

Lesson 2: OIL IN LOS ANGELES

- What You Need to Know:**
- Grade Level: Upper Level 8–12
 - Curriculum Connections: Mathematics, History—Social Science
 - *Kids' Guide Correlation:* Use this lesson in conjunction with pages 6–7 of the *Guide*. Use your students' study of the Pegasus building (former headquarters of General Petroleum Corporation and Mobil Oil) as a starting point for discussing the importance of oil in the growth of Los Angeles. You can also use this activity as a way to help students understand how big businesses in general affect cities and the built environment.
 - *Website Correlation:* Go to “Explore the Blvd.” at www.curatingthecity.org. Use the building profile for the “Pegasus” in the “Downtown” section and the “La Brea Tar Pits” profile in the “Miracle Mile/Carthay Circle” section for photos and additional information. Also see the “Wilshire Blvd. Timeline” at the bottom of any page on the site.

- Focus Questions:**
- When was oil discovered in Los Angeles?
 - How and why did the discovery of oil in Los Angeles affect population growth?

- Expected Learning Outcomes:**
- Students will be able to explain when and how oil was discovered in Los Angeles.
 - Students will be able to identify how the population changed in Los Angeles from 1880 to 1920.
 - Students will be able to describe how the discovery of oil caused population growth in Los Angeles.

- Assessment:** Graph data, interpret information, and solve word problems related to population growth in Los Angeles from 1880 to 1920.

- Essential Vocabulary:** population
census

- Materials:** Lesson 2 worksheet
graph paper
rulers
pencils

PROCEDURE

Motivation:

Invite students to estimate the current population of Los Angeles. (According to the 2000 census, L.A.'s population is 3,694,820; it the second largest urban area in the country.) Ask students to speculate: how large is Los Angeles in relation to other urban centers? Why do so many people choose to live in the Los Angeles area? What are the main industries that draw people to Los Angeles? Tell students that in this lesson they will look at how the population of Los Angeles has grown over the years; they will also examine one of the early causes of the city's population explosion.

Making Connections:

Ask students to share what they know about living in a big city. Why does their family live in Los Angeles? What are the benefits to living in a large population center? If some students have ever lived in a rural area, invite them to share their observations and comparisons. Introduce the oil connection: ask students to share their experiences of oil in Los Angeles. Have they ever seen oil wells in the city? Why are they there? What do they do?

Guided Instruction:

1. Distribute the Lesson 2 worksheet. Ask students to briefly preview and identify the kind of information that they see. Point out the informational paragraph and the data chart.
2. Prepare students for reading by introducing the words *population* and *census*. Tell students that the word *population* refers to the number of people living in a specific area. A *census* is an official count of a country's people. In the United States, the government completes a census every 10 years. In addition to counting the population, census takers also keep track of where people live and the professions they hold. Invite students to discuss the possible benefits of a regular national census.
3. Direct students to read the paragraph silently. When they have finished, briefly review the primary points in the chapter. Make sure students understand that the discovery of oil was a pivotal event in the development of Los Angeles.
4. Point out the data chart on the page. Have students examine and discuss the data, and invite them to talk about aspects of the chart that they find confusing or surprising. Help them to understand how quickly Los Angeles grew in a relatively short period of time. Ask students to discuss why they think the discovery of oil would cause so many people to move to Los Angeles. Invite them to consider the potential problems that can arise when large numbers of people flood into an area so quickly. What strains are put on city services? What needs arise when many newcomers arrive in a city? How might the "old-timers" view new residents?
5. Distribute graph paper and rulers, and direct students to use the data in the chart to create a line graph. Guide students to label the x-axis as "census years" and the y-axis as "population in thousands." Students may need some assistance setting up the scale and the intervals for the y-axis.
6. Once students have completed their graphs, direct them to solve the problems at the bottom of the page. Encourage them to show their work and explain their thinking as they solve each problem.

Assessment:

Have students write a short paragraph summarizing the data in the graph. Remind them to make an explicit connection between the discovery of oil and the change in population.

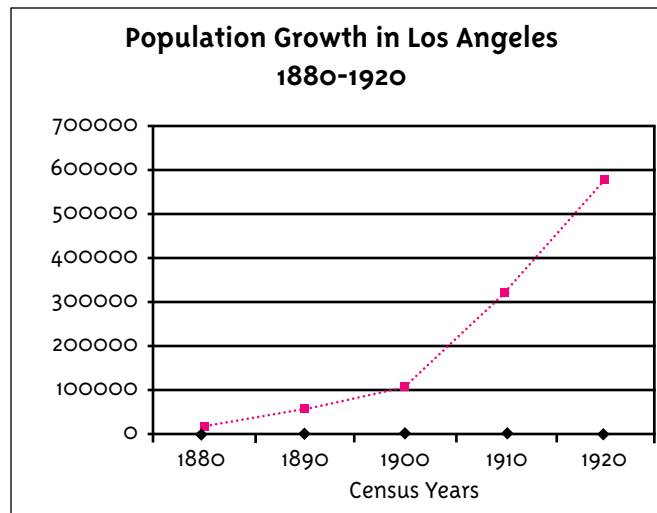
**Reflection/
Critical Thinking:**

1. Does oil still play a major part in the growth of Los Angeles?
What industries have since taken its place?
2. The discovery of oil in Los Angeles occurred just as new inventions were changing the way Americans lived. In what ways would Americans in the late 1800s and early 1900s have used oil?
3. In what ways can a line graph be a more helpful information source than a chart with numbers?
4. What other industries have been important in your city? Can you think of buildings that were created to support these businesses?

**Enrichment
Opportunities:**

- Have students do web research to find out more about Edward Doheny or G. Allan Hancock. Students can work in small groups to find out how an oil well works.
- Have them create an explanatory poster and share their findings with the class. Have students research late nineteenth-century inventors such as Henry Ford and Orville and Wilbur Wright to gain a greater understanding of how technology developed during this time period and increased the demand for oil.
- What are the major oil production centers today? Ask students to use the Internet to locate the parts of the world that are leaders in oil production.
- Angelenos have known about the existence of oil in their community for hundreds of years. Have students explore what Native Americans knew about oil on their lands and how they used it.
- Have students find Dodger Stadium on the map as well as the La Brea Tar Pits to help students visualize where oil was found in Los Angeles.

Worksheet Answers:



1. 211,986
2. 102,479
3. 451%; 203%; 311%; 181%; between 1880 and 1890
4. 81,645; 189,167; 525,178

California Standards:

Mathematics:

- 7.1.6 Calculate the percentage of increases and decreases of a quantity.
- 6.o Students know the definitions of the mean, median, and mode of a distribution of data and can compute each in particular situations. (Probability and Statistics, 8-12)
- 8.o Students organize and describe distributions of data by using a number of different methods, including frequency tables, histograms, standard line and bar graphs, stem-and-leaf displays, scatterplots, and box-and-whisker plots. (Probability and Statistics, 8-12)

History-Social Science:

- 8.12.1 Trace patterns of agricultural and industrial development as they relate to climate, use of natural resources, markets, and trade and locate such development on a map.
- 8.12.5 Examine the location and effects of urbanization, renewed immigration, and industrialization (e.g., the effects on social fabric of cities, wealth and economic opportunity, the conservation movement).
- 8.12.9 Name the significant inventors and their inventions and identify how they improved the quality of life (e.g., Thomas Edison, Alexander Graham Bell, Orville and Wilbur Wright).
- 11.1.4 Examine the effects of the Civil War and Reconstruction and of the Industrial Revolution, including demographic shifts and the emergence in the late nineteenth century of the United States as a world power.
- 11.2.2 Describe the changing landscape, including the growth of cities linked by industry and trade, and the development of cities divided according to race, ethnicity, and class.
- 11.2.6 Trace the economic development of the United States and its emergence as a major industrial power, including its gains from trade and the advantages of its physical geography.
- 11.5.7 Discuss the rise of mass production techniques, the growth of cities, the impact of new technologies (e.g., the automobile, electricity), and the resulting prosperity and effect on the American landscape.

STUDENT WORKSHEET

Name _____



Wilshire District, Oil Fields, 1924 (Security Pacific Collection/Los Angeles Public Library)

Los Angeles of the mid-1800s was very different from the Los Angeles that you know today. It was a dusty cow town, populated mostly by ranchers who raised cattle. They sent their beef up north via the railroad to feed the thousands of people who had flooded into California after the Gold Rush of 1848.

Los Angeles' fortunes changed forever in 1892, when a man named Edward Doheny noticed black tar on the wheels of a cart as he drove through downtown. He asked the man where his cart had come from, and the man pointed towards the northeast. Doheny did a little research and soon purchased 1,000 acres of land in the Echo Park area, near where Dodger Stadium is today. Using the sharpened end of a eucalyptus tree, Doheny drilled more than 450 feet below the earth's surface and discovered "black gold," or oil. It wasn't long before that well was producing more than 45 barrels of oil each day – and Doheny became one of the richest men in America.

Many fortune hunters were quick to follow Doheny's lead. The Hancock family, for example, made a great deal of money in the oil business. In fact, G. Allan Hancock donated the land along Wilshire Boulevard that is now Hancock Park (and home to the La Brea Tar Pits).

Oil wells sprung up all over Los Angeles, some in the most unlikely places – even around the corner from Wilshire Boulevard! You could see fields of oil wells as you traveled through the city as well as the odd well that popped up on the corner of a busy intersection. By 1897, there were over 500 oil wells in the city, and in 1900, California produced 4 million barrels of oil. By 1923, this area was producing one-fourth of the world's total oil supply.

The next forty years was a period of dramatic growth and change for the city. It was flooded not only by those looking for oil, but by all the people who hoped to profit from the new wealth – oil refiners, shop owners, and construction workers. Los Angeles was a sleepy cow town no longer.

Population of Los Angeles, 1880-1920, according to the U.S. Census	
1880	11,183
1890	50,395
1900	102,479
1910	319,198
1920	576,673

Use the data above to create a line graph. Then answer the questions on the following page.
Round your answers to the nearest unit.

1. What was the average population between 1880 and 1920? _____

2. What was the median during this same time period? _____

3. By what percent did the population increase . . .

. . . from 1880 to 1890? _____

. . . from 1890 to 1900? _____

. . . from 1900 to 1910? _____

. . . from 1910 to 1920? _____

During which ten-year period did the population increase by the greatest percentage? _____

4. Assume that the population increased at a steady rate during each ten-year period. Estimate the population in:

1896 _____

1904 _____

1918 _____