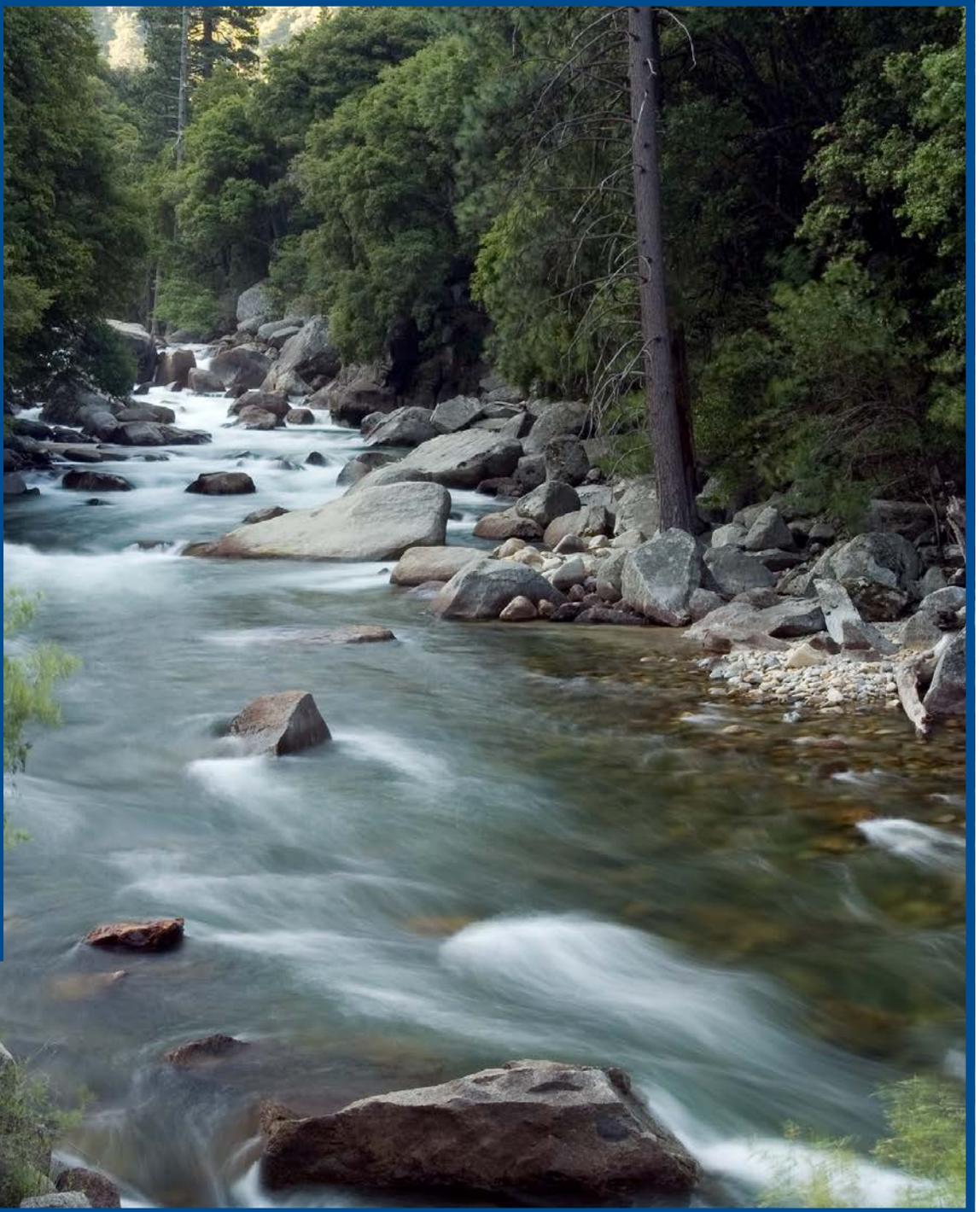


6

Science Standard  
6.2.b.



# 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 Initiative Curriculum is a cooperative endeavor of the following entities:**

California Environmental Protection Agency  
California Natural Resources Agency  
California State Board of Education  
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## River Words: Going With the Flow

### Lesson 1

Name: \_\_\_\_\_

**Instructions:** Write the word in the column at the left that you think matches each definition listed on the right.

Word	Definition
First Guess: _____ Correct Word: _____	The bed of a stream, a river, or other waterway.
First Guess: _____ Correct Word: _____	A large, usually triangle-shaped area at the mouth of a river that gradually builds up as the river deposits sediments.
First Guess: _____ Correct Word: _____	The depositing or settling of rock or soil from one place in another.
First Guess: _____ Correct Word: _____	To wear away.
First Guess: _____ Correct Word: _____	The periodic seasonal pattern of flooding in a river system.
First Guess: _____ Correct Word: _____	A flat area along a river that floods when water flows outside of a river's banks.
First Guess: _____ Correct Word: _____	The springs or small streams that supply water where a river first starts.
First Guess: _____ Correct Word: _____	Stones, sand, and soil carried by water, wind, or glaciers.
First Guess: _____ Correct Word: _____	The land area that drains water into a particular body of water such as a stream, river, lake, or ocean.

## How Much Energy Does It Take?

Lesson 2 | page 1 of 2

Name: \_\_\_\_\_

Moving water has energy. The faster water moves, the more energy it has. That energy can do a lot of work.

Your teacher has prepared some bottles of water for you to observe. Each bottle contains sediment. Each bottle will be shaken for 30 seconds to get the water inside to move. Then the bottle will be set in a place where you can clearly see the water inside.

**Instructions:** Observe the materials inside the bottles carefully once they are set down. Make notes about what you see (every 15 seconds) by circling descriptions in the chart below. (Your teacher will call out the time.)

	15 sec.	30 sec.	45 sec.	60 sec.	75 sec.	80 sec.	95 sec.	120 sec.
Water in bottle	Very Cloudy							
	Partly Cloudy							
	Clear							

**Instructions:** Read and answer the following questions about today's demonstration. (2 points each)

1. Which material stopped moving as soon as the bottle stopped being shaken and the energy decreased?

\_\_\_\_\_

2. Which material still moved after two minutes, when the energy was low?

\_\_\_\_\_

3. Which material requires the most energy to move?

\_\_\_\_\_

4. Which material requires the least energy to move?

\_\_\_\_\_

## How Much Energy Does It Take?

Lesson 2 | page 2 of 2

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Name: \_\_\_\_\_

5. Gold is very heavy. Do you think gold settles to the bottom of a fast-moving or a slow-moving river?

\_\_\_\_\_

6. Which type of sediment is carried by even the slowest-moving rivers?

\_\_\_\_\_

7. Where would you expect a river to have the most energy—coming down a mountain or moving over flat land?

\_\_\_\_\_

## Rivers for Life

Lesson 3 | page 1 of 3

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Name: \_\_\_\_\_

**Instructions:** Each of the “cards” below highlights one way rivers benefit people. Write one benefit and a one- or two-sentence explanation about each benefit in the space provided. (5 points each)

### Irrigation

Benefits: \_\_\_\_\_

\_\_\_\_\_

Explanation: \_\_\_\_\_

\_\_\_\_\_

### Recreation

Benefits: \_\_\_\_\_

\_\_\_\_\_

Explanation: \_\_\_\_\_

\_\_\_\_\_

### Soil Renewal

Benefits: \_\_\_\_\_

\_\_\_\_\_

Explanation: \_\_\_\_\_

\_\_\_\_\_

# Rivers for Life

Name: \_\_\_\_\_

## Power Generation

Benefits: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Explanation: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## Transportation

Benefits: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Explanation: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## Fish and Wildlife

Benefits: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Explanation: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## Rivers for Life

Lesson 3 | page 3 of 3

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Name: \_\_\_\_\_

### Drinking Water

Benefits: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Explanation: \_\_\_\_\_

\_\_\_\_\_

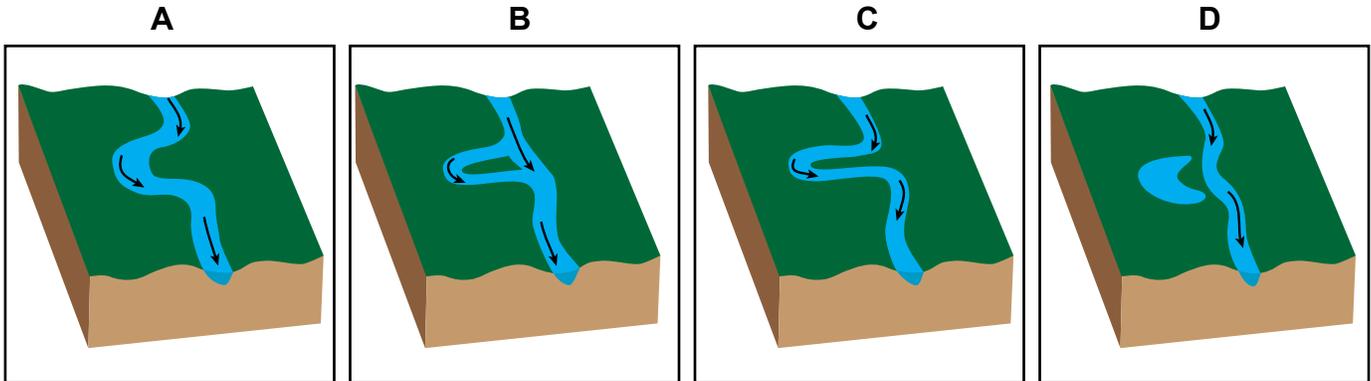
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## Ebb and Flow: A River's Changing Course

Lesson 4 Activity Master | page 1 of 2

Name: \_\_\_\_\_

**Instructions:** Look carefully at the pictures, then answer the questions below.



1. The pictures above illustrate a river changing course over time. Which of the following describes the most likely order of change in the river? (2 points)

- a. A – B – D – C
- b. A – C – B – D
- c. C – A – B – D
- d. C – A – D – B

2. Describe one positive effect and one negative effect that the changing course of a river can have on people and communities. (4 points)

Positive Effect: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Negative Effect: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Ebb and Flow: A River's Changing Course**

Lesson 4 | page 2 of 2

Name: \_\_\_\_\_

- 3. Look at the following photograph of a river. Use arrows to label the following: (6 points)
  - a. where erosion is happening
  - b. where deposition is happening
  - c. where an oxbow lake may form



- 4. Many people live on floodplains. Describe the benefits and drawbacks of living on a floodplain. Do you think that it is a wise idea for people to settle on floodplains? Why or why not? (6 points)

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# Los Angeles River Before and After

## Lesson 5

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Name: \_\_\_\_\_

**Instructions:** Describe five effects that the projects to control the Los Angeles River had on the animals and plants that depended upon the river. (2 points each)

1. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
2. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
3. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
4. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
5. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_









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