The Land of Many Waters

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Guyana

☀ Call to Action

Clean water is essential to sustaining human life. Learn more about Sandwatch at www.sandwatchfoundation.org

☀ Values

- **Humanitarian**
- **Solidarity**
- **Creative**
- **Committed**
- **Environmentalist**

☀ Lessons Learned

We are all part of the ecosystem. By protecting the environment, we protect ourselves.

Education is the one of the most effective weapons when fighting an environmental battle: by educating people we can inspire them to care about and protect our environment.

To understand the urgent need for change, we must first put ourselves in the place of those who are most affected by the problems we have created.

Anyone can become a steward of the Earth, regardless of age, sex, or nationality.

Guyana is called the "land of many waters."
But until she was in college, Benita Davis never truly understood the fundamental importance of water. Then a trip to Guyana's interior opened her eyes to the myriad ways that mining and oil exploration are hurting her country's rivers, lakes, and streams. The time she spent in the Kaieteur National Park—living off the land and the river alongside Indigenous communities—showed her the destructive impact these activities were having on those communities, and inspired her to educate her compatriots about the importance of protecting freshwater resources. Today, as a guardian of those waters, Benita is on the front lines of the battle to protect this precious natural resource.

☀ Language Arts

Benita uses games and cartoons as a way to educate children about the environmental challenges facing the country of Guyana. Choose an environmental issue facing your community and design a game or cartoon to educate young children about the issue. The game should make clear what the problem is; possible solutions to it; and ways for people, even children, to get involved. Share your game or story with your peers.

Conduct research on the country of Guyana: Where is it? How long are its rivers? What percentage of the population is affected by water pollution? What is the major source of water pollution, and how is it affecting the country's economy? Then, with the information you have collected, create a PowerPoint presentation (at least 10 slides) for your classmates.

Using Google Forms, design a digital escape room, using this [article][1]. You may choose to create your escape room about your chosen environmental issue (the first activity above), or about the country of Guyana (the second activity above). Then share it

with your classmates.

☀ STEM Activities

As in Benita's home country of Guyana, gold and ore mining are a source of water pollution in many small and developing nations. In this activity, students work in groups to learn how various stages of gold extraction and use (mining, production, consumption, disposal) pollute land, air, and water. Then they will discuss how waste products can be managed. Gold mining and impacts activity.[2]

In this activity, break the class into groups of four and ask them to determine the best water solution for each of four different communities. Each student will assume a role as a geologist, climatologist, public health officer, or village elder. Students will each receive a paper with specific information regarding their role in each of the four villages. Using the information from the "Types of Projects" section of The Water Project website, have the groups work together to determine which technology is best for each village. Village Voices Activity Link[3].

More than 800 groups from around the U.S and Canada have signed up to help fund water projects at schools and community centers in Africa. Have your class participate in The Water Project's Water Challenge[4], a fundraiser in which students agree to drink only water for two weeks, and put aside the money they would have spent on other drinks to help provide clean water in Africa. Students will calculate how much money they expect to save by not spending money on sodas, juices, sports drinks, etc. The challenge can be done as a whole class, in teams, or can include students from other classes, and even family members.

Sandwatch is a practical example of how education can be used to further sustainable development. It seeks to empower people of all ages and encourage them to assume responsibility for creating and enjoying a sustainable future. As the Earth faces rising sea levels, changes in storm patterns, and extreme weather events, beaches are among the ecosystems at risk. Start a Sandwatch team and select a beach for the class to monitor. Have the class watch the Sandwatch training videos[5] to learn how to use observation and recording to measure coastal erosion, beach profiles, and analyze water quality, among other things. Students will take the information they have collected and decide how they think action can be taken to address a particular beach-related issue.

Sandwatch in UNESCO[6]: Research and explore Sandwatch projects located in various islands and countries.

☀ Sustainability Innovations

Due to the COVID-19 pandemic, in 2020, much education worldwide shifted to online learning platforms. This has allowed the use of sustainability-focused virtual environmental resources like the Maryland Association for Environmental and Outdoor Education[7]. MAEOE has created home-based environmental education resources to be used by teachers and parents to help teach their children about sustainability issues.

In addition to Benita's efforts, the United Nations Development Programme (UNDP) is focused on addressing sustainability issues in Guyana with their current projects. The three areas of focus for the UNDP - Guyana projects[8] are poverty reduction; democratic governance; and environment, extractive industries, and energy.

South America holds the greatest amount of water resources per capita and per area, but deals with some of the most significant water resource issues regarding availability and pollution. The World Resource Institute[9] highlights organizations and networks in Latin America and the Caribbean that are focusing on solving water issues in these areas.

☀ Sustainability Career Pathways

Game Designer. Like Benita, you can create board games or video games that teach environmental themes: from Spirit Island to Catan: Oil Springs there are now dozens of games that integrate environmental themes and can serve as good educational tools-- but only if they're fun to play. Do you love games? Video games, a growing multi-billion-dollar industry, offer a great opportunity to highlight sustainability themes--and make a living too, as this introduction to board game[10] design makes clear. Learn about a career in video game design here[11].

Environmental Scientist. During her stay in the country's interior, Benita discovered the threat that mercury is posing to both Indigenous communities and the waters of Guyana. Environmental scientists test for toxins, and work on programs and policies to prevent pollution and protect communities. This is a growing field, with lots of career opportunities, as this introduction details[12].

Outdoor Educator. Benita's experience with Sandwatch showed her the value of outdoor education. Today, many children are spending more of their time outdoors. Whether as a Scout leader, camp counselor, or forest kindergarten teacher, there are growing numbers of jobs in outdoor education. There are also many jobs that support outdoor education; for example, managers of town recreation departments. Learn more about this career track here[13].

Nutritionist. Benita was initially planning to become a nutritionist. While this is not typically understood as an environmental career, a good diet is a fundamental health and sustainability lifestyle choice. Diets rich in vegetables and low in animal products are better for both the body and the planet; so teaching people how to eat well is definitely a green job! Are you interested in helping people learn how to eat healthier and more sustainably? Learn more here[14].

1 https://www.bespokeclassroom.com/blog/2019/10/4/how-to-build-a-digital-escape-room-using-google-forms

2 https://serc.carleton.edu/integrate/teaching_materials/mineral_resources/activity6-2.html

3 https://thewaterproject.org/resources/lesson-plans/village-voices

4 https://thewaterproject.org/thewaterchallenge

5 https://www.youtube.com/playlist?list=PLKWNXfyQdXKRzc7_VgS9_ZnrW9477xKh2

6 http://www.unesco.org/new/en/natural-sciences/priority-areas/sids/sandwatch/

7 https://maeoe.org/resource-library/home-based-environmental-education-resources

8 https://www.gy.undp.org/content/guyana/en/home/projects.html

9 https://www.wri.org/our-work/project/eutrophication-and-hypoxia/latin-america-caribbean

10 https://mykindofmeeple.com/how-much-do-board-game-designers-earn/

11 https://www.cgspectrum.com/blog/what-is-game-design#:~:text=A%20game%20designer%20is%20the,almost%20every%20platform%20and%20genre.

12 https://www.thebalancecareers.com/what-is-an-environmental-scientist-526015

13 https://www.masterstudies.com/article/5-exciting-careers-for-outdoor-recreation-majors/

14 https://www.naturalhealers.com/nutritionist/