World Geography

Sample Social Studies Learning Plan

Big Idea/ Topic

Water, Water, Everywhere: What's the Problem?

Connecting Theme/Enduring Understanding:
Location: The student will understand that location affects a society's economy, culture, and development.
Human Environmental Interaction: The student will understand that humans, their society, and the environment affect each other.
Individuals, Groups, Institutions: The student will understand that the actions of individuals, groups, and/or institutions affect society through intended and unintended consequences.

Essential Question:
There's Water, Water, Everywhere: What's the Problem?

Standard Alignment

SSWG5 Analyze human interactions with the world's environments.
a. Describe how and why agricultural techniques and technology have changed over time (e.g., irrigation, crop rotation, green revolution, and GMO's).
b. Analyze the impact of water insecurity around the world (e.g., drought, desertification, water rights, and depletion of the Aral Sea).
c. Analyze the economic, political and environmental impacts associated with industrialization and natural resource management around the world (e.g., fracking, strip mining, building of dams and reservoirs, deforestation, sustainable development, and renewable vs. non renewable resources).

Connection to Literacy Standards for Social Studies and Social Studies Matrices
L9-10RHSS1: Cite specific textual evidence to support analysis of primary and secondary sources, attending to such features as the date and origin of the information.

L9-10WHST1: Write arguments focused on discipline-specific content.
a. Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence.

Map and Globe skills –
6. use map key/legend to acquire information from historical, physical, political, resource, product, and economic maps
8. draw conclusions and make generalizations based on information from maps

Information Processing Skills –
3. identify issues and/or problems and alternative solutions
5. identify main idea, detail, sequence of events, and cause and effect in a social studies context

Instructional Design

***This lesson has a flexible timeline and will cross over several days.**

This lesson is intended to reach students in a virtual setting, whether plugged or unplugged. See bottom of lesson for list of unplugged supplies.

Part 1:

1. Before starting the lesson, ask students to respond to the essential question There's Water, Water, Everywhere: What's the Problem? Have students brainstorm responses in their regular or digital journal, then share one of their responses with peers. This could be done in a shared electronic platform.
2. As a whole group watch the TedED video: "Are we running out of clean water?" 5:15. https://ed.ted.com/lessons/are-we-running-out-of-clean-water-balsher-singh-sidhu Instruct students to look for:
    a. similarities between what the video identifies as the problem and the list that students brainstormed
    b. the argument the video is trying to make, and the evidence it provides to support the argument

3. **Building Content:** Provide students access to the United Nations website on Water. https://www.un.org/en/sections/issues-depth/water/#:~:text=The%20right%20to%20water&text=The%20Assembly%20recognized%20the%20right,be%20safe%2C%20acceptable%20and%20affordable. Divide the information into sections for analysis (see below). In a digital format, these activities can be done in Microsoft word using the comments and callouts tools, or in google slides using callouts.
    a. Provide students with the "Water" document and have them complete analysis questions similar to the ones provided by the Library of Congress https://www.loc.gov/teachers/primary-source-analysis-tool/ Instruct students to respond in their regular or electronic journal to the questions at the top of the page.
    b. Provide students with the "UN and Water" document and ask them to annotate the document using the 3 annotation tools at the top of the page.
        i. Instruct students to take some time to learn more about the terms, words and phrases they identified for further research.

***Unplugged variation –** see attached documents "Water, Water Everywhere Checklist," "Water" and "The UN and Water." All of the documents contain instructions for content analysis.

Part 2:

Group Discussion: Based on the content analysis for part 1, have a group discussion on what they believe the most significant problems are and what could be contributing to those issues. Encourage students to reach a consensus on the top 3 or 4 issues.

Individual Research- Have students do some independent research on the problems associated with global water insecurity. They should: 1) focus on **what** the problems are and their **causes** (such as drought, desertification, water rights, depletion of the Aral Sea, deforestation, agricultural issues with water) 2) **where in the world** these problems are most significant, and 3) **possible solutions**. It is a good idea to have students continue to use the 3 questions of analysis from the "Water" document for their research.

The Water, Water, Everywhere PowerPoint included with this resources includes a slide with information and supporting images regarding some of the major issues listed in the standard and is designed to be a repository

of resources to use in the digital platform of your choice. Each slide has a link included with source material for making a webmix. Webquest, or for pulling individual source material for in depth analysis. For more resources related to independent research see below.

The websites or informational text you have your students explore for this segment will vary depending on district resources and may include informational texts in book form, online encyclopedias, or other reliable websites Here are some reliable sources of information students could use:

- The World Wildlife website on Water Scarcity https://www.worldwildlife.org/threats/water-scarcity
- UN Water https://www.unwater.org/
- Global estimates for basic hygiene services in households, schools and health care facilities are a call to action to prevent the spread of COVID-19 https://washdata.org/
- 2016 UN World Water Development Report, Water and Jobs http://www.unesco.org/new/en/natural-sciences/environment/water/wwap/wwdr/2016-water-and-jobs/
- UN-Water Global Analysis and Assessment of Sanitation and Drinking-water (GLAAS) https://www.who.int/water_sanitation_health/monitoring/investments/glaas/en/
- Tri-State Water Wars (AL, GA, FL) https://www.southernenvironment.org/cases-and-projects/tri-state-water-wars-al-ga-fl
- From Not Enough to Too Much, the World's Water Crisis Explained https://www.nationalgeographic.com/news/2018/03/world-water-day-water-crisis-explained/
- Dirty Water Infographic https://visual.ly/community/Infographics/health/dirty-water
- The Aral Sea Crisis http://www.columbia.edu/~tmt2120/introduction.htm

Personal stories of Water Insecurity:

- "I Kept Walking" TEDx by Salva Dut https://tedxbeaconstreet.com/videos/i-kept-walking/
- A Long Walk to Water by Linda Sue Park (Salva Dut is the subject of this book)
    - Related picture book by Linda Sue Park *Nya's Long Walk*
- ***** "A country with no water" TED Fahad Al-Attiya https://www.ted.com/talks/fahad_al_attiya_a_country_with_no_water?referrer=playlist-talks_on_water
- ***** "How I brought a river, and my city, back to life" TED Aziza Chaouni https://www.ted.com/talks/aziza_chaouni_how_i_brought_a_river_and_my_city_back_to_life?referrer=playlist-talks_on_water
- *The Boy Who Harnessed the Wind* by William Kamkwamba and Bryan Mealer
- *Planting the Trees of Kenya: TheStory of Wangari Maathai* by Claire A. Nivola
- *The Great Kapok Tree: A Tale of the Amazon Rain Forest* by Lynne Cherry
- CNN: 'Erin Brockovich' town still poisoned - video on Hinkley, California https://youtu.be/n7Knz8MHsTU
- Dirty Water: Danger From the TAP CNN Digital Documentary https://www.youtube.com/watch?v=1SrzQWvSEuw
  It's not just Flint, Michigan. Bad water is more widespread than you think. Aging infrastructure is leaving thousands of rural communities vulnerable to contamination with no fix in sight. CNN travels to two of them.
- "The Lawyer Who Became DuPont's Worst Nightmare" by Nathaniel Rich https://www.nytimes.com/2016/01/10/magazine/the-lawyer-who-became-duponts-worst-nightmare.html (article that the 2019 film Dark Waters was based off)

***Unplugged variation –** For unplugged students in part 2, print the "Water, Water, Everywhere PowerPoint" and provide them with one of the articles/videos in the personal stories for analysis. Provide the same instructions for research.
*Note: sources with * indicate a printable transcript available in over 30 languages*

Part 3: For a summative assessment: Have students choose a specific issue with water insecurity and create an infographic that contains the following information (including supporting visuals):

- What is the problem?
- Where is the problem occurring and who is facing this problem?
- What causes this problem?
- What are some solutions?
- What can an individual (or group) do to solve this issue?

Students can use free infographic software such as https://www.canva.com/ or https://piktochart.com/

***Unplugged variation –** Have students illustrate a one page visual journal entry answering the essential question: There's Water, Water, Everywhere – What's the problem? The journal entry must:

- Tell a story of the causes of global water insecurity
- Describe the MOST important problem (and explanation of why it is more important that other issues)
- Organize the information in a way that is easy to follow
- Include supporting visuals
- Contain information for taking informed action: what can I/we do?

Opportunities for Extension: Mapping Informed Action: Using geographic information system software students can create maps of water issues in their communities, districts, state, and/or nation.

- USGS Water Quality in the Nation's Streams and Rivers – Current Conditions and Long-Term Trends https://www.usgs.gov/mission-areas/water-resources/science/water-quality-nation-s-streams-and-rivers-current-conditions?qt-science_center_objects=0#qt-science_center_objects
- CDC Water-related Environmental Tracking https://www.cdc.gov/healthywater/statistics/environmental/index.html
- CDC Drinking Water Week https://www.cdc.gov/healthywater/observances/dww.html
- EPA Water Data Tools https://www.epa.gov/waterdata

Student Learning Supports

Ideas for Differentiation:

Our goal is for all students to be actively engaged using speaking, writing, illustrating. reading, and listening. Below are changes to the lesson to help achieve that goal for students who need additional support. Note: Be careful using these lessons for all students. If students are able to complete the activities on their own, it would be best to let them do this independently.

- Consider allowing students to record their thoughts in a variety of ways: using the talk to text/dictate feature, making an audio recording of their responses, creating illustrations, annotating maps, etc.
- Consider reading research materials to students or copying materials into a Word document to allow that students may use the "read aloud" feature.
- All of the videos on TED and YouTube have a CC feature for students that may need the text and two of the TED videos have printable transcripts in over 30 languages.

Evidence of Student Success

Information for diagnostic, formative, and summative assessments are described within the Instructional Design.

Engaging Families

Materials included to support unplugged learners: Lesson checklist, Water Analysis Document, The UN and Water Annotation Document, and the Water, Water, Everywhere PowerPoint

Optional materials to support learning not included: blank paper, interactive notebook or something to take notes on, crayons, scissors, glue sticks, colored pencils, etc., as available

Water, Water, Everywhere Lesson Checklist

SSWG5 Analyze human interactions with the world's environments.
a. Describe how and why agricultural techniques and technology have changed over time (e.g., irrigation, crop rotation, green revolution, and GMO's).
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Part 1: Content Analysis

- ☐ 1. Before starting the lesson, take 60 seconds to brainstorm a response to the following essential question in your journal: **There's Water, Water, Everywhere: What's the Problem?**
- ☐ 2. As you read the "Water" handout, consider the EQ "What's the Problem?" and respond in your journal to the questions for analysis.
- ☐ 3. Annotate the document "The UN and Water" using the three tools indicated.

Part 2: Independent/Group Research.

- ☐ 4. Consider the issues you read in Part 1. Evaluate and Rank the issues you identified in your journal. Explain why you ranked the first and last issues.
- ☐ 5. Complete individual research on water insecurity: issues and their causes (such as drought, desertification, water rights, depletion of the Aral Sea, deforestation, agricultural issues with water) where in the world these problems are most significant, and possible solutions. Continue to use the three questions of analysis for your research.
- ☐ 6. Explore at least one personal story of water insecurity.

Part 3: Performance Task: InfoGraphic

- ☐ 7. Choose a specific issue with water insecurity and create an infographic that contains the following information (including supporting visuals): What is the problem? Where is the problem taking place and who is facing this problem? What causes this problem? What are some solutions? What can an individual (or group) do to solve this issue? * consider free software such as https://www.canva.com/ or https://piktochart.com/

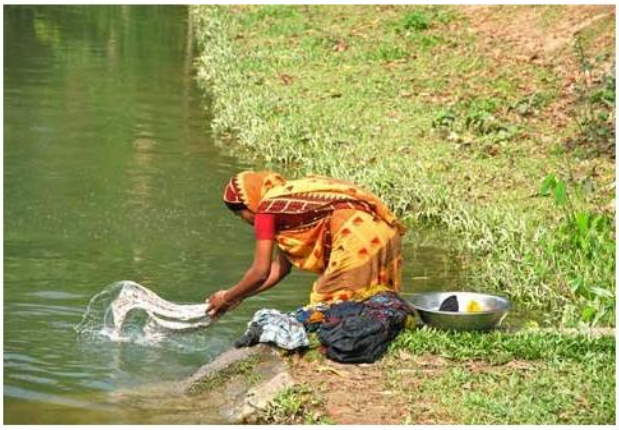
Questions for Analysis
What did you notice?
What do you think it means?
What do you wonder?

Water

Water is at the core of sustainable development and is critical for socio-economic development, energy and food production, healthy ecosystems and for human survival itself. Water is also at the heart of adaptation to climate change, serving as the crucial link between society and the environment.

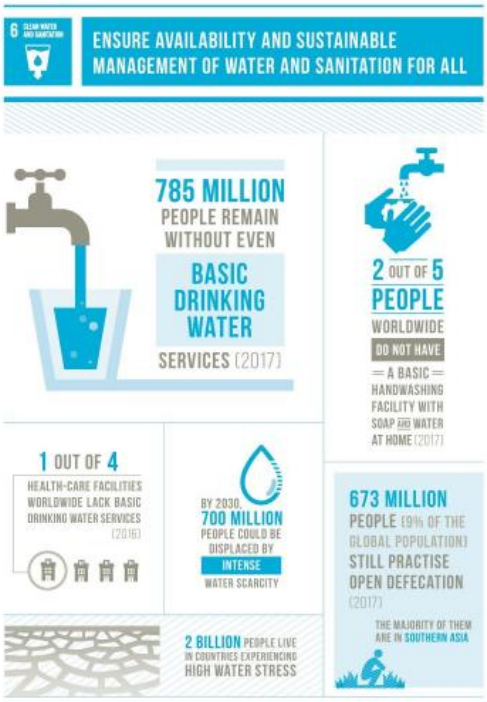
Water is also a rights issue. As the global population grows, there is an increasing need to balance all of the competing commercial demands on water resources so that communities have enough for their needs. In particular, women and girls must have access to clean, private sanitation facilities to manage menstruation and maternity in dignity and safety.

At the human level, water cannot be seen in isolation from sanitation. Together, they are vital for reducing the global burden of disease and improving the health, education and economic productivity of populations.



UN/Regina Merkova | Rural woman in Bangladesh

Water-related challenges



- 2.2 billion people lack access to safely managed drinking water services. (WHO/UNICEF 2019)
- Over half of the global population or 4.2 billion people lack safely managed sanitation services. (WHO/UNICEF 2019)
- 297,000 children under five die every year from diarrhoeal diseases due to poor sanitation, poor hygiene, or unsafe drinking water. (WHO/UNICEF 2019)
- 2 billion people live in countries experiencing high water stress. (UN 2019)
- 90 per cent of natural disasters are weather-related, including floods and droughts. (UNISDR)
- 80 per cent of wastewater flows back into the ecosystem without being treated or reused. (UNESCO, 2017)
- Around two-thirds of the world's transboundary rivers do not have a cooperative management framework. (SIWI)
- Agriculture accounts for 70 per cent of global water withdrawal. (FAO)
- Roughly 75 per cent of all industrial water withdrawals are used for energy production. (UNESCO, 2014)

The right to water

One of the most important recent milestones has been the recognition in July 2010 by the United Nations General Assembly of the human right to water and sanitation. The Assembly recognized the right of every human being to have access to enough water for personal and domestic uses, meaning between 50 and 100 litres of water per person per day. The water must be safe, acceptable and affordable. The water costs should not exceed 3 per cent of household income. Moreover, the water source has to be within 1,000 metres of the home and collection time should not exceed 30 minutes.

Water and the Sustainable Development Goals

Sustainable Development Goal (SDG) 6 is to "Ensure availability and sustainable management of water and sanitation for all". The targets cover all aspects of both the water cycle and sanitation systems, and their achievement is designed to contribute to progress across a range of other SDGs, most notably on health, education, economics and the environment.

United Nations website on Water, accessed 2020. https://www.un.org/en/sections/issues-depth/water/#:~:text=The%20right%20to%20water&text=The%20Assembly%20recognized%20the%20right,be%20safe%2C

Annotate the Text:

? — additional questions you think of regarding specific text

____ —most persuasive evidence

⬭ —Terms, words, phrases you would like to research further

The UN and Water

The United Nations has long been addressing the global crisis caused by insufficient water supply to satisfy basic human needs and growing demands on the world's water resources to meet human, commercial and agricultural needs.

The United Nations Water Conference (1977), the International Drinking Water Supply and Sanitation Decade (1981-1990), the International Conference on Water and the Environment (1992) and the Earth Summit (1992) — all focused on this vital resource.

The 'Water for Life' International Decade for Action 2005-2015 helped around 1.3 billion people in developing countries gain access to safe drinking water and drove progress on sanitation as part of the effort to meet the Millennium Development Goals.

Recent milestone agreements include the 2030 Agenda for Sustainable Development, the 2015-2030 Sendai Framework for Disaster Risk Reduction, the 2015 Addis Ababa Action Agenda on Financing for Development, and the 2015 Paris Agreement within the UN Convention Framework on Climate Change.

Water, Sanitation and Hygiene

Contaminated water and a lack of basic sanitation are undermining efforts to end extreme poverty and disease in the world's poorest countries.

In 2017, 2 billion people worldwide did not have access to basic sanitation facilities such as toilets or latrines. 673 million people still practised open defecation. According to the WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation, at least 1.2 billion people worldwide are estimated to drink water that is not protected against contamination from faeces. Even more drink water, which is delivered through a system without adequate protection against sanitary hazards.

Unclean water and child mortality

Unclean water and poor sanitation are a leading cause of child mortality. Childhood diarrhoea is closely associated with insufficient water supply, inadequate sanitation, water contaminated with communicable disease agents, and poor hygiene practices. Diarrhoea is estimated to cause 1.5 million child deaths per year, mostly among children under five living in developing countries.

Improved sanitation and economic benefits

The links between lack of water and sanitation access and the development goals are clear, and the solutions to the problem are known and cost-effective. A 2012 WHO study shows that every US $1 invested in improved sanitation translates into an average global economic return of US $5.5. Those benefits are experienced specifically by poor children and in the disadvantaged communities that need them most.

United Nations website on Water, accessed 2020. https://www.un.org/en/sections/issues-depth/water/#:~:text=The%20right%20to%20water&text=The%20Assembly%20recognized%20the%20right,be%20safe%2C%20acceptable%20and%20affordable.