



Getting your Feet Wet (Learning Experience #1) Student Procedures



Essential Question: How can we use information about sea level rise and erosion to understand the present and predict the future of Smith Island?

1. Your teacher has posted the essential question for *Getting your Feet Wet* (Learning Experience #1). Write a preliminary answer for the essential question in your journal. Once you complete this learning experience, we will review this question.
2. Locate Smith Island on a map (hint: it is located within the lower Chesapeake Bay). As you examine a satellite view of the island, you will notice the three small towns: Ewell, Rhodes Point and Tylerton. Watch the first minute of the National Geographic video, “Smith Island,” then answer the following questions in your journal:
 - a. What do you notice about the elevation of the land?
 - b. How does it compare to other islands that you have seen or visited?
 - c. What do you notice about the plants that cover most of the land in the video?
 - d. If you wanted to visit Smith Island, how could you get there?
3. The teacher will assign you to a project team of three to four members. Each team member will have a task: researcher (may have two of these), recorder, communicator.
4. Each team is playing the role of a parent committee of the elementary school in the Smith Island town of Ewell. High school students do not attend school on the island – they take the ferry to the Eastern Shore town of Crisfield each day. For the past several years the elementary school children and their teachers have dealt with water from the Chesapeake Bay flooding the school during episodes of especially high tides and storms.
 - a. Write a few sentences in your journal about how the children might manage the flooding of their school and island home.
 - b. What should be done to solve the problem of school flooding?
5. The parent committee represented by your team is preparing a funding request to the state of Maryland and the Federal government. The funds requested would be used to help prevent the continuous loss of land and flooding. In preparing your request, one of the first things that you must do is calculate the amount of Smith Island which has actually disappeared in the past 150 years. Where will you look for this information? As a team, complete *The Last One* (Student Sheet #1).



6. After your team completes *The Last One*, locate some of the other islands on the eastern side of the Bay that at one time were home to small communities: Holland Island, Barren Island, Poplar Island, Sharp's Island and James Island. The teacher will assign one of these islands to each team; complete the table and questions on *Lost to the Bay* (Student Sheet #2).
7. Your team will report to the class on the location and history of your assigned island. Record the sources used for your information. Following the team reports, write a paragraph in your journal reflecting on how the older people who grew up on these islands may have felt about being forced onto the mainland. What do you think these residents may have been willing to do to save their island homes?
8. Think about the island stories you have heard, especially the causes for abandonment of their settlements. In your journal, write a prediction of what fate Smith Island may face during the next century and explain your reasoning. Discuss your prediction with your team.
9. Have you heard about climate change? Discuss what you know about climate change with your team.
 - a. Write definitions in your journal for these terms: climate, weather, and climate change.
 - b. Explain the differences between the three terms.
 - c. Which affects your plans for this weekend, and which affects the survival of places like Smith Island? Explain your answers.
10. Finish this learning experience by completing the questions and tables on *Looking for Patterns* (Student Sheet #3). The data you are using was gathered using sensors positioned throughout the world. Climatological data from long-ago has been gathered in samples from indirect sources such as air bubbles in ice cores, pollen samples in lake beds and tree rings.
11. Return to the learning experience's essential question and what you wrote in your journal. Answer the following questions in your journal:
 - a. What types of data have been used by your team as you prepare to state the case for funding to preserve Smith Island?
 - b. As scientists analyze data about climate change, what does this data suggest about the future of coastal and island communities in the Chesapeake Bay watershed?