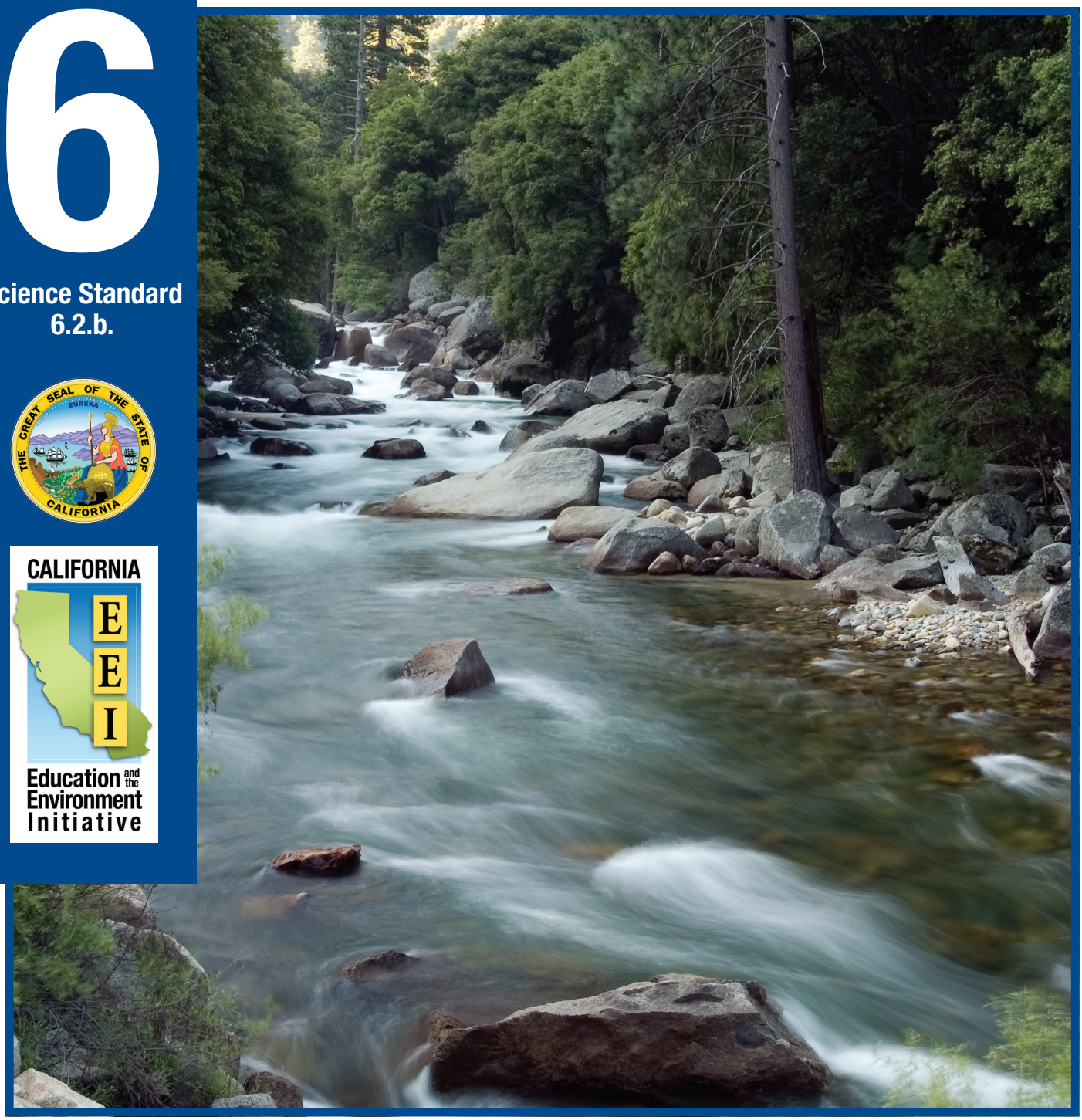
6

Science Standard
6.2.b.

Teacher's Masters

California Education and the Environment Initiative



The Dynamic Nature of Rivers

California Education and the Environment Initiative

Approved by the California State Board of Education, 2010

The Education and the Environment Curriculum is a cooperative endeavor of the following entities:

California Environmental Protection Agency
California Natural Resources Agency
Office of the Secretary of Education
California State Board of Education
California Department of Education
California Integrated Waste Management Board

Key Leadership for the Education and Environment Initiative:

Linda Adams, Secretary, California Environmental Protection Agency
Patty Zwarts, Deputy Secretary for Policy and Legislation, California Environmental Protection Agency
Andrea Lewis, Assistant Secretary for Education and Quality Programs, California Environmental Protection Agency
Mark Leary, Executive Director, California Integrated Waste Management Board
Mindy Fox, Director, Office of Education and the Environment, California Integrated Waste Management Board

Key Partners:

Special thanks to **Heal the Bay,** sponsor of the EEI law, for their partnership and participation in reviewing portions of the EEI curriculum.

Valuable assistance with maps, photos, videos and design was provided by the **National Geographic Society** under a contract with the State of California.

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http://www.calepa.ca.gov/Education/EEI/

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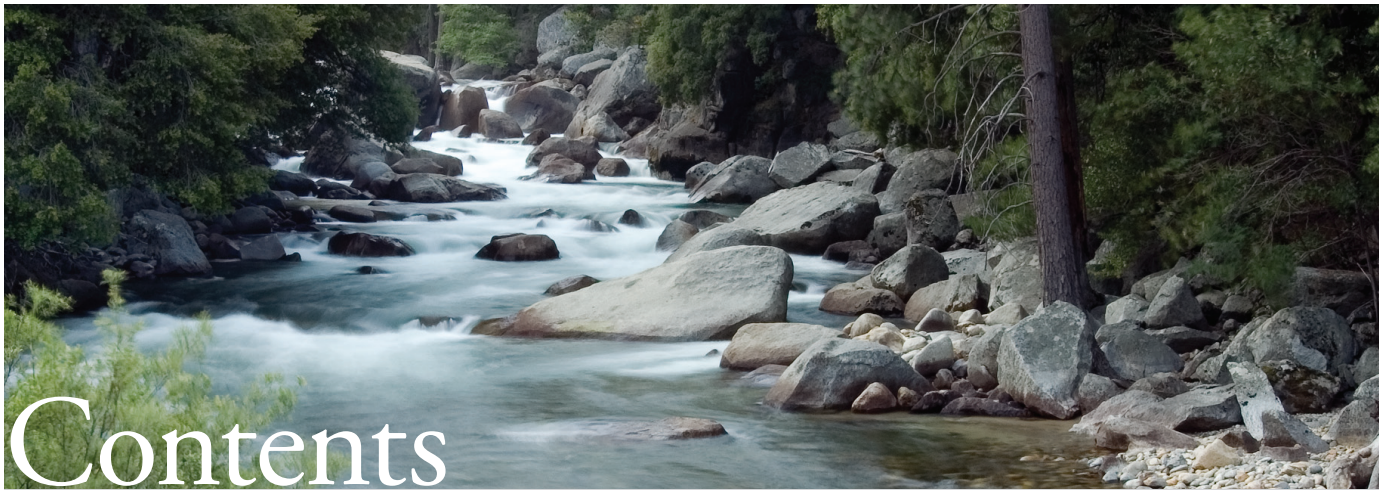


Contents

Lesson 1 Introducing a River System

None required for this lesson.

Lesson 2 Holding Sediment in Suspension

None required for this lesson.

Lesson 3 Benefits Rivers Bring Us

None required for this lesson.

Lesson 4 Ebb and Flow: Rivers' Changing Courses

None required for this lesson.

Lesson 5 Flow and Flooding: River Control

None required for this lesson.

Assessments

The Dynamic Nature of Rivers—Traditional Unit Assessment 2

Writing a River's Story—Alternative Unit Assessment 5

Name: _____

Part 1

Instructions: Use the words in the word bank to fill in the paragraph written below. (1 point each)

Word Bank

delta	deposition	erosion	floodplain
headwaters	meanders	riparian	sediment
tributaries	watershed		

1. Many rivers begin their flow toward the ocean in the high mountains. This area at the top of a river is called the _____. As it flows, smaller streams called _____ flow into the river, contributing water and causing the river to increase in size. Along the edges, you might find _____ woodlands, where animals and plants that depend on the river live. As the river flows, it picks up rocks and soil. This process is called _____. The _____ carried by the water drops to the river bottom where the water slows down, a process called _____. The river forms bends called _____ as it goes across a flat _____. Where it empties into the ocean, a river might deposit more sediment and form a triangular _____. The entire area drained by the river as it goes toward the sea is called its _____.

Part 2

Instructions: Read and answer each question. (5 points each)

2. You are told you can have 10 acres of land along a river to start a farm. Is it better to build your farm near fast-moving water or slow-moving water? Why?

_____

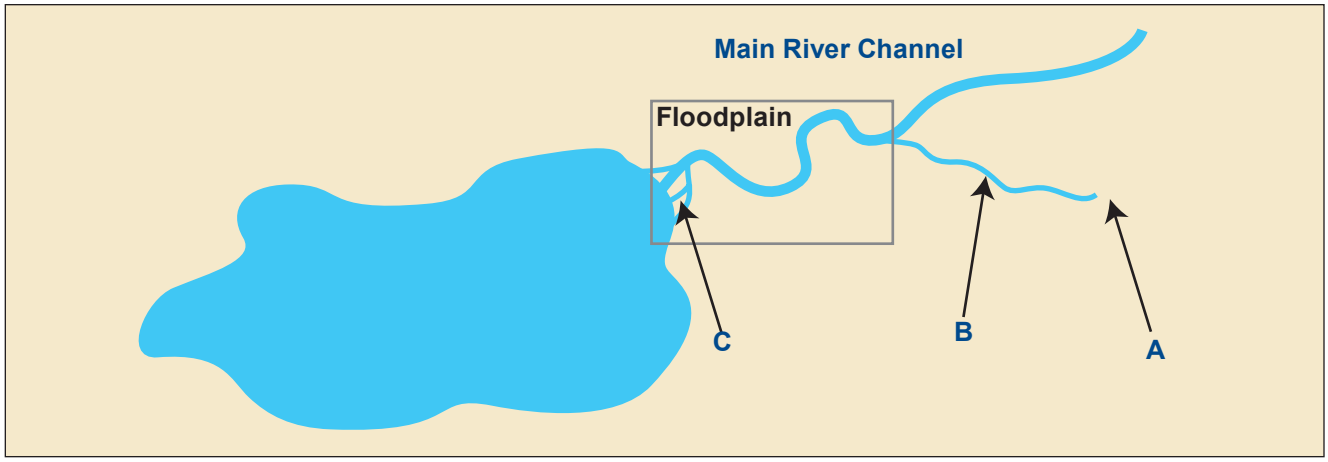
_____

_____

_____

Name: _____

3. You work for a mining company that is looking for very fine clay in the area mapped below. Which area is best to mine: A, B, or C? Explain your answer.



_____

_____

_____

_____

_____

4. What are five benefits people get from rivers?

a. _____

b. _____

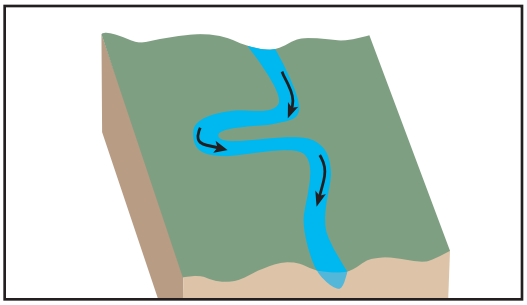
c. _____

d. _____

e. _____

Name: _____

5. Label the following on the illustration below showing a river on a floodplain.



a. An area where a home or land might be threatened by erosion along the river.

b. An area where fertile soil is being formed by deposition.

6. What is one benefit and one danger of living on a floodplain?

_____

_____

_____

_____

_____

_____

_____

_____

_____

7. What are three ways human actions might influence a river system?

a. _____

_____

b. _____

_____

c. _____

_____

Name: _____

Instructions: In this unit, you have learned how rivers move water and sediment through watersheds, and how this movement affects humans and their communities. Now, you will use your knowledge to write a story about the Frontier River.

Your story should be four paragraphs long. You will receive 40 points for content (10 points for each complete paragraph) and 10 points for neatness and correct grammar (a total of 50 points). Refer to the **Maps of the Frontier River** to answer the following questions before writing your draft of the story.

Where does the river start? Where does it flow? How does this flow move material from one part of the river to another?

What is one benefit people received from the river in each time period shown on the maps?

Name: _____

Look at the map of the Frontier River in 1860. How have people changed the river up to this point?

Look at the map of Frontier River in 2000. What are two ways that people have changed the river since 1860? How would these changes have affected animals and plants living along the river?

Name: _____

The Story of the Frontier River

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