**University of West Alabama**

**COE**

**5E Lesson Plan**

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| Teacher: Ms. S. Crawford \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Date: February 20, 2014\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Subject area/course/grade level: Environmental Science; 11-12th grade\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Materials: Computer, Internet access for research purposes and PowerPoint\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Standards:   1. Classifying biota of estuaries, marshes, tidal pools, wetlands, beaches (shoreline), and inlets. 2. Comparing components of marine water to components of inland bodies of water.   Objectives:   1. Students will be able to identify the differences between ocean and freshwater biomes.  Students will identify animals and plants found in various biomes.  1. Students will be able to characterize biomes based on biotic and abiotic factors. 2. Students will be able to relate how organisms interact with their environment. 3. Students will be able to demonstrate how biomes dictate biodiversity and the characteristics of organisms that reside there.   Differentiation Strategies: Students with special needs will be paired with a gifted student and allowed extended time if  needed. Students with visual and hearing impairments will be seated in the front of the class for the PowerPoint  presentations. If needed, additional accommodations will be made based on the student’s IEP. ­ |

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| **ENGAGEMENT:** The class will be polled in order to gage how much they already know about the various biomes. Students will answer a set of 5 questions via iClicker. At the end of the project/presentation, students will be given a similar poll with the anticipation of seeing a higher percentage of correct answers. |
| **EXPLORATION:**  Students will then be broken into groups of three students and presented with their aquatic biome for research. All students within the group will be expected to contribute in a significant manner. Groups will have 2 weeks to work on the project and will present on the 1st class day of the 3rd week. Three class days will be spent in the library to allow time for research and time to work on presentations. |
| **EXPLANATION:**  On the first day, students will be shown a model biome presentation completed by the teacher as an example of the quality of the final product expected of the groups. We will then walk through the presentation rubric together to ensure that the student expectations are clear on all aspects of the presentation. **Monitoring:** This will occur throughout the duration of the project. Teacher will observe students while they research on the 2 library days, redirecting as needed. During the construction of the PowerPoint presentation on the 3rd library day, the teacher will observe students presentations, offering praise for good work and guidance on construction as the need arises. **Check for Understanding**: Students will turn in a rough draft of their presentations with all of the information they will input into the PowerPoint after the 2nd library day. |
| **ELABORATION:**  Students will be taken to the library on the 1st day of project, the 4th day and the 7th. The project should be complete within 8 class days. A copy of all collected information that will go into the project should be turned in at the end of class on the 7th class to ensure that students are on task. Presentations will be made on either the 9th or 10th day. Each group will also be responsible for coming up a quiz or some sort of way to ensure that their peers learned something from their presentations. |
| **EVALUATION:**  Students will present their projects to the class and answer any questions that may arise. The class will also be polled with the same questions they answered prior to the project beginning. |

References:

Bybee, R.W. et al. (1989). *Science and technology education for the elementary years: Frameworks for curriculum and instruction.* Washington, D.C.: The National Center for Improving Instruction.

Bybee, R. W. (1997). *Achieving Scientific Literacy: From Purposes to Practices.* Oxford: Heinemann.

National Research Council. (1999). *Inquiry and the national science education standards: A guide for teaching and learning.* Washington, D.C.: National Academy Press.

Polman, J.L. (2000). *Designing project-based silence: Connecting learners through guided inquiry.* New York: Teachers College Press.