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Wolfson Campus

REA 0017

Water Conservation through Reducing Our Water Footprint

Objectives:

- To promote student awareness that water is finite and resources are limited and not equally distributed
- To increase student vocabulary in environmental issues regarding water conservation
- To employ advanced reading strategies through summarizing materials
- To recognize the impact that humans have on the environment as it relates to the usage of water
- To encourage students to come up with solutions that will help to reduce their "individual" water footprint

Activities (to be incorporated into the curriculum over a 4 week period): The number of selected activities will vary according to teacher time constraints.

1. In groups of four, have students make of list of how they use water on a daily basis. A class discussion will follow, and then students will be given five minutes to write a paragraph reflecting on what they learned from the activity. Students will be encouraged to share their reflections with class.
2. Distribute copies of the article, "Wet Measure," by Katharine Wroth found in *AMC Outdoors*, October 2010. Have students read the article for homework. On a separate paper, they are to find at least 5 unknown words in the article and define them; write a summary of the article no longer than five sentences; and finally, write a reaction to the article in a paragraph of 10-12 sentences. Students will discuss the article the following class session.
3. For homework, students will go online to www.h2oconserve.org and click on the "Calculator" link. Students will then follow the instructions, answers the questions, and find out their results on the water footprint calculator. Students must click on "Detailed Results" and then save them for a project that will be assigned. Questions focus on water consumption in the following areas: around the house, household products, food, cars and transportation, recycling, electricity, lawns and gardens, and rain collection. Students will discuss their results and what behaviors they may change as a result of these results.
4. Students will form groups of four and work together to answer the following question: What common behaviors consume the most water? Each group will brainstorm to come up with a list, and the lists will then be combined to form a master list. Students will compose a flyer and/ or

an e-mail incorporating that master list to be distributed to all the students in the class to remind them of what not to do in their efforts to conserve water.

5. Students will go online to www.h20conserve.com and read the five (PDFs) H2O Conserve Issue Pages: Indoor Water Use at Home; Outdoor Water Use at Home; The Hidden Water in Everyday Products; Energy's Water Footprint; and How the United States Uses Water. Students will write a 4-5 sentence summary for each Issue Page to be turned in over the course of the four weeks.
6. Students will e-mail the water footprint calculator found on www.h2oconserve.com to four friends/family members to spread the awareness of water usage and water conservation. They will include me as the fifth person to be given credit for the assignment.
7. For homework, students will go to www.waterfootprint.org and click on Glossary. They are to find the definitions of the following words: water footprint of a business; water footprint of a consumer; water footprint of national consumption; water footprint of a product; water self-sufficiency vs. water dependency of a nation. Definitions of these terms are to be brought to the next class session. Students will form groups (of three or four) and in their groups discuss these definitions. Each group will then define these same terms by using their own words to explain the meanings. Groups will then share the definitions they created to see if they are interpreting the definitions in the same way.
8. Students will go online to www.waterfootprint.org, click on Global Water Footprint, bring up the drop down box and click on Water Footprint of Nations. Students will read the map to compare and contrast the different water footprints of nations around the world. They will list all of their observations and submit them for homework. This same map will be projected on a screen the following class session, and students will discuss their observations.
9. Additional student activities that involve creative expression to share information regarding water awareness and water conservation include developing a power point presentation that addresses the use of the water footprint; post water footprint information on social media web pages; create a poster to display on campus that will raise the issue of water conservation; develop and distribute a flyer that will promote water conservation by suggesting ways to reduce water footprint; or develop a skit or write a song to perform explaining the water footprint and water conservation and post on www.youtube.com.

Project: "Reducing My Water Footprint"- Research/Reflection Paper (required)

1. Part 1 - Students will introduce the project by defining the term "water footprint" and explain why this this concept helps to raise awareness and encourage conservation in consumers, businesses, and nations. This introduction should be a maximum of one page.
2. Part 1 - Students will first analyze their "Detailed Results" on the water footprint calculator. The results will show the areas in which water consumption is above average and can be reduced. Students will then write one to two pages listing the areas they are conserving water at the national average or below, as well as those areas that need improvement.
3. Part 2 – Based on their results, students will research online to find suggestions to help them reduce their water footprint. Students will then propose an individualized plan that describes

each of the problem areas and includes one or more suggestions to reduce their water footprint in those areas. Students may also propose alternative, creative solutions to improve their water footprint. Students will also devise some type of tracking device to record the areas they are working on with the actions they are taking over a four week period. Part 2 should be a minimum of one page. The following websites include conservation tips: www.h2oconserve.org; www.waterfootprint.org; www.nationalgeographic/environment/freshwater/water-conservation-tips

4. Part 3 – Four weeks after the first water footprint calculator results, students will take it again. After analyzing these results, the students will then write one to two pages explaining the results. Did their water consumption score improve overall? What were the comments on the "Detailed Results?" Did they follow the plan they had proposed to reduce their consumption of water? Were they pleased with the results? If their overall water consumption increased, provide possible explanations.
5. Part 4 – Reflections – Student will write one to two paragraphs describing their thoughts about this project. Possible responses could address the following questions: Did they enjoy/not enjoy working on this project? (explain the response) Did they find the project informative? Are they more aware of the need to conserve water? Have they changed any of their habits in order to conserve water? Did they share any of the information they learned with family members or friends? Do they think that they will continue to explore ways to reduce their water footprint and/or help others to do the same?
6. The paper should be typed, double-spaced, in 12 point readable font, and include a cover page. All parts should be stapled together before submission.
7. Rubric for grading will be teacher dependent.

Assessment:

1. Research/Reflection Paper
2. Completion of five Summaries from www.h2oconserve.org Conserve Issue Pages, each worth 20 points
3. Multiple choice test developed from information on Conserve Issue Pages
4. Vocabulary quiz on vocabulary developed from assigned readings
5. Credit for additional student activities as described in number 9 (Activities)