all four pages
2. ___ Circle Bulleted list
3. ___ One image link to another page of your website or other URL
4. ___ At least one table (at least one row and 3 data cells)

Page 4 Visitors Page

1. ___ Must link to all pages
2. ___ Square Bulleted List w/ features of cavern
3. ___ Provide adequate info about the caverns: their formation, history, admission cost, hours, features
4. ___ Provide adequate info about the falls: admission cost, hours, features
5. ___ Include at least one picture of an organism that lives in the caverns
6. ___ Text describing 3 pictures of caverns (pictures must be original – not from website)
7. ___ At least 2 pictures of Linville Falls (original pictures)
8. ___ At least 3 other photos of AOIT classmates/you in caverns

Page 5 – Linville Caverns: A Visitor’s Reflections – Save as: “Visitor’s Reflections.html”

Write a sensory-descriptive poem that captures the essence of the cavern. Use precise details and word choice that captures the atmosphere, mood, and details of the cave. The poem can be about the entire cavern experience from the moment you enter the cavern to the time you leave, or can cover a specific moment in the cavern.

1. ___ The poem effectively uses **sensory details** to recreate the **mood**
2. ___ The poem has effective **sensory details** throughout that “put the reader there”
3. ___ The poem is creative and unique, yet it has a logical organizational structure
4. ___ The content reflects a significant amount of detail, time, and thought
5. ___ There is evidence of sufficient planning and revising before the final copy
6. ___ Must link to all pages
7. ___ Insert poem centered with font and color choice to fit mood
8. ___ Insert appropriate clipart, pictures or artistic design to make the page fit the mood of the poem
9. ___ Insert a midi song to fit mood

Required Elements for ALL pages of your webpages:

1. ___ Titles in the browser line
2. ___ At least three pictures per page or more
3. ___ Centered flamingtext.com headlines on all pages and name on homepage
4. ___ At least 2 different sized fonts per page (two font size tags)
5. ___ At least 2 multi-colored fonts per page (two font color tags)
6. ___ At least 2 multiple font faces per page (Ex. Arial) (two font face tags)
7. ___ At least on underlined, bolded, and italicized text per page
8. ___ At least one unordered and ordered list per page (except for page 5)
9. ___ One horizontal rule per page

Linville Caverns Website Project

Earth Science/English/Computer Applications II

Category	Weight/ Points	A	B	C	D/F	GRADE
Science Content: All questions answered Quality of response		All six questions addressed correctly/completely. Project ideas are logically organized, meaningful, and look at all points of view. Content shows great effort, time, and thought processing.	Five questions addressed correctly/completely. Project ideas show organization and meaning but lack a full scope. Content shows some effort, time, and thought processing.	Four questions addressed correctly/completely. Project ideas lack organization and meaning. It does not explain all points of view. Content shows lack of effort, limited time and thought processing.	Three or fewer questions addressed correctly/completely. Project ideas show no organization or meaning and tell only one point of view. Content shows nearly no effort, very limited time and thought processing.	
Science/CA Content: Presentation of webpages/ content		Excellent lead draws the reader in. Clearly evident what web designer wanted us to know about topic. Thought given about topic before research began. Examples, details, stories and arguments help the audience understand how web designers got from beginning to end results.	Good lead. Evident what web designer wanted to know about topic. Good conclusions supported with research.	Weak lead. Unclear what interested the Web designer about the topic. Weak conclusions drawn.	No lead. No evidence Web designer thought about what he/she wanted to know about the topic. No clear evidence that Web designer came up with his/her own conclusions.	
English Reflective Poem: Connection to theme		Web designer demonstrates that he/she made connection to theme from the field trip experience in an interesting, creative, informative way and used a higher level of thinking. Mood of poem demonstrated through web page design and multimedia (including music).	Makes connections to unite theme(s), but missing some focus and/or lacks higher-level thinking. Evidence that the researcher derived meaning from the field trip experience and thought through the topic. Mood of poem demonstrated, but lacks elements of a multimedia experience (music).	Attempts to make connections to theme(s), lacks clear focus, and minimal use of higher-level thinking skills. Some meaning derived from field trip experience. Mood of poem weakly demonstrated.	Makes only simplistic connection to theme(s) with minimal to no focus and/or no effort to include higher-level thinking skills. No evidence of meaning derived from field trip, experience and no clear appreciation for topic. Mood of poem weakly demonstrated and no multimedia elements attempted.	
English Mechanics		Fewer than three grammar/spelling errors. Sources cited where appropriate.	Five or fewer grammar/spelling errors. Sources cited where appropriate.	No more than ten grammar/spelling mistakes. Some source citations issues noted.	More than ten grammar/spelling errors. No sources cited.	
Computer Applications Completeness		All 43 html checklist items correctly displayed on site. Pages are readable, easily navigable and relevant.	38 – 42 html checklist items correctly displayed on site.	30-37 html checklist items correctly displayed on site.	Fewer than 30 html checklist items correctly displayed on site	
Computer Applications Quality		Site meets the target audience needs for Linville Caverns. Site is engaging for users. Site could be mistaken for a professionally designed site.	Site meets most of the target audience needs for Linville Caverns. Site is attractive for users. Site has some professionally designed qualities.	Site meets some of the target audience needs for Linville Caverns. Site layout is neat and organized for users. Functional, but not engaging.	Site does not meet the target audience needs for Linville Caverns. Site layout is disorganized for users.	