

Social Studies Lesson: Rivers and Water Rights

Created By	Grades	Subjects	Duration
Theodore Frank	9th, 10th, 11th, 12th	Social Studies	170 minutes

Lesson Overview

Essential Questions	<ul style="list-style-type: none"> Who has the right to water? How should scarce resources be shared?
Learning Outcomes	<p>Students will be able to:</p> <ul style="list-style-type: none"> Use multiple sources to explain a global issue. Analyze the intended and unintended consequences of building large dams on rivers that cross international borders. Evaluate the factors that contribute to conflicts between countries related to water scarcity. Explain the relationship of climate change to water scarcity, river systems, and dams. Reflect on an ethical dilemma many countries face regarding serving their population at the potential cost of harming the population of another country.
Summary	<p>Students explore water scarcity and international conflicts over rivers and create a video op-ed.</p> <p>Inquire: Students examine moral and legal questions related to sharing water with those who need it.</p> <p>Investigate: Students learn the term <i>riparian rights</i> and participate in a jigsaw activity to explore conflicts between countries over the building of large dams on shared river systems.</p> <p>Inspire: Students create an op-ed about how to approach water conflicts, address the challenges of climate change, and ensure water access for all.</p>

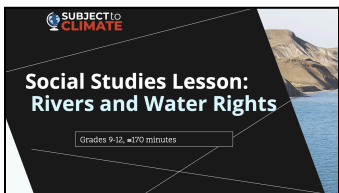
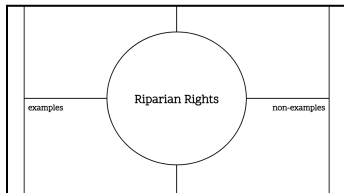
Instructions

<p>Inquire ≈ 15 minutes</p>	<ul style="list-style-type: none"> Students discuss the following questions on the Teacher Slideshow: <ul style="list-style-type: none"> Can something be morally wrong and legally permissible? If so, what are some potential examples? Why do you think these situations exist? Students choose the statement on the Teacher Slideshow that most closely reflects their beliefs. Students can respond by raising their hands or going to different corners of the classroom. <ul style="list-style-type: none"> Someone <i>should not</i> give a thirsty person a drink of water. Someone <i>should</i> give a thirsty person a drink of water. Someone <i>has to</i> give a thirsty person a drink of water. Someone <i>does not have to</i> give a thirsty person a drink of water. Students identify which of the statements reflect a moral perspective and which reflect a legal perspective.
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	<ul style="list-style-type: none"> • Students think-pair-share factors that went into their decision using the prompts on the Teacher Slideshow. • Factors that sway students' decisions are recorded on the board or a shared document and can be referred to later in the lesson. • For a second time, students respond to the statements on the Teacher Slideshow about giving a thirsty person a drink of water and choose the one that most closely reflects their belief. Students note if they, or others in the class, changed their response and discuss why or why not.
<p>Investigate ≈ 70 minutes</p>	<ul style="list-style-type: none"> • Students explore the concept of <i>riparian rights</i>. <ul style="list-style-type: none"> ◦ As a class, students read the definitions of <i>riparian</i> and <i>riparian rights</i> on the Teacher Slideshow and discuss the meaning of the terms. ◦ In pairs, students complete the Riparian Rights Frayer Model chart on their Student Document, then share their examples and non-examples with the class. • Using the Teacher Slideshow, students read the statement about the Wisconsin Supreme Court decision that public riparian rights are primary and private riparian rights are secondary. • Students raise their hands to indicate if they think the court made the correct decision, then discuss the prompts on the Teacher Slideshow. • Students share what they know about dams using the prompts on the Teacher Slideshow. <ul style="list-style-type: none"> ◦ Answers to the prompts can be found in the speaker notes. ◦ Alternatively, students can complete the activity using the Student Document and explore the Wisconsin Department of Natural Resources FAQs on Dams and the article Can Dams Weather Climate Change? to answer the questions. • Using the images on the Teacher Slideshow, teacher points out four river systems that cross international borders: the Tigris and Euphrates, the Indus, the Nile, and the Yarlung Tsangpo. • Students participate in a jigsaw activity to research conflicts between countries over riparian rights and dams on these rivers. <ul style="list-style-type: none"> ◦ Students are assigned, or choose, one of the four river systems to research. Students can work individually, in pairs, or in groups. ◦ Students choose one of the articles for their river system and fill out the graphic organizer on their Student Document as they read. See the Teaching Tips for ways to adjust the reading levels of the linked articles. Note: this activity can be assigned for homework or used as a formative assessment. <ul style="list-style-type: none"> ■ Euphrates and Tigris: <ul style="list-style-type: none"> • Turkish Dams on Euphrates and Tigris: A Water Dilemma for Iraq • Politics and Climate Conspire as Tigris and Euphrates Dwindle ■ Indus: <ul style="list-style-type: none"> • India Approves Hydropower Projects on Rivers That Flow Into Pakistan • Why Is India Clashing With Pakistan on Landmark Water Deal? ■ Nile: <ul style="list-style-type: none"> • Why Is Egypt Worried About Ethiopia's Dam on the Nile? • Egypt's Sisi Warns Ethiopia Dam Risks "Unimaginable Instability" ■ Yarlung Tsangpo

	<ul style="list-style-type: none"> • China to Build World's Biggest Dam on Sacred Tibetan River • Tibet's Rivers Will Determine Asia's Future • In mixed groups, students present information about the river system they learned about, and take notes on their Student Document as they listen to presentations about the other river systems. If needed, student presentations can be evaluated as a formative assessment. • Individually or in groups, students determine similarities and differences among the four river systems and the conflicts between the countries. Students can use these notes for the activity in the Inspire section.
Inspire ≈ 85 minutes	<ul style="list-style-type: none"> • Teacher introduces the assignment for individuals, pairs, or small groups to create a 4-minute Op-Ed video or oral presentation to answer the question: How should scarce resources, such as water, be shared between countries? • Students should address one or more of the following in their video: <ul style="list-style-type: none"> ○ Should upriver countries be able to alter the river in a way that negatively impacts downriver countries? ○ What factors should be given priority when deciding the riparian rights of countries? ○ What should countries do? Are countries morally obligated to share the river and its water with other countries? ○ How can decisions about the use of the river reflect climate justice? For example, how can the use of the river support populations that are most vulnerable to the impacts of climate change? ○ Should feelings, values, attitudes, and cultural perspectives be taken into account when making decisions about the use of the river and access to water? ○ What legal tools, if any, ought to be used to resolve the conflict? • Students review the instructions, requirements, and rubrics for the video on the Teacher Slideshow and their Student Document. Students can use the planning sheet provided on the Student Document to help them organize their ideas. • Students share their videos with the class, noting which videos were most convincing and why. • Optionally, students can choose one of the following ways to take action. <ul style="list-style-type: none"> ○ The class can select one or more of their videos to share outside the classroom to raise awareness about water scarcity. If possible, this could be done during the United Nations' annual World Water Day. ○ Students can explore the Water Footprint Calculator and then reflect on ways to conserve water in their community.

Accompanying Materials

<p>Teacher Slideshow</p> 	<p>Student Document</p> 
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Teaching Tips

Suggestions	<ul style="list-style-type: none"> This lesson works well in a variety of courses. For example, this lesson can be taught in the following scenarios: <ul style="list-style-type: none"> World History or Ancient Civilization courses when discussing the rivers of the Cradles of Civilization, especially to connect rivers' past uses to modern uses Global Issues, Global Perspectives, or Current Events courses Philosophy courses to discuss moral and ethical issues World Geography or Economics courses when discussing intentional and unintentional consequences of decisions and actions If the research in the Investigate section is completed in class, the jigsaw sharing of information can take place during a subsequent class period. This lesson focuses on Central and South Asia and Africa but can be extended to include other regions of the world or the Western United States, to explore the basic human right of access to drinkable water. This lesson can be taught in conjunction with a lesson on the United Nations' Sustainable Development Goal 6.
Prerequisites	<ul style="list-style-type: none"> Students should have a basic understanding of the geography of rivers. Teacher may need to familiarize themselves with the articles in order to lead class discussions and provide feedback on student work in the Inspire section.
Differentiation	<ul style="list-style-type: none"> The Mercury Reader Chrome extension removes advertisements and other clutter from web pages and can reduce distractions for students with challenges focusing on the text. Use an open-source app like www.rewordify.com to change the Lexile level of the article without changing the content. Advanced students can independently research river systems not discussed in this lesson, including the Colorado and the Columbia in the Western United States, several in Europe and Asia, and several proposed dams on the Amazon River. Advanced students can be assigned to present an op-ed from the perspective of one of the countries discussed in the lesson.

Learning Standards

Primary Standards
Social Studies
SS.BH2.a.h Investigate how language and culture can unify a group of people. Evaluate the factors that contribute to cooperation and conflict among peoples of a country and the world (e.g., language, religion, culture, race, ethnicity, gender, social or financial inequity, political beliefs, access to resources, economics, environment).
SS.BH4.a.h Evaluate the purpose for which a technology is created and analyze the consequences (intended and unintended) to different cultures.
SS.Econ4.d.h Evaluate the intended and unintended costs and benefits (i.e., externalities) of government policies to

improve market outcomes and standards of living.

SS.Geog3.a.h Evaluate, in both current and historical context, how the prospect of gaining access to resources in contested zones creates competition among countries.

SS.Geog5.a.h Analyze the intentional and unintentional spatial consequences of human actions on the environment at the local, state, tribal, regional, country, and world levels.

Environmental Literacy and Sustainability

ELS.EX2.C.h Assess the roles of individuals, government, and special interest groups in setting policies at the local, state, tribal, national, and international level; analyze the cultural and environmental dimensions of the policy; and propose a strategy to address concerns related to the policy. Design a solution for a natural resource scarcity issue using available resources in a different way or developing a new resource, and analyze intended and unintended consequences on sustainability in natural and cultural systems.

ELS.EX5.A.h Argue a perspective regarding a sustainability issue by examining individual and group actions, critiquing the decision-making processes, describing shared and conflicting values and principles, and assessing the impact on natural and cultural systems.