



LESSON PLAN:

# Water Scarcity — Perspectives & Solutions

 **Content:** ELA

 **Grade:** 9th-12th

## Unbound Global Competency Standards

**HS 1:** Conduct in-depth research on global issues and propose solutions.

Target: Critically evaluate diverse perspectives and their implications.

## Content Standard(s)

**ELA Integration: CCSS.ELA-LITERACY.W.9-10.7:**

Conduct short as well as sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.\*

## Exit Ticket:

Short Response



**Total Time:** 30 minutes

## Activity: Background

### Hook (Visual/Discussion):

Show a brief video clip related to the global issue of clean water scarcity.

- Ask: "What is water scarcity?"
- Share 1-2 quick facts from the video about how the issue impacts different groups globally.



**Time:** 5 minutes

**Resources:** [Video: Water Scarcity](#)





## Activity: Learning Activity

### Research and Perspectives Activity:

- Project the short informational text about the issue of water scarcity OR print.
- Assign students to read the text.
- **Introduce the Discussion Protocol:**
  - “Save the Last Word for Me” Protocol:
    - Students choose one sentence or fact from the text that stands out to them and write it on a sticky note.
    - Each student shares their chosen fact with a small group without explaining why they chose it.
    - Group members respond to the fact (e.g., “I think this is important because...”).
    - The original student then gets the “last word” to explain why they chose it.



**Time:** 10 minutes

**Resources:** [Water Scarcity article](#)  
Sticky Notes

## Activity: Practice

### Interactive Problem-Solving Game:

- Divide students into small groups. Each group:
  1. Is assigned a country with water issues
  2. Chooses one solution from the previous water scarcity article for their country.
  3. Prepares a 1-minute pitch to present their solution to the class.
- All groups present their solutions to the class in a rapid round-robin format.



**Time:** 10 minutes

**Resources:** [Four Countries](#) (also saved as attached resource document 4 Countries)

- Print and separate the article into four different parts





## Activity: Exit Ticket

Students write a brief response:

"Which solution do you think is the most effective and why? How does considering different perspectives help us find better solutions?"



**Time:** 5 minutes

**Resources:** Exit Ticket Template

\*As of January 2025, the content standards for GC math, science and ELA lessons are based on the state of Kansas. It is likely there are similar standards in each state.

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**STUDENT ACTIVITY** →**WATER SCARCITY — PERSPECTIVES & SOLUTIONS**

# Practice

## 4 Countries with Water Scarcity in 2023

by Tin Lok Wu

<https://earth.org/countries-with-water-scarcity/>

### 1. United States

According to the World Resources Institute, the US only has “low-medium water stress”, but there are notable regional differences within its borders. The western regions of the US, including California, have significantly higher water stress as the water supply has been continuously decreasing due to “exceptional drought”, an event that has been brought on and exacerbated by climate change. A region will not be categorised in this level unless there are huge losses in agriculture, shortage of water in reservoirs, streams, and wells.

Recently, the federal government implemented a controversial policy to shut down the water supply from a part of the Klamath River on the California-Oregon border to protect native species of fish from extinction and the rights of Native American tribes. About 85% of the farmland, 210,000 acres in the region, requires water from the Klamath River for irrigation; this policy has imposed a huge financial burden on the farmers, especially during the most severe drought of all time. A group of farmers has even threatened to reopen the water supply by force if the federal government fails to provide a satisfactory solution.

### 2. Egypt

Egypt is one of a number of countries with water scarcity right now. Though it is considered relatively low water-stressed when compared to its neighbouring countries in the Middle East and North Africa thanks to its access to the Nile River, which supplies about 93% of all water resources in the nation. However, the water supply is being threatened by the development of the Grand Ethiopian Renaissance Dam on the upstream stretch of the Nile River.

When completed, the dam will be a hydroelectric power plant that generates about 6,000 megawatts of electricity – Ethiopia’s current capacity is only about 4,000 megawatts. This dam has huge economic and social potential as it will provide energy to two-thirds of the population living without electricity. Yet, from Egypt’s perspective, the dam could have catastrophic consequences: as the reservoir fills up, it reduces water flowing downstream. While Egypt is not against the construction of the dam, it has issues with the duration of the filling up. If the dam is filled in 21 years, Egypt will only lose 5% of the total water supply and 2.5% of its agricultural area. But if the dam is filled in five years, Egypt will lose about 36% of the total water supply and half of its agricultural area. This became a diplomatic crisis as Ethiopia said it would take only a further four to six years to fill up the reservoir without the agreement of Egypt. “Many of the wars of the 20th century were about oil but wars of the 21st century will be about water unless we change the way in which we manage it,” said Ismail Serageldin, the former vice president of the World Bank. In the worst-case scenario, Egypt will resort to military action.



**STUDENT ACTIVITY** →**WATER SCARCITY — PERSPECTIVES & SOLUTIONS**

## 4 Countries, continued

### 3. Iraq

Iraq is considered a country with high water stress, a stark contrast to when the Iraqi city of Basra was once called “The Venice of the East”. About 98% of Iraq’s surface water comes from the Tigris River and the Euphrates River, both of which originate from Turkey. In the 1970s, Turkey launched the South-Eastern Anatolia Project with the aim to construct 22 dams and 19 power plants, for which Iraq did not receive fair compensation due to its notorious reputation (Invasion of Kuwait in 1990, etc.) and its lack of international support during the Cold War. The tragedy does not end there; When Iran’s Daryan Dam was inaugurated in 2018, the water supply from the Diyala River – a tributary of the Tigris River to Iraq – was entirely cut off. It is suggested that by 2040, the Tigris River and the Euphrates River will be completely dry within the borders of Iraq. Although the case was recently filed to the International Court of Justice, Iraq’s fate remains unclear.

### 4. India

The fact that India represents about 18% of the global population, but only possesses 4% of the world’s freshwater puts it in 13th most water-stressed country in the world. It seems that the situation will be soon aggravated after China launched a new ambitious project in 2021 in building the world’s most powerful hydroelectric plant on the upstream stretch of the Brahmaputra River, which flows from Tibet into India. If successful, the dam can generate about 60 gigawatts of electricity, three times more than the Three Gorges Dam, the current largest hydroelectric plant, which is also located in China. The consequences for India can be enormous. According to the Australian Strategic Policy Institute, nearly 30% of India’s water comes from the Brahmaputra River, and the project can reduce the river’s water supply by as much as 60%. The importance of the new project to China is beyond electricity generation and water conservation. India is concerned that China is turning water into a political weapon in order to influence neighbouring countries’ political decisions by treating water supply as a bargaining chip. It is almost impossible that China will abandon its plan in favour of India, given the modern Chinese expansionism and the dispute of the China-India border.





# Exit Ticket Template

**EXIT  
TICKET**

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NAME

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DATE

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CLASS

**EXIT  
TICKET**

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