

Grades 9-12

NOVA “Saving the Dead Sea”

There's no place on Earth like it. Cleopatra attributed her beauty to its secrets. King Herod built one of the world's first health spas on its shores. And as the biblical story goes, "rocks and fire falling from the sky" buried Sodom and Gomorrah and the sea became "the sea of salt" -- The Dead Sea. Now this wonder of the world is dying. Since 1976, its level has declined by more than sixty-five feet. Its coastline is pockmarked with thousands of sinkholes. Can the Dead Sea be saved? After more than a decade of research and debate, scientists, engineers and political leaders have come up with a daring plan, one that could not only save the sea but help bring stability to a region rife with conflict. NOVA follows this unprecedented endeavor - perhaps the world's largest water chemistry experiment ever - as scientists and engineers race to save the Dead Sea and help bring water to one of the driest regions on Earth.

After watching this episode, choose from the following questions and/or tasks to extend your learning

Question Box 1

- To what did Cleopatra attribute her beauty?
- Who was King Herod and what did he build on the shores for the Dead Sea?
- What is the Biblical tale of Sodom and Gomorrah?
- What are causing the levels of the sea to decline today?
- Can the Dead Sea be saved?
- What is the most important part of this program?
- What is the central idea of this TV show?
- What key details support the main idea?
- Identify a piece of relevant evidence that supports the main idea.
- What daring plan have scientists, engineers and political leaders have come up with that could not only save the sea but help bring stability to a region rife with conflict?

Question Box 2

- Now that it's over, what are my first thoughts about this project?
- What were some of the most interesting discoveries I made while watching this program? About the problem?
- What were some of my most powerful learning moments while watching this program for

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you?

Question Box 3 (Tasks)

- Develop a timeline of events in the area of the Dead Sea and dropping water levels.
- Create a visual presentation of the Dead Sea and what you learned from this episode. *(ELD) Use vocabulary from the episode to add details to the visual presentation.*
- Describe the ecosystem of the Dead Sea.
- What specific roles did engineers play in delivering water to the Dead Sea?
- In 1960, the Dead Sea was approximately 50 miles long by 11 miles wide with a surface area of 394 square miles. Assuming a rectangular shape, and a constant rate, how long would it take for the lake to reach 1500 feet below sea level? Before 1960, the sea was 1300 feet below sea level? In 2010, it is now 1,410 feet below sea level. Three-fourths of the lake has an average depth of 1,300 feet and the other fourth has an average depth of about 10 feet. What is the volume of each section? Would they evaporate at the same rates? Why or why not? Justify your answer using mathematics and complete sentences.

Question Box 4 (Enrichment)

- Article on the Dead Sea water level: <http://icl-group-sustainability.com/reports/dead-sea-water-level/>
- List and describe adaptations organisms in and around the Dead Sea use to survive and reproduce in this harsh environment.
- Research and describe one other human intervention to a natural ecosystem that involves water delivery. What was the outcome?

Question Box 5 (Extend/Real-Life)

- California often faces similar issues with providing water for people, agriculture, and recreation.
- Google Salton Sea. How is the Salton Sea similar to the Dead Sea? How is it different? Were you aware of the Salton Sea before googling it, if you did what did you know about it?
- Brainstorm a list of ideas (at least 3) to rehabilitate the Salton Sea. For each idea you listed list the pros and cons of each idea. Select the best idea from your list and explain why it was the best option.
- What types of careers are involved in water distribution, conservation, and recycling?
- Select one career that interests you the most and explain why you selected it.