Sept. Climate Change - The Value of Water: Use it, Abuse it, and Lose it

Content Area: **Social Studies**
Course(s):
Time Period: **September**
Length: **4 days**
Status: **Published**

Unit Overview

Since ancient times water has been one of the most important substances on earth and needed by both animals, marine life, humans, and plants. Students will investigate the various uses of water including domestic, agricultural, industrial, recreation and hydropower. Students will examine the impact of human reliance on water and necessity of protecting water on a global level. This lesson connects with the sixth grade social studies unit about ancient India and specifically the Ganges River.

Enduring Understandings

- Humans both past and present have relied on rivers and other bodies of water.
- Humans impact rivers and other bodies of water.
- Through sustainable management, the use of rivers and other bodies of water can continue to support human life and all living things into the future.

Essential Questions

- How have rivers or bodies of water contributed to the development of human settlement?
- How have humans negatively impacted bodies of water?
- How do humans positively impact bodies of water?
- How can bodies of water be protected for use today and in the future?
- Why are rivers or bodies of water important to your community?

Instructional Strategies & Learning Activities

• Day 1 - Review of historic and modern use and abuse of water systems

• Day 2 - Small and Large group Discussion: Compare and evaluate

• Day 3 - Local expert visits class to discuss local use, management of water resources, and conservation efforts (prevention, intervention, and damage control)

• Day 4 - Presentations on water problems and solutions to promote active civic involvement

see attached lesson plan for full details

Integration of Career Readiness, Life Literacies and Key Skills

	Gathering and evaluating knowledge and information from a variety of sources, including global perspectives, fosters creativity and innovative thinking.
9.4.8.CI.1	Assess data gathered on varying perspectives on causes of climate change (e.g., cross-cultural, gender-specific, generational), and determine how the data can best be used to design multiple potential solutions (e.g., RI.7.9, 6.SP.B.5, 7.1.NH.IPERS.6, 8.2.8.ETW.4).
9.4.8.CI.3	Examine challenges that may exist in the adoption of new ideas (e.g., 2.1.8.SSH, 6.1.8.CivicsPD.2).
9.4.8.CT.1	Evaluate diverse solutions proposed by a variety of individuals, organizations, and/or agencies to a local or global problem, such as climate change, and use critical thinking skills to predict which one(s) are likely to be effective (e.g., MS-ETS1-2).
9.4.8.CT.2	Develop multiple solutions to a problem and evaluate short- and long-term effects to determine the most plausible option (e.g., MS-ETS1-4, 6.1.8.CivicsDP.1).
9.4.8.CT.3	Compare past problem-solving solutions to local, national, or global issues and analyze the factors that led to a positive or negative outcome.
9.2.8.CAP.10	Evaluate how careers have evolved regionally, nationally, and globally.
9.2.8.CAP.11	Analyze potential career opportunities by considering different types of resources, including occupation databases, and state and national labor market statistics.
9.2.8.CAP.12	Assess personal strengths, talents, values, and interests to appropriate jobs and careers to maximize career potential.
9.4.8.GCA.2	Demonstrate openness to diverse ideas and perspectives through active discussions to achieve a group goal.
9.4.8.IML.1	Critically curate multiple resources to assess the credibility of sources when searching for information.
9.4.8.IML.7	Use information from a variety of sources, contexts, disciplines, and cultures for a specific purpose (e.g., 1.2.8.C2a, 1.4.8.CR2a, 2.1.8.CHSS/IV.8.AI.1, W.5.8, 6.1.8.GeoSV.3.a, 6.1.8.CivicsDP.4.b, 7.1.NH. IPRET.8).
9.4.8.IML.8	Apply deliberate and thoughtful search strategies to access high-quality information on climate change (e.g., 1.1.8.C1b).
9.4.8.TL.2	Gather data and digitally represent information to communicate a real-world problem (e.g., MS-ESS3-4, 6.1.8.EconET.1, 6.1.8.CivicsPR.4).

Technology and Design Integration

8.2.8.ED.3	Develop a proposal for a solution to a real-world problem that includes a model (e.g., physical prototype, graphical/technical sketch).
8.2.8.ITH.1	Explain how the development and use of technology influences economic, political, social, and cultural issues.

8.2.8.ITH.2	Compare how technologies have influenced society over time.
8.2.8.ITH.3	Evaluate the impact of sustainability on the development of a designed product or system.
8.2.8.ITH.4	Identify technologies that have been designed to reduce the negative consequences of other technologies and explain the change in impact.
8.2.8.ITH.5	Compare the impacts of a given technology on different societies, noting factors that may make a technology appropriate and sustainable in one society but not in another.

Differentiation and Modifications

- Understand that gifted students, just like all students, come to school to learn and be challenged.
- Pre-assess your students. Find out their areas of strength as well as those areas you may need to address before students move on.
- Consider grouping gifted students together for at least part of the school day.
- Plan for differentiation. Consider pre-assessments, extension activities, and compacting the curriculum.
- Use phrases like "You've shown you don't need more practice" or "You need more practice" instead of words like "qualify" or "eligible" when referring to extension work.
- Encourage high-ability students to take on challenges. Because they're often used to getting good grades, gifted students may be risk averse.

- **Definitions of Differentiation Components**:
    - Content – the specific information that is to be taught in the lesson/unit/course of instruction.
    - Process – how the student will acquire the content information.
    - Product – how the student will demonstrate understanding of the content.
    - Learning Environment – the environment where learning is taking place including physical location and/or student grouping

Differentiation occurring in this unit:

Benchmark Assessments

Benchmark Assessments are given periodically (e.g., at the end of every quarter or as frequently as once per month) throughout a school year to establish baseline achievement data and measure progress toward a standard or set of academic standards and goals.

Schoolwide Benchmark assessments:

Aimsweb benchmarks 3X a year

Linkit Benchmarks 3X a year

Additional Benchmarks used in this unit:

Formative Assessments

Assessment allows both instructor and student to monitor progress towards achieving learning objectives, and can be approached in a variety of ways. **Formative assessment** refers to tools that identify misconceptions, struggles, and learning gaps along the way and assess how to close those gaps. It includes effective tools for helping to shape learning, and can even bolster students' abilities to take ownership of their learning when they understand that the goal is to improve learning, not apply final marks (Trumbull and Lash, 2013). It can include students assessing themselves, peers, or even the instructor, through writing, quizzes, conversation, and more. In short, formative assessment occurs throughout a class or course, and seeks to improve student achievement of learning objectives through approaches that can support specific student needs (Theal and Franklin, 2010, p. 151).

Formative Assessments used in this unit:

Interactive class river/Post-it activity

Ancient river civilization blank map

Threats to Rivers research

Guest speaker questions and reflection

Summative Assessments

Summative assessments evaluate student learning, knowledge, proficiency, or success at the conclusion of an instructional period, like a unit, course, or program. Summative assessments are almost always formally graded and often heavily weighted (though they do not need to be). Summative assessment can be used to great effect in conjunction and alignment with formative assessment, and instructors can consider a variety of ways to combine these approaches.

Summative assessments for this unit:

Presentation

Flipgrid reflection

Instructional Materials

Black permanent markers

Blue, red, yellow square Post-It notes(cut in half to conserve)

Large blue paper cut into the shape of a river taped on the wall or board.

Computers (one for each student) • Earphones

Standards

LA.RI.6.7	Integrate information presented in different media or formats (e.g., visually, quantitatively) as well as in words to develop a coherent understanding of a topic or issue.
LA.W.6.1	Write arguments to support claims with clear reasons and relevant evidence.
LA.W.6.2.B	Develop the topic with relevant facts, definitions, concrete details, quotations, or other information and examples.
LA.W.6.6	Use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of three pages in a single sitting.
LA.W.6.8	Gather relevant information from multiple print and digital sources; assess the credibility of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and providing basic bibliographic information for sources.
LA.SL.6.2	Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text, or issue under study.
LA.SL.6.4	Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes; use appropriate speaking behaviors (e.g., eye contact, adequate volume, and clear pronunciation).
6.2.8.GeoHE.4.b	Use geographic models to determine the impact of environmental modifications made by earlier civilizations on the current day environmental challenges.
6.3.8.CivicsPR.4	Use evidence and quantitative data to propose or defend a public policy related to climate change.