



THE UNIVERSITY OF ARIZONA
COLLEGE OF SOCIAL & BEHAVIORAL SCIENCES

Center for Middle Eastern Studies

Fulbright-Hays
University of Arizona
Center for Middle Eastern Studies
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Jordan's Water Crisis

Unit Overview	
Grade/Subject	8th Grade Geography
Guiding Questions	What geographical and sociological factors contribute to droughts in water-poor regions like Jordan? How can technology be used to increase access to water?
Assessments	
Formative Assessments	Exit slips and bell ringer quizzes designed to assess students' comprehension of the content covered during each class period in this mini-unit.
Summative Assessments	A quiz with both multiple choice and free response questions will be given to assess students' knowledge of the bodies of water present in Jordan, how Jordanians (in the Nabatean age) shaped their water-poor environment to ensure water was plentiful in the region, the geographical and socio-political factors that led to Jordan's Water Crisis, and strategies that the Jordanian government are implementing to increase their water supply.
Texts	
Fiction	n/a
Nonfiction	<ul style="list-style-type: none">• Chapter 8 of <i>Discovering World Geography: Eastern Hemisphere</i> by Richard G. Boehm• <i>Petra and the Lost Kingdom of the Nabateans</i> by Jane Taylor• Notes from lecturers about Aqaba, as there was a lengthy discussion about how Jordan plans to use its water resources
Instructional Resources	
Maps	Map of Jordan (included on notes and on the quiz)
Graphic Organizers	Graphic organizers will include a copy of the map so students can identify where water resources can be found in Jordan. These organizers will also contain notes covering how the Nabateans preserved water, the impacts that climate change and overpopulation had on Jordan's

	water supply, and the strategies being strategized by the Jordanian government to increase their supply.
Images	Images depicting the water canals that were present in Petra during the reign of the Nabatean kingdom, the present bodies of water including the Red Sea and the Dead Sea compared to how they were in the 1970s and 2000s, and pictures illustrating various methods Jordan plans to increase their water supply
Videos	Videos on desalination (https://www.youtube.com/watch?v=gA_XVxhBmTQ) and greywater recycling (https://www.youtube.com/watch?v=K-pP-4SGenE)

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Pacing

This unit is approximately 1 week or 5 sessions of instruction.

Lesson	Learning Objective	Standard	Resources/Assessments
1. Jordan in Context: A Brief History	<p>1. Students will learn briefly about the history of Jordan, including its Biblical, Classical, Islamic, and Modern Eras.</p> <p>2. Students will illustrate on a map Jordan's neighbors, its historical regions in the Biblical and Classical period, etc.</p>	<p>GEO.A.1: Students should use maps and globes to locate places and regions.</p> <p>GEO.F.1: Students analyze and evaluate the impact of physical and human geographical factors on major historical events.</p> <p>GEO.F.2: Students compare, contrast, and predict how places and regions change with time.</p>	<p>Resources: In our discussion today, students will use their notes to jot down information connected to the history of Jordan, both in notes and on the maps I provide to them</p> <p>Assessment: At the end of the class, I will give students an exit slip quiz that will briefly review their understanding of the content of today's class.</p>
2. Introduction to Jordan's Water Crisis	<p>1. Students will reflect on their own water usage habits to visualize how these habits</p>	<p>GEO.A.1: Students should use maps and globes to locate places and regions.</p>	<p>Resources: In our discussion today, students will use the graphic organizers to compare</p>

	<p>might differ if they were Jordanian.</p> <p>2. Students will briefly learn about how Nabatean-era Jordan managed to preserve water for citizens and guests.</p> <p>3. Students will understand the environmental and socio-political factors that helped contribute to Jordan's current water crisis.</p>	<p>GEO.F.1: Students analyze and evaluate the impact of physical and human geographical factors on major historical events.</p> <p>GEO.F.2: Students compare, contrast, and predict how places and regions change with time.</p>	<p>their own water usage to the average amount of water available in Jordan, to map out where Jordan's water sources are, and to take notes on how Jordan's water crisis escalated in recent decades.</p> <p>Assessment: At the end of the class, I will give students an exit slip in which students will reflect on their own water usage patterns to hypothesize on how these would change if they lived in Jordan.</p>
<p>3. Combatting Jordan's Water Crisis</p>	<p>1. Students will be able to describe in their own words the different approaches that Jordan uses to provide water to its citizens, including water reclamation and desalination.</p> <p>2. In a paragraph on the quiz, students will write an argument discussing what solution mentioned in today's class could be best to answer Jordan's needs.</p> <p>3. For homework, students conduct a research project on places in America that are stricken by droughts. Not only will they describe what factors are contributing to droughts in this region, but they also will discuss what drought solution described in today's class would be best in resolving this crisis. Students will describe what they learned next time in class.</p>	<p>GEO.D.5: Students can analyze how conflict and cooperation shape social, economic, and political use of space.</p> <p>GEO.F.1: Students analyze and evaluate the impact of physical and human geographical factors on major historical events.</p>	<p>Resources: In our concluding discussion, we will talk about the ways Jordan is trying to preserve its water supply. This includes two videos on water desalination and how Jordan is trying to recycle its greywater for future uses.</p> <p>Assessment: Students will complete a quiz at the end of class reviewing what we learned in this unit. This includes how Jordanians (in the Nabatean age) shaped their water-poor environment to ensure water was plentiful in the region, the geographical and socio-political factors that led to Jordan's Water Crisis, and strategies that the Jordanian government are implementing to increase their water supply.</p>