

Creative Lessons To Open Classrooms & Minds To The World.



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Eleventh Grade Lesson Plans

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LESSON PLAN TITLE

Show Me The Clean Water!

DESIGNERS

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SUMMARY AND RATIONALE

The Earth is 70% water, yet 2.7 billion people find safe drinking water scarce for at least one month every year. One in nine or 844 million people lack safe drinking water. Of the 500 largest cities in the world, one out of four is now “water stressed.” Natural resource problems like these are rarely the result of one country, region, or city and never solved without the active collaboration of many. The United Nations’ SDG #11, Creating Sustainable Cities and Communities, targets to enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries.

In this lesson, groups of 3-4 students will learn about national and international water problems, then select water issues and develop an action plan that seeks to educate their school or city community.

GRADE

11th

TIME FRAME

Three 50-minute periods or an extended three more 50-minute periods

SUBJECTS

History
Social Studies
Environmental Science

INSTRUCTIONAL GOALS

Students will learn that water issues exist all over the world and it is the role of both governing bodies and citizens to provide awareness and develop solutions to these issues.

STANDARDS

- CA HSS.11.11- Students analyze the major social and domestic policy issues in contemporary American society.
- CA RH.11.7- Integrate and evaluate multiple sources of information presented in diverse formats and media to address a question or solve a problem.
- CA WHST.11.7- Conduct short as well as more sustained research projects to answer a question or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating an understanding of the subject under investigation.
- PA 4.3.12.B. - Analyze factors that influence the local, regional, national, and global availability of natural resources.
- S-ESS3-1- Construct an explanation based on evidence for how the availability of natural resources, occurrence of natural hazards, and changes in climate have influenced human activity.

UNDERSTANDING

In 2010, the UN declared water as a human right, but there is a problem with clean water availability throughout the world, and more so in poor and rural communities. However, causes can be studied, and solutions can be made through advocacy and action.

ESSENTIAL QUESTIONS

Civilizations and cities have historically developed along water sources.

- What happens when that water source cannot sustain the city?
- What are similar causes for water problems in the world’s major cities?
- Who is charged with developing solutions?

STUDENT LEARNING OBJECTIVES

- The student will be able to analyze information from multiple sources.
- The student will be able to categorize causes, problems, and solutions.
- The student will be able to develop solutions for a water problem in their school or community.

ASSESSMENT

Students will create a Public Service Announcement and Awareness Posters or (extension) a presentation to school or local city officials. Students will share their product with the school community. For example, students can create QR Codes of their PSA and post throughout campus on Earth Day or they can display their advocacy poster near drinking fountains.

SEQUENCE OF ACTIVITIES

DAY 1

ACTIVITY 1 (OPENER)

Where does the water in the school’s drinking fountain come from? Trace the source of that water as far back as you can (natural source) and the process to get it in the building (infrastructure). Another option, What is in the tap water? Students can use this website to get started <https://www.ewg.org/tapwater>. This website will provide the utility company that provides water to their community and tells what is found in the tap water.

ACTIVITY 2

As individuals students are assigned to read or listen to stories about water problems in the United States and complete the inside the U.S. graphic organizer. Links to all articles, video, and podcast are located on the

graphic organizer. Teachers can choose to find other articles, videos, podcasts that meet their student’s academic needs, align with their community, or select only one story for all students.

ACTIVITY 3

As a class, students share out the “interesting facts” they found. Through class discussion, determine which fact was the most alarming. Open sharing about ideas the United States government could do to help the situation. Apply information about the discussion to our community. How would we react to a situation like that of other U.S. cities? Would our reactions be any different than someone else from around the world? As a ticket-out-the-door, write what you can do about the city water crisis.

DAY 2

ACTIVITY 4

In groups, students choose one of the twelve cities to research, and answer the outside of the U.S. graphic organizer about water issues.

ACTIVITY 5

As a class, discuss how water issues in the U.S. are similar and/or different than water issues outside the U.S. What are some solutions? What does thinking global but acting local look like in our school community?

ACTIVITY 6 (CLOSER)

Introduce the assessment. Students will create a 30 second Public Service Announcement on a water issue or and/or an advocacy poster. Students can use an online tool such as Adobe Spark to create their PSA.

<https://www.youtube.com/watch?v=iWrx0SxTaBw>. Here is a good article for students to read about how to compose a PSA <https://www.govtech.com/education/news/How-to-Create-the-Perfect-Public-Service-Announcement.html>

Example of PSA:

https://www.youtube.com/watch?v=uqajniK_OqI If the advocacy poster is selected, students follow the same suggestions for the PSA but create a poster instead.

DAY 3

Workday for PSA/Advocacy Poster.

DAY 4-6 (EXTENSION)

- First, students will learn about the role of the school and city governance, the process members of the community must complete to presentation at their public meetings.
- Second, students will discuss the water problem they want to address and the solutions. This is a continuation of a problem that was brought up during days 1-3.
- Finally, students will create the presentation and complete the process of signing up to speak at a board meeting or city council meeting.

RESOURCES FOR TEACHERS

<https://water.org/our-impact/water-crisis/>

- Online resources can be found linked throughout the lesson and graphic organizers

WATER ISSUES INSIDE THE UNITED STATES**DIRECTIONS**

Read or listen to your respective story and complete this graphic organizer. Be sure to answer with concise details.

- #1: Read about what is happening in Michigan. <https://www.dogonews.com/2016/1/20/the-water-crisis-in-flint-michigan>
- #2: Listen to what is happening in the Navajo Nation. <https://www.youtube.com/watch?v=qjMLyISKoT0>
- #3: Read about what is happening in Pennsylvania. <https://pennfuture.org/Blog-Item-A-Primer-on-Pennsylvanias-Water-Crisis-Challenges-Impacting-Every-Community> and <https://pennfuture.org/Blog-Item-Part-II-A-Primer-on-Pennsylvanias-Water-Crisis-Solutions>
- #4: Listen to what is happening in California. <https://www.latinousa.org/episode/valley-of-contrasts/>

What is the water problem?

What caused the problem?

<p>List and explain the significance of three people, places or things mentioned in the article:</p> <p>1.</p> <p>2.</p> <p>3.</p>	<p>List three interesting facts or figures from the article:</p> <p>1.</p> <p>2.</p> <p>3.</p>
<p>What can the United States government do to solve the problem?</p>	<p>What can we do to make sure that this problem does not happen in our community?</p>

WATER ISSUES OUTSIDE THE UNITED STATES

DIRECTIONS

Research one of the following cities who is/will be facing a water shortage. A good place to start your research is the article The 11 cities most likely to run out of drinking water - like Cape Town at <https://www.bbc.com/news/world-42982959>. Be sure to answer with concise details!

Bangalore	Cape Town	London	New Delhi
Beijing	Istanbul	Mexico City	Tokyo
Cairo	Jakarta	Moscow	Sao Paulo
<p>Which city did you choose?</p> <p>In which country is it located?</p>		<p>What is the city's current population?</p>	
<p>What is their water problem?</p>		<p>What caused the problem?</p>	
<p>List and explain two people, places, or things connected to the water issue:</p> <p>1.</p> <p>2.</p>		<p>List two interesting facts or figures from the research:</p> <p>1.</p> <p>2.</p>	
<p>Compare and contrast water issues from the U.S. city and the international city.</p>			

PUBLIC SERVICE ANNOUNCEMENT RUBRIC (20 POINTS)

CATEGORY	4	3	2	1
Point of View - Awareness of Audience	Strong awareness of audience in the design. Students can clearly explain why they felt the vocabulary, audio and graphics chosen to fit the target audience.	Some awareness of audience in the design. Students can partially explain why they felt the vocabulary, audio and graphics chosen to fit the target audience.	Some awareness of audience in the design. Students find it difficult to explain how the vocabulary, audio and graphics chosen to fit the target audience.	Limited awareness of the needs and interests of the target audience.
Point of View - Purpose	Establishes a purpose early on and maintains a clear focus throughout.	Establishes a purpose early on and maintains focus for most of the video.	There are a few lapses in focus, but the purpose is clear.	It is difficult to figure out the purpose of the video.
Content	The video includes exactly the right amount of detail throughout. It does not seem too short nor does it seem too long.	The video composition is typically good, though it seems to drag somewhat OR need slightly more detail in one or two sections.	The video seems to need more editing. It is noticeably too long or too short in more than one section.	The video needs extensive editing. It is too long or too short to be interesting.
Sound Quality	Sound quality is clear and consistently audible throughout the presentation.	Sound quality is clear and consistently audible throughout the majority (85-95%) of the presentation.	Sound quality is clear and consistently audible through some (70-84%) of the presentation.	Sound quality needs more attention.
Visual Clarity	Video did not rock/shake and the focus was excellent throughout.	Video did not rock/shake and the focus was excellent for much of the video.	Video had a little rocking/shaking, but the focus was excellent throughout.	Problems with rocking/shaking AND focus.

ADVOCACY POSTER RUBRIC (20 POINTS)

CATEGORY	4	3	2	1
Use of Class Time: Productivity and Focus	Used time well during each class period. Focused on getting the project done. Never distracted others.	Used time well during each class period. Usually focused on getting the project done and never distracted others.	Used some of the time well during each class period. There was some focus on getting the project done but occasionally distracted others.	Did not use class time to focus on the project OR often distracted others.
Graphics - Relevance	All graphics are related to the topic and make it easier to understand. All borrowed graphics have a source citation.	All graphics are related to the topic and most make it easier to understand. All borrowed graphics have a source citation.	All graphics relate to the topic. Most borrowed graphics have a source citation.	Graphics do not relate to the topic OR several borrowed graphics do not have a source citation.
Graphics - Originality	Several of the graphics used on the poster reflect an exceptional degree of student creativity in their creation and/or display.	One or two of the graphics used on the poster reflect student creativity in their creation and/or display.	The graphics are made by the student but are based on the designs or ideas of others.	No graphics made by the student are included.
Required Elements (TBD by teacher)	The poster includes all required elements as well as additional information.	All required elements are included on the poster.	All but 1 of the required elements are included on the poster.	Several required elements were missing.
Knowledge Gained	Student can accurately answer all questions related to facts in the poster and processes used to create the poster.	Student can accurately answer most questions related to facts in the poster and processes used to create the poster.	Student can accurately answer about 75% of questions related to facts in the poster and processes used to create the poster.	Student appears to have insufficient knowledge about the facts or processes used in the poster.

