

**Global Learning Activity: Submitted by Paul Stevens****Global Freshwater Crisis Project**

Students will research the current freshwater crisis in a foreign country and compare/contrast that with the current situation in the United States. Students will give a 10-15 minute group presentation as well as a written summary of their findings.

**Purpose:**

To help students understand the basic biological importance of freshwater for not only the human race but our earth as a whole. Students will gain a greater knowledge of the current crisis within their own country as well as countries throughout the world.

**Time:**

10 - 20 hours (this will differ based on each group)

**Materials:**

access to the internet/computer, some type of presentation platform (PowerPoint, Prezi, other unique idea)

**Procedure:**

- Discussion/Lecture on the basic chemistry of water as well as its biological importance to our species and the world around us.
- Students will be presented a list of pre-approved (by each instructor) foreign countries currently suffering from a lack of freshwater for human consumption.
- Information found in research will be put together in a written summary and then rendered in a presentation (method is of their choice and approved by instructor) to their peers.
- Assignment: This assignment will be done in groups of 2 or 3 individuals. Groups may be chosen or assigned. A rubric will be provided.

**Assignment Instructions**

- 1. Research background info:** The basic science of the water molecule (1) properties, (2) its importance in sustaining life, and (3) the current crisis in the US vs. a foreign country (assigned or chosen).
2. Group will select a country.
  - The following are a list of some of the countries (insert your school) travels to (or will travel to) as part of the International Program and Study Abroad: countries will differ by school.

-The link below offers an alternative list for the top 36 most water stressed countries:  
<http://www.wri.org/blog/2013/12/world%E2%80%99s-36-most-water-stressed-countries>

3. **Main points that should be researched (ABOUT BOTH COUNTRIES):**

- Scarcity of clean water
- Effects of dirty and unsafe water
- Lack of proper sanitation and hygiene in a community
- Potential effects of dirty water: poor health, fatality rates, increased hunger, perpetual poverty, and lack of access to education
- Methods available to bring clean, safe water to a developing community (challenges of completing ideas and technical solutions)
- Current and possible future water policies
- Impact of climate on the water supply
- Effect of human activities on the water supply
- Identify current freshwater resources
- Role of water in natural and human-made environments
- Identify and describe at least one disease/condition caused by dirty/unsafe water

4. The information researched above should all be compiled and presented to the class in a 10-15 minute presentation. You may use PowerPoint, Prezi, etc. (other ideas can be used but must be approved by the instructor. **EACH PERSON IN THE GROUP SHOULD PRESENT AN EQUAL AMOUNT OF TIME.**

- Groups will make class presentations during the last week of class.
- ONE TYPED written summary WITH ALL GROUP NAMES INCLUDED will suffice. Hand-written OR EMAIL copies will not be accepted.
- At least 5 references required. References used must be from a reputable scientific and/or educational source. No “.com’s” are allowed and points will be taken off if used and cited. References also must be cited. “.org and .edu” are great sources. If you have a story from a reputable NEWS organization please run that by me to see if it will be allowed. If allowed it will NOT count towards the 5 sources.

Formatting for references should be done using the APA style. You may google APA style or simply use this resource from Cornell University to assist you in referencing in and after your summaries/paper.

<https://www.library.cornell.edu/research/citation/apa>

**Resources:**

<http://waterinstitute.unc.edu/>

<http://www.globalresearch.ca/top-ten-countries-at-risk-of-water-shortages/19996>

<http://www.wri.org/blog/2013/12/world%E2%80%99s-36-most-water-stressed-countries>

<http://water.org/water-crisis/water-facts/water/>

<http://www.worldwatercouncil.org/>

<http://www.globalresearch.ca/top-ten-countries-at-risk-of-water-shortages/19996>

<http://worldview4.web.unc.edu/>

<http://africa.unc.edu/>

<http://carolinaasiacenter.unc.edu/>

<http://mideast.unc.edu/>

<http://europe.unc.edu/>

<http://cgi.unc.edu/>

<http://jhfc.duke.edu/latinamericauncduke/>

<http://global.unc.edu/>

<https://duke.edu/APSI>

<http://www.cpc.unc.edu/>

<http://library.unc.edu/>

**Assessment:** Optional Grading Rubric included below

**BIO 110 Class Presentation Grade Sheet**      Name \_\_\_\_\_

<b><i>Component</i></b>	<b><i>Excellent</i></b>	<b><i>Acceptable</i></b>	<b><i>Marginal</i></b>	<b><i>Total</i></b>
<p><b>Written Summary (75 points)</b>            ___ delivered <u>before</u> class (5)            ___ typed, bullet format, at least 2 pages (10)            Content (60, 4 for each category)               ___properties of water</p> <p>   ___importance in sustaining life. Role of water in natural and human-made environments</p> <p>   ___current crisis in the US</p> <p>   ___current crisis in foreign country selected</p> <p>   ___scarcity of clean water in foreign country selected</p> <p>   ___describe improper sanitation and hygiene of foreign country selected</p> <p>   ___identify and describe at least one disease/condition caused by dirty/unsafe water (8 pts.)</p> <p>   ___potential effects of dirty and unsafe water: poor health, fatality rates, increased hunger, perpetual poverty, and lack of access to education (8 pts.)</p> <p>   ___methods available to bring clean, safe water to a developing community in foreign country selected (challenges of completing ideas and technical solutions)</p> <p>   ___current and possible future water policies in foreign country selected</p> <p>   ___impact of climate on the water supply in foreign country selected</p> <p>   ___effect of human activities on the water supply in foreign country selected</p> <p>   ___identify current freshwater resources in foreign country selected</p>	<p><b>Meets all requirements</b></p> <p><b>(4 points)</b></p>	<p><b>Missing requirements</b></p> <p><b>(1-3 points)</b></p>	<p><b>Missing all requirements</b></p> <p><b>(0 points)</b></p>	
<p><b>Presentation Organization (20 points)</b>            ___ group FLOW/transition (10)            ___ interesting sequence, easy to follow (5)            ___ reference section (5)</p>				
<p><b>Presentation Content (30, 2 per category)</b>            ___properties of water</p> <p>   ___importance in sustaining life. Role of water in natural and human-made environments</p>				

<p>___current crisis in the US</p> <p>___current crisis in foreign country selected</p> <p>___scarcity of clean water in foreign country selected</p> <p>___describe improper sanitation and hygiene in foreign country selected</p> <p>___identify and describe at least one disease/condition caused by dirty/unsafe water (4 pts.)</p> <p>___potential effects of dirty and unsafe water: poor health, fatality rates, increased hunger, perpetual poverty, and lack of access to education in foreign country selected (4 pts.)</p> <p>___methods available to bring clean, safe water to a developing community in foreign country selected (challenges of completing ideas and technical solutions)</p> <p>___current and possible future water policies in foreign country selected</p> <p>___impact of climate on the water supply in foreign country selected</p> <p>___effect of human activities on the water supply in foreign country selected</p> <p>___identify current freshwater resources in foreign country selected</p>				
<p><b>Personal Presentation Grade (25)</b></p> <p>___ students maintains eye contact with Audience (5)</p> <p>___ seldom returns to notes/screen (5)</p> <p>___ student uses loud, clear voice, (3)</p> <p>___ correct and precise pronunciation of terms. (3)</p> <p>___ asks questions/engages audience (4)</p> <p>___ presents a roughly equal % compared to the rest of the group (5)</p>				
<p><b>Power Point/Presentation Mechanics (25)</b></p> <p>___ presentation has no grammatical or spelling errors. (5)</p> <p>___ presentation is creative, easy to follow/read, is professional (8)</p> <p>___ images explain and reinforce screen text and presentation content (5)</p> <p>___ 10-15 images in presentation (2)</p> <p>___ 12-16 slides (5)</p>				
<p><b>Total Classroom Presentation(100)</b></p> <p><b>Total Written Summary(75)</b></p> <p><b>Total Points earned: _____</b></p>				

**Notes:**  
Start Time: \_\_\_\_\_ End Time: \_\_\_\_\_ Number of Slides \_\_\_\_\_ Number of Images \_\_\_\_\_