



Lesson Three: Water, Water, Everywhere



Objectives

Students will be able to:

- Locate and identify the Pacific Ocean, San Joaquin River, American River and Sacramento River on a California map
- Locate and identify Sacramento and student's hometown on a California map
- Identify ways of building a house in order to avoid possible flood damage
- Explain the role of the Sacramento River in the development of the city of Sacramento





Pre-tour Activity 1: Sacramento on the Map

Materials

- Wall map of California or a transparency of a California map
- “Sacramento on the map” worksheet

Instructional Procedures

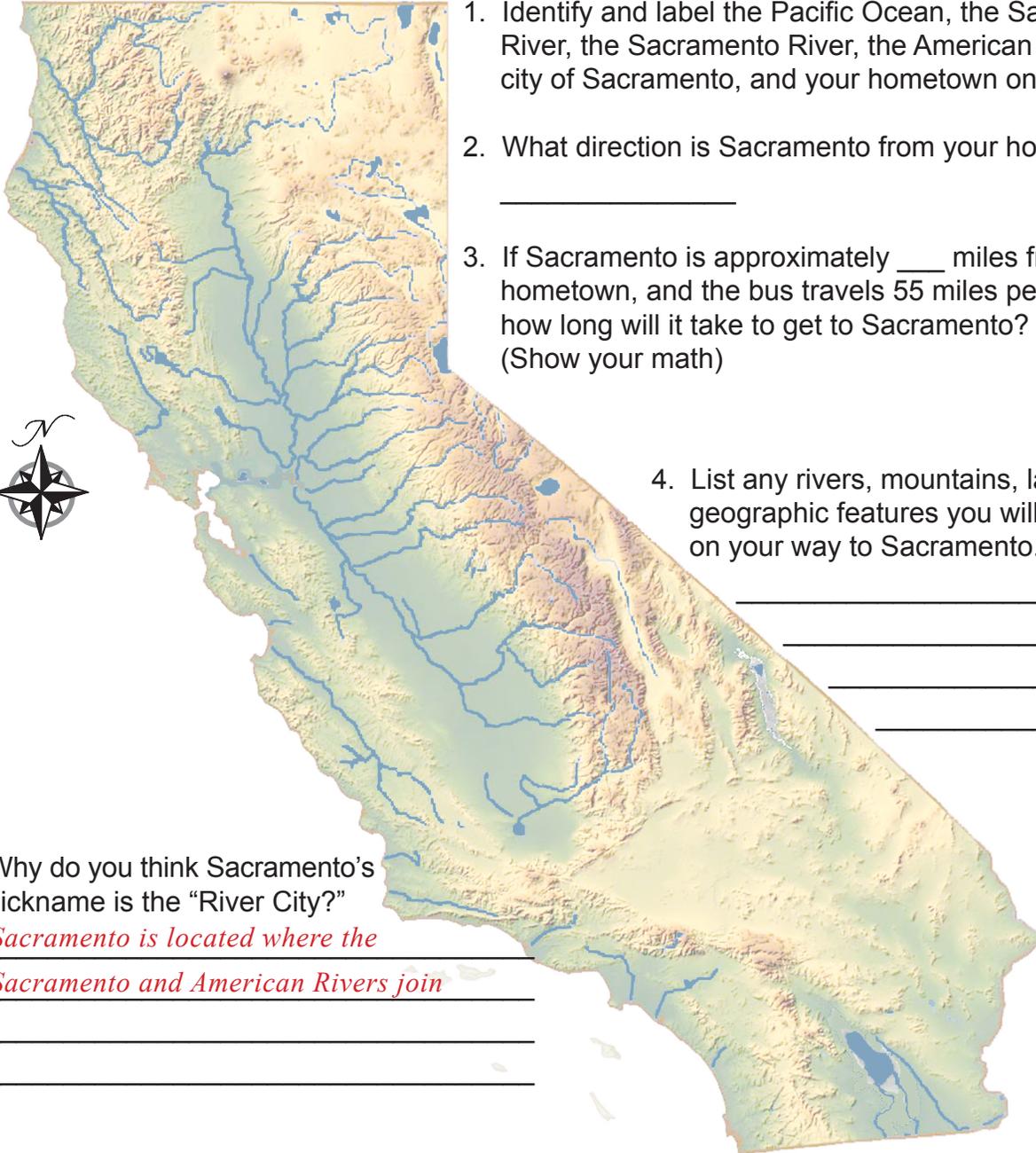
1. The state of California has one of the most diverse landscapes in the United States. What features make its landscape so diverse? Have the students examine a topographical map of California. Help them identify the different geographical regions and landscape features on the map (e.g., mountains, valleys, lakes, rivers, and desert).
2. Pass out the “Sacramento on the Map” worksheet. Help the students identify their town/city on the map. Have them identify and label the Pacific Ocean, the San Joaquin River, the Sacramento River, the American River, the city of Sacramento, and the student’s hometown. Ask the class:
 - What is the natural landscape like where you live?
 - Where is Sacramento located?
 - What is the landscape like along the route between the two locations?
3. Have the students complete the rest of the “Sacramento on the Map” worksheet.

NAME: _____

DATE: _____

Sacramento on the Map

Directions: Use the map on this page or a map your teacher provides to complete the activities and questions below.



1. Identify and label the Pacific Ocean, the San Joaquin River, the Sacramento River, the American River, the city of Sacramento, and your hometown on the map.

2. What direction is Sacramento from your hometown?

3. If Sacramento is approximately ____ miles from your hometown, and the bus travels 55 miles per hour, how long will it take to get to Sacramento? (Show your math)

4. List any rivers, mountains, lakes, or other geographic features you will pass or cross on your way to Sacramento.

5. Why do you think Sacramento's nickname is the "River City?"

Sacramento is located where the Sacramento and American Rivers join

6. What geographical features do you think led to Sacramento becoming the state capital?

Sacramento and American Rivers; close to San Francisco, but not on the coast; in center of the state.



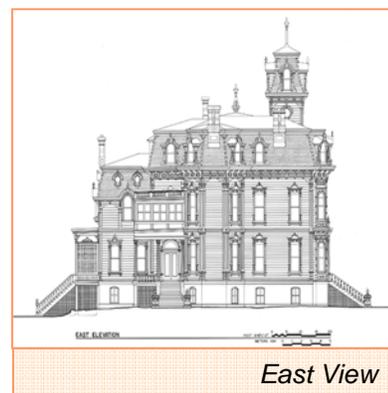
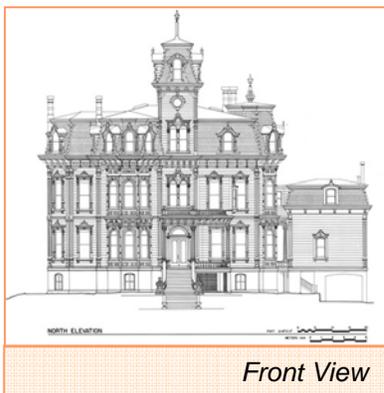
Pre-tour Activity 2: Water's Influence

Materials

- Topographical map of the Sacramento Valley or Northern California
- Transparencies made of the architectural drawings of the Governor's Mansion front exterior
- "Sacramento Underwater" worksheet

Instructional Procedures

1. Examine the topographical map of either the Sacramento Valley or Northern California with the class. Trace the route of the Sacramento River on the map for the class. California's longest and widest river is the mighty Sacramento River. Creeks and streams that feed into it fan out to the coastal mountain ranges, the Sierra Nevada, and into the state of Oregon. Almost a third of the water that flows across California's surface makes its way into the Sacramento River. That is a lot of water!
2. Brainstorm with the students the benefits of living in a region that has an abundance of water, and the problems or challenges people might face who live in a geographic location that has a large watershed. Record the students' answers on a T-chart or Venn diagram.
3. What changes or accommodations do people make to their homes when living near an abundance of water?
4. Have the students read and complete the "Sacramento Underwater" worksheet. You can use the architectural drawing of the Governor's mansion to illustrate the concept of building hills around a house and putting in a raised basement.





NAME: _____

DATE: _____

Sacramento Underwater

Directions: Read the information below and answer the questions that follow. Write answers in complete sentences.

California's longest and widest river is the mighty Sacramento River. Three hundred twenty miles long, the Sacramento River flows from springs near Mount Shasta through the delta region southwest of Sacramento to San Francisco Bay.

This large river was important to the development of Sacramento. When John Sutter came to this region he built his settlement, New Helvetia (today known as Sutter's Fort), on a small hill east of where the Sacramento and American Rivers join. John Sutter recognized the importance of the Sacramento River to the development of the area, as well as its potential to flood.

As miners poured into the Sacramento Valley and the Sierra Nevada during the gold rush, merchants established their businesses along the Sacramento River waterfront to supply the arriving miners.

However, disaster struck in January 1850. Both the Sacramento and American Rivers overflowed so fast there was little time for people to escape the floodwaters. People quickly rebuilt Sacramento but it washed away again in March 1850. To prevent more flooding in Sacramento, miles of levees were built along the Sacramento River. Another major flood in 1862 washed over the levees and flooded Sacramento. This time the people of Sacramento decided to take action. While rebuilding the damaged levees, they brought wagonloads of dirt and gravel into the city and dumped it on the streets. The street levels in the business district were raised between 10 and 12 feet. Whole buildings were raised to the new street level and new sidewalks built. Local newspapers reported that Sacramento was literally a city on stilts.



View of Sacramento City during the great flood of January 1850.

Due to Sacramento's history of flooding, for many of the city's mansions, like the Governor's Mansion, small hills were built around a raised basement to ensure the first floor would not flood. Today a series of levees, dams, and weirs attempt to hold back the Sacramento River. However, if one of those levees or dams breaks, Sacramento will once again flood, and the state's water supply will be seriously affected.

1. How long is the Sacramento River? 320 miles.

2. What two other major California rivers flow into the Sacramento River?

American River and San Joaquin River.

3. Why was the Sacramento River important to the development of the city of Sacramento?

Brought miners and supplies to the gold rush region; major transportation route; major shipping route.

4. What are three steps Sacramento leaders took to reduce the threat of flooding in the late 1800s?

Answers may vary. Built levees; raised street levels and buildings; built mansions and other homes on hills; added raised basements to houses.

5. What did the Gallatins do to protect their new mansion from flooding?

Small hills were built around a raised basement.

6. Could Sacramento still flood today?

Yes.

7. What can we do today to protect our homes against floods?

Answers will vary.



Post-tour Activity: Floods

Materials

- “Floods” worksheet

Instructional Procedures

1. Explain to the students that for this exercise they will be using their imagination to transport them back to 1877.
2. Either write the following prompt on the board or read it to the class.
“Imagine you are Albert Gallatin, a partner in a thriving hardware store, or his wife Nemie, who was socially active in the community. You want to build a mansion in Sacramento so that you are close to your business and friends, but you have a major concern. The Sacramento River has flooded the city several times and caused much damage. Write a letter to your architect, Nathaniel Goodell, and tell him where and how to build the mansion so it does not get flooded and destroyed.”

