Teacher's Guide





MAGAZINE ARTICLES

Rivers: The Source of Life
South America's Mighty Amazon
The Nile: Lifeblood of East Africa
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River Rival: Transforming the Thames22 Expository Nonfiction 1230L
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A River for Millions: The Ganges
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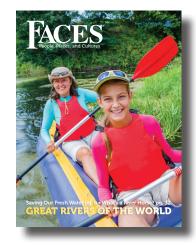
From Cricket Media

Teacher's Guide for *Faces: Rivers of the World*

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OVERVIEW

In this magazine, readers will learn about key uses of the world's major rivers. Faces: Rivers of the World includes information about the cultures and

ecosystems supported by rivers and how humans have impacted rivers over time.

ESSENTIAL QUESTION:

How does a burgeoning world population threaten the health of our river systems?

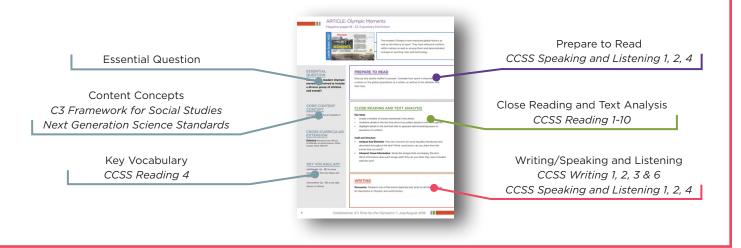


Using This Guide

We invite you to use this magazine as a flexible teaching tool, ideal for providing interdisciplinary instruction of social studies and science content as well as core literacy concepts. Find practical advice for teaching individual articles or use a mini-unit that helps your students make cross-text connections as they integrate ideas and information.

READ INDIVIDUAL ARTICLES PAGES 4 - 13

Each article in this magazine is well-suited for teaching literacy concepts and content area knowledge. For each individual article in this guide, you'll find the following:







Essential Question: How does a burgeoning world population threaten the health of our river systems?

MAGAZINE ARTICLES	CORE CONTENT CONCEPT	LITERACY SKILLS	CORRESPONDING CCSS ANCHOR STANDARDS
Rivers: The Source of Life Expository Nonfiction	There may be multiple causes and effects of events and developments in the past.	 Close Reading Determine Author's Tone Evaluate Evidence Write a Speech 	Reading 1, 2, 3, 4 & 8 Writing 1
South America's Mighty Amazon Expository Nonfiction	Geographic features may inhibit or facilitate the movement of people.	 Close Reading Analyze Text Structure Analyze Visual Information Debate a Topic 	Reading 1, 2, 3, 5 & 7 Speaking & Listening 1 & 3
The Nile: Lifeblood of East Africa Expository Nonfiction	Physical characteristics of places affect the culture of people living there.	 Close Reading Analyze Point of View Evaluate Evidence Write a News Article 	Reading 1, 2, 3, 6 & 8 Writing 2
Swimming for Clean Water Expository Nonfiction	Individuals may shape significant historical change.	 Close Reading Analyze Word Choice Interpret Visual Information Write a Letter 	Reading 1, 3, 4 & 7 Writing 2
River Rival: Transforming the Thames Expository Nonfiction	Changes in population distribution patterns result in changes in land use.	 Close Reading Analyze Text Structure Evaluate Evidence Write and Perform a Play 	Reading 1, 2, 3, 5 & 8 Writing 3 Speaking & Listening 1 & 6
The Mekong River: Who Owns the Water? Expository Nonfiction	Human activities affect the physical and cultural characteristics of places or regions.	 Close Reading Interpret Figurative Meaning Determine Author's Tone Collaborate 	Reading 1, 2, 3, 4 & 6 Speaking & Listening 1
A River for Millions: The Ganges Expository Nonfiction	Combinations of cultural and environmental characteristics make places similar to and different from each other.	 Close Reading Analyze Text Structure Interpret Visual Information Write and Present a Commercial 	Reading 1, 3, 5 & 7 Writing 2 Speaking & Listening 1 & 6
China's Great Duo Expository Nonfiction	Combinations of cultural and environmental characteristics make places similar to and different from each other.	 Close Reading Analyze Word Choice Evaluate Evidence Write a Travel Blog 	Reading 1, 3, 4 & 8 Writing 1
The Monkey and the Crocodiles: A River Tale from Cameroon Fable/Play	A place's oral traditions reflect cultural elements.	 Close Reading Analyze Point of View Analyze Word Choice Write a Fable 	Reading 1, 2, 3, 4 & 6 Writing 3

Comparing Texts: Reading 1, 2 & 3

Mini-Unit: Reading 1, 2 & 3; Writing 2; Speaking & Listening 1

ARTICLE: Rivers: The Source of Life

Magazine pages 8-11, Expository Nonfiction



Civilizations have depended on rivers since ancient times. With their ability to provide water, food, and transportation, cities built along rivers have been sought-after locations. Today's rivers are suffering from contamination and other man-made issues that must be contained if we want a healthy river system in the future.

ESSENTIAL QUESTION

How does a burgeoning world population threaten the health of our river systems?

CORE CONTENT CONCEPT

Social Studies There may be multiple causes and effects of events and developments in the past.

CROSS-CURRICULAR EXTENSION

Science Besides the production of electricity, in what other ways has the power of water been harnessed over time?

KEY VOCABULARY

irrigation (p. 8) to supply (something, such as land) with water by using artificial means (such as pipes)

parasite (p. 8) an animal or plant that lives in or on another animal or plant and gets food or protection from it

divert (p. 10) to change the direction or use of something

PREPARE TO READ

Show students a physical map of ancient Egypt and ancient Mesopotamia. Explain that these areas witnessed the emergence of some of the world's first complex civilizations. Hypothesize why they developed there.

CLOSE READING AND TEXT ANALYSIS

Key Ideas

- List the main purposes rivers serve. After each purpose, give an example of this use mentioned in the article. *CCSS Reading 1*
- Summarize what you learned about thermoelectric and hydroelectric plants. Use terms from the text in your summary. *CCSS Reading 2*
- Use details from the text to compare/contrast the river systems of industrialized and impoverished countries. *CCSS Reading 3*

Craft and Structure

- **Determine Author's Tone** Look at the two paragraphs on page 9 beginning with "Rivers also provide food and nutrients..." How does the author feel about the dam system? How do you know? Why does the paragraph discussing the flooding of the Nile use the past tense? What is inferred? *CCSS Reading 6*
- **Evaluate Evidence** The title of the article calls rivers "The Source of Life." Does the author provide sufficient information to support this claim? *CCSS Reading 8*

WRITING

Write a Speech Imagine you have been asked by a national science organization to give a speech on the importance of rivers to the earth's inhabitants. Write a speech outlining your position. Be sure to cite evidence from the text.





ARTICLE: South America's Mighty Amazon

Magazine pages 12-15, Expository Nonfiction



The Amazon River is the second longest river in the world, but it has the largest watershed of any river. Flowing through the Amazon Rainforest, the Amazon River basin is home to many unique plants, animals, and indigenous people, all of whom are threatened by deforestation.

ESSENTIAL QUESTION

How does a burgeoning world population threaten the health of our river systems?

CORE CONTENT

Social Studies Geographic features may inhibit or facilitate the movement of people.

CROSS-CURRICULAR EXTENSION

Language Arts Write a myth explaining how the Amazon warriors crossed the ocean from Greece to South America.

KEY VOCABULARY

tributary (p. 12) a stream that flows into a larger stream, a river or a lake

salinity (p. 12) the amount of salt contained in a solution

deforestation (p. 14) the act or result of cutting down or burning all the trees in an area

PREPARE TO READ

Ask students to summarize what they know about rainforests, their importance to an ecosystem, and what threatens them. Encourage students to explore the relationship between rivers and rainforests.

CLOSE READING AND TEXT ANALYSIS

Key Ideas

- Use details from the text to infer why this area would include some of the world's least developed and most biologically diverse areas on earth. *CCSS Reading 1*
- List the primary details supporting the main idea of the article. CCSS Reading 2
- Create a list of cause/effect relationships in the "At Risk" section of the article. CCSS Reading 3

Craft and Structure

- **Analyze Text Structure** Use chronology from the "What's in a Name" section to create a timeline summarizing the Amazon's history. *CCSS Reading 5*
- Interpret Visual Information What additional information can be learned by analyzing the accompanying photos? Draw conclusions about the climate, occupations, and daily life of the indigenous people. *CCSS Reading 7*

SPEAKING AND LISTENING

Debate a Topic Is the clearing of rainforests by humans necessary? Use details from the text to help formulate your opinion. Then debate your opinion with a classmate.





ARTICLE: The Nile: Lifeblood of East Africa

Magazine pages 16-19, Expository Nonfiction



The Nile River is made up of two main tributaries: the White Nile and the Blue Nile. Most famous for its connectedness to ancient Egypt, today the Nile continues to play a major role in the livelihoods of East Africans.

ESSENTIAL QUESTION

How does a burgeoning world population threaten the health of our river systems?

CORE CONTENT

Social Studies Physical characteristics of places affect the culture of people living there.

CROSS-CURRICULAR EXTENSION

History What developments and discoveries from ancient Egypt do we benefit from today?

KEY VOCABULARY

silt (p. 17) sand, soil, mud, etc., that is carried by flowing water and that sinks to the bottom of a river, pond, etc.

sediment (p. 17) material that sinks to the bottom of a liquid

reverence (p. 17) honor or respect that is felt for or shown to someone or something

PREPARE TO READ

Instruct students to locate the Nile River on a map of Africa. Trace its tributaries. Discuss the importance of a major river in this geographic region.

CLOSE READING AND TEXT ANALYSIS

Key Ideas

- Based on facts from the article, draw conclusions about the population density around the Nile and issues that might arise because of this. *CCSS Reading 1*
- Use details from the article to summarize how the Nile is the "lifeblood" of East Africa. *CCSS Reading 2*
- Describe the relationship between the Nile and ancient Egyptians. Use facts from the article to help define this relationship. *CCSS Reading 3*

Craft and Structure

- Analyze Point of View Determine why the Egyptian government would authorize the construction of Aswan Dam. Who would oppose the construction? Why? CCSS Reading 6
- **Evaluate Evidence** Peruse the section entitled "Which River is Longer?". Based on the evidence presented, which river do you think is the longest? How can this issue be resolved? *CCSS Reading 8*

WRITING

Write a News Article We tend to think of flooding in negative terms. Write a news article explaining that there are both positives and negatives of flooding. Also explain how people living in frequently flooded areas prepare for floods.



ARTICLE: Swimming for Clean Water

Magazine pages 20-21, Expository Nonfiction



By swimming the length of the world's most polluted rivers, Martin Strel hopes to raise awareness about the plight of our rivers and to promote "peace, friendship, and clean water." Each river poses its own dangers, but Strel continues to pursue his dream of a world with clean rivers.

ESSENTIAL QUESTION

How does a burgeoning world population threaten the health of our river systems?

CORE CONTENT

Social Studies Individuals may shape significant historical change.

CROSS-CURRICULAR EXTENSION

Math Use details mentioned in the article to find Strel's average miles per day in each river. Determine factors that would make this average vary from river to river.

KEY VOCABULARY

sewage (p. 20) waste material (such as human urine and feces) that is carried away from homes and other buildings in a system of pipes

industrial waste (p. 21) the waste produced by industrial activity

waste produced by industrial activity which includes any material that is rendered useless during a manufacturing process such as that of factories, industries, mills, and mining operations

dialysis (p. 21) the process of removing some of a person's blood, cleaning it, and then returning it to the person's body

PREPARE TO READ

Show students an image of a polluted waterway. Ask students if they would voluntarily swim at such a site. Why/why not? Discuss what dangers might exist within the waters.

CLOSE READING AND TEXT ANALYSIS

Key Ideas

- Use details from the text to create a T-chart listing the rivers Strel has swum and what makes them so polluted. *CCSS Reading 1*
- Refer to details from the article that help you conclude why Strel meets with government, military, and police officials prior to swims. *CCSS Reading 1*
- How has Strel personally felt the effects of polluted water? Cite facts from the article in your answer. What could this mean on a greater scale? *CCSS Reading 3*

Craft and Structure

- Analyze Word Choice Reread the description of the Mississippi River's dead zone. Why is this an appropriate name? How does the author's description help present a mental image? *CCSS Reading 4*
- Interpret Visual Information What additional information can be learned by analyzing the accompanying photos? Draw conclusions about the difficulty of Strel's swims. *CCSS Reading 7*

WRITING

Write a Letter Assume you are a swimmer like Martin Strel. Write a letter to a foreign government introducing yourself and your mission. List what precautions you will take, your credentials, and how your swim will benefit the nation.





ARTICLE: River Rival: Transforming the Thames

Magazine pages 22-25, Expository Nonfiction



The Thames River passes through the center of London, England. Since the mid 1800s, London's increased population has led to pollution problems in the Thames. A combination of laws, technology, and activism continue to work at keeping the Thames River a viable aquatic environment.

ESSENTIAL QUESTION

How does a burgeoning world population threaten the health of our river systems?

CORE CONTENT

Social Studies Changes in population distribution patterns result in changes in land use.

CROSS-CURRICULAR EXTENSION

Science Habitats were created in the Thames to encourage animal life. Where and how could you rehabilitate a section of land or stream to encourage animal life?

KEY VOCABULARY

emanate (p. 22) to come out from a source

ferment (p. 22) to go through a chemical change that results in the production of alcohol

divert (p. 23) to change the direction or use of (something)

PREPARE TO READ

Ask students to hypothesize about the condition of the world's rivers in pre-Industrial Revolution days (late 1700s). In what ways may they have been in better condition? Worse condition?

CLOSE READING AND TEXT ANALYSIS

Key Ideas

- Use details from the text to create a flow chart of events that led to the creation of London's law to clean up the Thames. *CCSS Reading 1*
- Summarize how the Thames went from one of the most polluted rivers to one of the cleanest rivers. Cite specific details from the article. *CCSS Reading 2*
- Create a list of cause/effect relationships mentioned in the article. CCSS Reading 3

Craft and Structure

- **Analyze Text Structure** The author uses a chronological text structure. Make a graphic representation of the information by making a timeline. *CCSS Reading 5*
- **Evaluate Evidence** Have London and its lawmakers learned from the past? Evaluate evidence in the article supporting your answer. Is the evidence presented both relevant and sufficient? *CCSS Reading 8*

WRITING

Write and Perform a Play Take a light-hearted look at the events of the 1858 British Parliament. What conversations may have occurred behind those closed curtains? Write a play about these events and encourage classmates to perform it.

ARTICLE: The Mekong River: Who Owns the Water?

Magazine pages 26-27, Expository Nonfiction



The Mekong River flows through several countries, all of which depend on it to provide a livelihood for millions of people. The building of dams, deforestation, and climate change are wreaking havoc on the Mekong and the ecosystem. Determining how these countries can work together for a common solution is a question left unanswered.

ESSENTIAL QUESTION

How does a burgeoning world population threaten the health of our river systems?

CORE CONTENT

Social Studies Human activities affect the physical and cultural characteristics of places or regions.

CROSS-CURRICULAR EXTENSION

History Conduct research into the history of this region between 1957-1990 to find out what made it difficult for the Mekong Development Committee to work.

KEY VOCABULARY

biodiversity (p. 26) the variety of life in the world or in a particular habitat or ecosystem

commerce (p. 26) activities that relate to the buying and selling of goods and services

spawning ground (p. 27) a

place where animals (such as fish or frogs) go to lay eggs

reservoir (p. 27) a usually artificial lake that is used to store a large supply of water for use in people's homes, in businesses, etc.

PREPARE TO READ

Ask students to brainstorm a list of challenges countries might face if they share river access vs. having sole access to a river and its resources. What steps would need to be taken to ensure equal access to it by two or more groups?

CLOSE READING AND TEXT ANALYSIS

Key Ideas

- Locate the three biggest threats to the Mekong River mentioned by the author.
 What details are offered in support of each threat? CCSS Reading 1
- What is the theme of this article? What details support your answer? *CCSS Reading 2*
- Use details from the text to compare/contrast the people living in this region based on this statement: "The river is a source of new opportunity and wealth for some, and a meager living and means of survival for most." *CCSS Reading 3*

Craft and Structure

- Interpret Figurative Meaning The opening sentence contains similies. Analyze the meanings of these and apply them on a larger scale: which people or governments might be the lions? The kittens? *CCSS Reading 4*
- **Determine Author's Tone** How does the author feel about dam construction along the Mekong? Cite words the author uses to determine tone. *CCSS Reading 6*

SPEAKING AND LISTENING

Collaborate The title and closing sentence pose questions. Work in groups to offer possible answers. Then reconvene as a class to share ideas.



ARTICLE: A River for Millions: The Ganges

Magazine pages 28-31, Expository Nonfiction



India's Ganges River is considered a holy river by the Hindu religion. Because of this, many festivals and ceremonies are held in its waters. Along with pollution from sewage and industrial waste, these factors have greatly impacted the cleanliness of the Ganges.

ESSENTIAL QUESTION

How does a burgeoning world population threaten the health of our river systems?

CORE CONTENT CONCEPT

Social Studies Combinations of cultural and environmental characteristics make places similar to and different from each other.

CROSS-CURRICULAR EXTENSION

Math The article says that 10% of the world's population depends on the Ganges River. Conduct research on the world's population estimates to determine the number of people that number represents.

KEY VOCABULARY

mythology (p. 28) ideas that are believed by many people but that are not true

purify (p. 28) to free someone from guilt or evil thoughts

mangrove (p. 29) a tropical tree that has roots which grow from its branches and that grows in swamps or shallow salt water

tannery (p. 30) a place where animal skins are tanned and made into leather

stagnant (p. 31) not flowing

PREPARE TO READ

Ask students to share what they know about the importance of water to different religions. How is it thought of? How is it used?

CLOSE READING AND TEXT ANALYSIS

Key Ideas

- List the reasons the Ganges River is at risk and what's being done to preserve it. *CCSS Reading 1*
- Cite information from the text explaining why Hindus dip themselves in the Ganges. CCSS Reading 1
- Use details from the text to describe the relationship between the population of India and the Ganges River. *CCSS Reading 3*

Craft and Structure

- **Analyze Text Structure** The text uses a descriptive text structure. What other text structure could the author have used? Why? *CCSS Reading 5*
- Interpret Visual Information The photos accompanying this article reiterate one of the main points which sets the Ganges apart from many other rivers. What is it? How do the photos illustrate this point? What additional information can you gather? *CCSS Reading 7*

WRITING

Write and Present a Commercial Conduct short research into the Sundarbans region. Write a 30-second commercial to communicate the importance of this region and why it is a UNESCO World Heritage Site. Present your commercial to the rest of your class.





ARTICLE: China's Great Duo

Magazine pages 38-40, Expository Nonfiction



China has two main rivers: the Yangtze and the Yellow River. Flowing from west to east, these rivers have encouraged agriculture and industry for thousands of years. Both are now threatened by extreme pollution. Even China's drinking supply is endangered.

ESSENTIAL QUESTION

How does a burgeoning world population threaten the health of our river systems?

CORE CONTENT CONCEPT

Social Studies Combinations of cultural and environmental characteristics make places similar to and different from each other.

CROSS-CURRICULAR EXTENSION

Science How do ocean tides affect river levels? Conduct short research into this concept.

KEY VOCABULARY

ravine (p. 38) a small, deep, narrow valley

gorge (p. 39) a deep, narrow area between hills or mountains

dikes (p. 40) a bank or mound of earth that is built to control water and especially to protect an area from flooding (a levee)

PREPARE TO READ

Show students a physical map of China. Have students locate these geographic features: Gobi Desert, Himalayan Mountains, Tibetan Plateau, Yangtze and Yellow Rivers. Ask students to predict how the rivers' origins close to deserts might affect the rivers.

CLOSE READING AND TEXT ANALYSIS

Key Ideas

- Use details from the text to sketch the different landscapes the Yangtze River flows through. *CCSS Reading 1*
- What unique distinction does the Yellow River hold? Support this with facts mentioned in the text. *CCSS Reading 1*
- Compare/contrast the Yangtze and Yellow Rivers. Cite information from the article to support your comparisons. *CCSS Reading 3*

Craft and Structure

- **Analyze Word Choice** The author includes a Chinese saying about the Yellow River: If you fall into the Yellow River, you'll never get clean again! How do you think this saying came to be? What effect does it have? *CCSS Reading 4*
- **Evaluate Evidence** China's rivers have been impacted by both humans and the environment. Locate examples of each of these and evaluate the evidence listed in support of them. Is the evidence sufficient? *CCSS Reading 8*

WRITING

Write a Travel Blog You work for a Chinese tourism bureau. Write an online travel blog about both rivers that would persuade tourists to visit the areas. Be sure to cite details from the text in your blog entry.



ARTICLE: The Monkey and the Crocodiles

Magazine pages 42-45, Fable/Play



A monkey needs to cross a swiftly flowing river to reach the best bananas in the land. Since he is unable to swim, he must come up with a plan to have crocodiles help him, while their intent is to eat him.

ESSENTIAL QUESTION

How does a burgeoning world population threaten the health of our river systems?

CORE CONTENT

Social Studies A place's oral traditions reflect cultural elements.

CROSS-CURRICULAR EXTENSION

Science Research the habitats of monkeys and crocodiles. What makes Cameroon a fitting setting for this fable? Which countries might have a similar fable?

KEY VOCABULARY

plantation (p. 42) a large area of land, especially in a hot part of the world where crops (such as cotton) are grown

PREPARE TO READ

Ask students to summarize what they know about fables. Then give students the opportunity to brainstorm pairs of animals they've read about in fables (lion and mouse, tortoise and hare, etc.). Ask what they notice about the pairs.

CLOSE READING AND TEXT ANALYSIS

Key Ideas

- Use details from the play to describe the main characters' characteristics, strengths and flaws. What drives all of the animals? *CCSS Reading 1*
- Determine the moral of the fable. Cite evidence from the characters' interactions that support the moral. *CCSS Reading 2*
- Describe the relationships of the villagers/crocodiles/monkey to the river. How did they view the river from what the fable reveals? *CCSS Reading 3*

Craft and Structure

- **Analyze Word Choice** The author adds only one stage direction. Why? What other directions do you feel would be helpful? How does a lack of stage direction leave room for dramatic interpretation? *CCSS Reading 4*
- **Analyze Point of View** What is the narrator's point of view on the crocodiles? Cite details from the text to support your answer. *CCSS Reading 6*

WRITING

Write a Fable What if the villagers had been wrong about what was on the other side of the river? Change the ending to continue the fable. What will the monkey learn? What will the villagers learn?

COMPARING TEXTS

CROSS-TEXT CONNECTIONS

SYNTHESIZE: Guide students to compare articles they read. Help students find the connections between pieces of information in multiple articles. Use prompts, such as the following examples, to have students work together to **Integrate Ideas and Information** *(CCSS.Reading.9)*.

- Human populations have had a huge impact on the world's river systems. Gather information from across texts to create a cause/effect chart showing how humans have used rivers over time and the ultimate consequences of use. From the information you gather, identify where the problem lies: is it how people use rivers, the number of people using the rivers, or a combination of these?
- Rivers around the world offer something unique to local inhabitants as well as visitors to a region. Compare information from multiple sources to create a T-chart listing the major rivers and what a person can expect to see and do there.
- According to the United Nations, each year "more people die from unsafe water than from all forms of violence, including war." How can we ensure the safety of the world's drinking water? Gather information from multiple articles to learn how drinking water has become unsafe. Make a bulleted list of global initiatives you feel should be enacted to ensure that all people have access to clean water.
- Use information from multiple articles to create a 3D model showing the effects of pollution on rivers and their ecosystems OR design a sketch of a device that could be used to curb river pollution (i.e. the skimmer boats used on the Thames River).
- Several articles mentioned animals unique to a river system. Many of these animals are now endangered. Choose one of these animals and create a poster showing its habitat and what threatens it. Give interesting facts about life span, offspring, and interaction between the species and humans.

MINI-UNIT

EXPLORATORY LEARNING - FLEXIBLE MINI-UNIT DESIGN

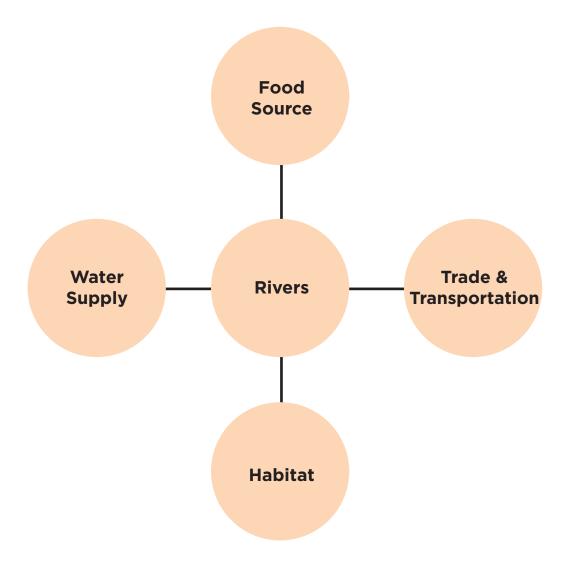
ENGAGE

READ FOR A PURPOSE

APPLY

In this mini-unit, students will work in groups to create board games about the world's major rivers. Each game will focus on an individual river and will educate players about the cultures and ecosystems surrounding the river as well as what threatens the river.

ENGAGE: Engage students in the topic of Rivers of the World by referring to the graphic organizer below. Note how all the outer circles are connected to the center circle. What relationship is being represented? Discuss what students know about rivers around them and the role they play in a community. Lead students to consider the Essential Question: How does a burgeoning world population threaten the health of our river systems?



MINI-UNIT (cont.)

READ FOR A PURPOSE

INTRODUCE THE ACTIVITY: Tell students that for the culminating activity of this miniunit they will be working in groups to create board games featuring the major rivers of the world.

RETURN TO THE TEXT: Before students can begin working on their board games, they must first gather information. As a class, read "Rivers: The Source of Life" on page 8 of the magazine. Then break students into groups. Either assign each group to one of the rivers below or allow groups to choose.

Amazon River: "South America's Mighty Amazon" (p. 12-15)

Nile River: "The Nile: Lifeblood of East Africa" (p. 16-19)

Thames River: "River Rival: Transforming the Thames" (p. 22-25)

Mekong River: "The Mekong River: Who Owns the Water?" (p. 26-27)

Ganges River: "A River for Millions: The Ganges" (p. 28-31)

Yangtze River: "China's Great Duo" (p. 38-40)

Yellow River: "China's Great Duo" (p. 38-40)

Hand out the Graphic Organizer (p. 18 of this guide). Instruct students to complete the graphic organizer while reading their specific article. This information is to appear in some way on their game boards.

MINI-UNIT (cont.)

APPLY

RIVERS OF THE WORLD BOARD GAME: Now that students have revisited the text and gathered information about their river(s), they are ready to create their board games.

MATERIALS:

- Poster board or craft paper (each group needs this for the game board and a spinner)
- Markers/crayons
- Game pieces (coins, buttons, etc.)
- Paperclips and brads to construct a spinner (dice would also work)

STEP 1: PLAN IT

Hand out the graphic organizer on page 19 of this guide. Discuss the content the groups must decide on before constructing the game. Groups may choose if they want to assign specific tasks to each group member.

STEP 2: SKETCH IT

Once groups have basic components, instruct them to do a rough sketch of their game board on the back side of the graphic organizer (p. 19). Remind them that all pertinent information from the graphic organizer must be included in some way on the game board.

STEP 3: CONSTRUCT IT

Instruct groups to gather their needed supplies and construct their game.

STEP 4: PLAY IT

Once groups have constructed their games, have group members play them. Allow time for self-reflection and peer analysis. What components do they like about the game? What would they change? What else could the game help players learn about the river(s)?

STEP 5: SWITCH THINGS UP

Encourage groups to switch games. (Also give groups the PLAN IT graphic organizer to accompany the game since it lists the object of the game and rules of play.) What did groups learn about different rivers?



RIVERS OF THE WORLD: GRAPHIC ORGANIZER

NAME OF ARTICLE:

LOCATION OF RIVER:

GEOGRAPHIC FEATURES OF THIS AREA:

WHO/WHAT INHABITS THIS RIVER AND SURROUNDING AREAS?

THREATS TO THE RIVER AND SURROUNDING ECOSYSTEM:

WHAT IS BEING DONE TO PRESERVE AND PROTECT THE RIVER AND ITS ECOSYSTEM?



RIVERS OF THE WORLD GAME BOARD: PLAN IT

AUTHORS:	NAME OF THE GAME:	NUMBER OF PLAYERS:

OBJECT OF THE GAME:	
RULES OF PLAY:	

Appendix Meeting State and National Standards: Core Instructional Concepts

The articles in this magazine provide a wealth of opportunities for meeting state and national instructional standards. The following pages contain charts listing Core Instructional Concepts for each of three curricular areas: English Language Arts, Science, and Social Studies.

USING THE STANDARDS CHARTS

<u>ELA</u>

Corresponding CCSS anchor standards have been listed next to each item on the Core Instructional Concepts chart. To customize the chart, add your own grade, state, or district standards in the last column. Match the concepts and standards from the chart to the activities on each page of the Teacher's Guide to complete your lesson plans.

SOCIAL STUDIES

Content Concepts in each Article Guide are based on Dimension 2 of the CS Framework for Social Studies: Applying Disciplinary Concepts and Tools. Use the last column in the accompanying chart to correlate these concepts to your state or district standards.

SCIENCE

Content Concepts in each Article Guide are drawn from the Three Dimensions of the Next Generation Science Standards. You will also find connections to these concepts within individual close-reading questions.

MATH

Content Opportunities for math activities are provided in the Cross-Curricular extensions on each Article Guide page.

CORE INSTRUCTIONAL CONCEPTS: READING, LITERATURE, AND LANGUAGE ARTS

I SKILLS AND CONCEPTS	 CORRESPONDING STANDARD

KEY IDEAS AND DETAILS

Read closely to determine what a text says explicitly.	Reading 1	
Make logical inferences to determine what the text communicates implicitly.	Reading 1	
Cite specific textual evidence to support conclusions drawn from the text.	Reading 1	
Determine central ideas or themes of a text and analyze their development.	Reading 2	
Summarize key supporting details and ideas.	Reading 2	
Analyze how individuals, events, and ideas develop and interact over the course of a text.	Reading 3	

CRAFT AND STRUCTURE

Interpret words and phrases as they are used in a text.	Reading 4	
Determine technical, connotative, and figurative meanings.	Reading 4	
Analyze how specific word choices shape meaning or tone.	Reading 4	
Analyze the structure of texts (sequence, cause/effect, compare/ contrast, problem/solution)	Reading 5	
Recognize the genre, key elements, and characteristics of literary texts.	Reading 5	
Assess how point of view or purpose shapes the content and style of a text.	Reading 6	
Analyze how an author's style and tone affects meaning.	Reading 6	

INTEGRATION OF KNOWLEDGE AND IDEAS

Integrate and evaluate content presented in diverse media and formats.	Reading 7	
Identify and evaluate the argument and claims in a text.	Reading 8	
Analyze how two or more texts address similar themes or topics.	Reading 9	

WRITING

Write arguments to support claims, using valid reasoning and relevant	Writing 1	
and sufficient evidence.	Ū.	
Write informative/explanatory texts to examine and convey complex	Muitin a D	
ideas and information clearly and accurately.	Writing 2	
Write narratives to develop real or imagined experiences or events.	Writing 3	
Draw evidence from literary or informational texts to support analysis,	M/riting 0	
reflection, and research.	Writing 9	
Conduct short as well as more sustained research projects.	Writing 10	



CORE INSTRUCTIONAL CONCEPTS: SOCIAL STUDIES

	C3 INQUIRY ARC DIMENSION 2: APPLYING DISCIPLINARY CONCEPTS AND TOOLS	STATE OR DISTRICT STANDARD
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CIVICS	
Analyze the origins, functions, and structure of different governments and the origins and	
purposes of laws and key constitutional provisions.	
Summarize core civic virtues and democratic principles.	
Evaluate policies intended to address social issues.	

ECONOMICS

Evaluate the benefits and costs of individual economic choices.	
Analyze economic incentives, including those that cause people and businesses to specialize and trade.	
Explain the importance of resources (i.e. labor, human capital, physical capital, natural resources) in methods of economic production.	
Explain the functions of money in a market economy.	
Explain the importance of competition in a market economy.	
Apply economic concepts (i.e. interest rate, inflation, supply and demand) and theories of how individual and government actions affect the production of goods and services.	
Analyze economic patterns, including activity and interactions between and within nations.	

GEOGRAPHY

Construct and use maps and other graphic representations (i.e. images, photographs, etc.) of	
different places.	
Explain cultural influences on the way people live and modify and adapt to their environments.	
Analyze places, including their physical, cultural and environmental characteristics and how	
they change over time.	
Analyze movement of people, goods, and ideas.	
Analyze regions, including how they relate to one another and the world as a whole from a	
political, economic, historical, and geographic perspective.	

HISTORY

Interpret historical context to understand relationships among historical events or	
developments.	
Evaluate historical events and developments to identify them as examples of historical change	
and/or continuity.	
Analyze perspectives, including factors that influence why and how individuals and groups	
develop different ones.	
Evaluate historical sources, including their reliability, relevancy, utility, and limitations.	
Analyze causes and effects, both intended and unintended, of historical developments.	

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DIMENSION 2: CROSSCUTTING CONCEPTS

Asking questions (for science) and defining

Planning and carrying out investigations

problems (for engineering)

Analyzing and interpreting data

Dimension 2 provides an organizational schema for integrating and interrelating knowledge from different science domains. The eight NGSS Crosscutting Concepts are as follows:

- Patterns
- Similarity and Diversity
- Cause and Effect .
- Scale, Proportion, and Quantity

- Systems and System Models
- **Energy and Matter**
- Structure and Function
- Stability and Change

DIMENSION 3: DIMENSIONS AND DISCIPLINARY CORE IDEAS

Dimension 3 presents a contained set of Disciplinary Core Ideas to support deeper understanding and application of content. The following chart details Core Ideas for curriculum, instructional content, and assessments within four domains.

LIFE SCIENCE

- Structure and Function of Living Things
- Life Cycles and Stages
- Reproduction & Inherited Traits
- Animals
- Plants

- PHYSICAL SCIENCE
 - Forces and
 - Interactions
- Energy
- Light Sound
- Electricity/ • Magnetism
- Matter
- Waves
- Heat
- Chemistry
- Information Processing

- EARTH SCIENCE Weather
- .

- Water
- Oceans
- History of Earth
- **Plate Tectonics**
- Volcanoes. Earthquakes.

CORE INSTRUCTIONAL CONCEPTS: SCIENCE

DIMENSION 1: SCIENTIFIC AND ENGINEERING PRACTICES

Dimension 1 focuses on the practice of science, and how knowledge is continually adapted based on new findings. The eight practices of the K-12 Science and Engineering Curriculum are as follows:

- Using mathematics and computational thinking
 - Constructing explanations (for science) and designing ٠
 - Engaging in argument from evidence
 - Obtaining, evaluating, and communicating information



Moon

Sun

SPACE SYSTEMS

22

- Solar System Planets
- Climate Rocks & Soil
- Erosion and
- Weathering
- Landforms

and Tsunamis