

lesson 9 Agriculture

INTRODUCING THE SACRAMENTO HISTORY COLLECTION

OVERVIEW

This lesson introduces students to some of the unusual and interesting document types in the **Sacramento History Online Collection (SHO)** at <http://www.sacramentohistory.org> that are related to agriculture. Before using the database with your class, take some time to browse the SHO collection online to get an overview of the types of photographs and documents that are included. (These lessons use the term document to refer to any of the items in the database, including photographs). You can view or print the single images in this lesson directly as a JPEG file. **Lesson 9 does not require students to work online.** (*For more information on the types of documents in the SHO collection, see Lesson 1 in the Transportation Lessons*).

STUDENT OBJECTIVES

1. Give examples of several types of documents that are in the SHO collection.
2. Recognize an exaggerated or tall-tale postcard.
3. Identify modern ephemera related to agriculture that might offer clues about modern life in your own community.

CALIFORNIA HISTORY STANDARDS

This lesson emphasizes several unusual types of documents in the SHO collection, rather than specific history content.

BACKGROUND ARTICLE 9

The Sacramento History Online Collection (*pages 9-5 - 9-7*)

STUDENT ACTIVITY SHEET 9 AND KEY

Introducing the Sacramento History Online Collection (*pages 9-9 and 9-10*)

DOCUMENTS TO DISCUSS

The documents shown below provide examples of several interesting types of documents in the SHO collection, including panoramic photos, crate labels, and postcards.

Photographs

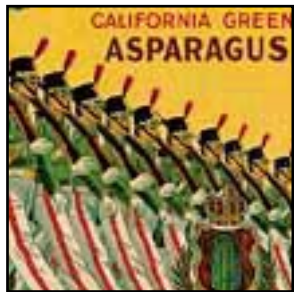


1. Working the land [ca. 1900]
Men and horses posing in front of row crops planted in a field next to a river. Wiseman family ranch.



2. Kuhn California Project [1912]
Panoramic photo showing views of farms served by Kuhn irrigation project.

Ephemera



3. King's Cadets

label [ca.1925]

Vegetable crate label for the King's Cadets brand asparagus. Label depicts marching soldiers dressed in green parade uniforms. They are symbolic representations of stalks of asparagus.

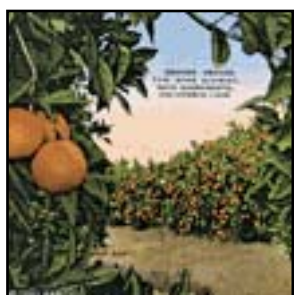


4. B-Wise Pears

label [ca. 1925]

Fruit crate label featuring an owl.

Postcards



5. Orange grove

[ca. 1910]

Postcard showing orange grove at Fair Oaks.



6. Carload of Mammoth Navel Oranges

[1909]

Exaggerated or tall-tale postcard by Edward H. Mitchell.

INSTRUCTIONS

1. Print any of the images and PDF files shown above that you will use in your discussion, as well as **Student Activity Sheet 9 and Key**.

2. Read **Background Article 9**. You may wish to read it to your students or have them read it by themselves. Discuss any questions that they may have.

3. Introduce students to the SHO Collection by using printouts of the documents above or by showing them several records from the online database.

4. Ask students to look at some of the different documents (printed or online). Can they tell how the items are related? (subject, age, etc.)

5. Tell the students that the *Sacramento History Online* website has documents related to the history of agriculture in California from 1849-1929. Many of these materials are primary sources. Materials include books, ephemera, maps, manuscripts, photographs, postcards, prints, and technical drawings.

6. If students are not already familiar with the term *primary sources* (introduced in Lesson 1), discuss how primary sources differ from textbooks and modern books written about a historical time period.

7. If students are not already familiar with various types of documents (introduced in Lesson 1), discuss each type and ask students to give examples of each. (*books, ephemera, manuscripts, maps, photographs, postcards, prints, and technical drawings*)
8. If students are not already familiar with the term *ephemera* (introduced in Lesson 1), ask what they think the word *ephemera* might mean. Do they know any other words that sound similar? The word *ephemera* relates to objects that are *ephemeral*. The term *ephemeral* means something that lasts only a short time (originally it meant lasting only a day). Once students understand the concept, ask if any of them have items in their family that came from another time period, something not necessarily intended to have lasting value. (*e.g. an event ticket, a food wrapper*) Do any of them have a scrapbook? What kinds of things do they save? What is often thrown away?
9. **Photographs: Panoramic photos.** Show and discuss **Document 1, Working the land**. Ask students what they think the photograph shows. (*a farm, horses, dog*) How old do they think the image is? Why do they think so? What kind of farm equipment is shown? (*apparently plows for cultivating*) How does it look different from modern equipment? (*horse-drawn*) Show students **Document 2, Kuhn California Project**. Beginning in 1908, J.S. and W.S. Kuhn of Pittsburgh, Pennsylvania, purchased and then completed the Central Canal project. The irrigation project served farmland in Colusa and Glenn Counties. How does this photograph differ from the first? (*shape, size*) Explain that this image is an example of a panoramic photo, a format that was popular during the early part of the twentieth century. For what types of subjects would this type of photo be useful?
10. **Ephemera: Fruit labels.** Show and discuss **Document 3, King Cadets label**. Ask students how they think this label was used? (*asparagus crate*) Why does it have this shape? (*packed in a box that was narrower at the top, matching the shape of asparagus spears standing on end*) Show and discuss **Document 4, B-Wise pear label**. Ask students how this label was used. (*pear crate*) Why does the label say B-Wise? (*suggests that you might be wise if you buy that brand*) What other food brands do they know that use a name to suggest that the product is high-quality or the buyer is smart to buy the product?
11. **Postcards.** Show and discuss **Document 5, Orange grove**. What kind of document is this image? (*postcard*) Show and discuss **Document 6, Carload of Mammoth Navel Oranges**. Compare the two postcards. Is there anything odd or funny about the second postcard? Which card gives a more accurate view of how oranges grow? Why did people make exaggerated postcards? What other types of transportation could be shown on an exaggerated postcard? (*answers might include airplane, ship, truck, crane*)
12. Give students **Activity Sheet 9: Introducing the Sacramento History Online Collection** (*page 9-7*). After they have finished the activity, discuss their answers as a group.

FOLLOW-UP

1. **Search the SHO collection** to find other examples of panoramic photos, fruit labels, and exaggerated postcards, using keyword or advanced searches. Try the keywords *Mitchell* to find more exaggerated postcards and *Kuhn* to find more panoramic photos.
2. **Compare labels** from modern canned and packaged goods to fruit crate labels. Make your own crate label for a crop that was grown in your area or for a modern product.
3. **Make a list of materials** representing aspects of agriculture that would tell someone in the future about life in the 21st century in your community. What things should be shown in photographs in order for them to be included? What maps should be included? What ephemera?
4. **Collect other examples of exaggerated postcards.** If your community is famous for growing a certain crop or manufacturing a product, make your own exaggerated postcard.

REFERENCES AND RESOURCES

- Edinger, Monica. *Seeking history, teaching with primary sources in grades 4-6.* Portsmouth, NH: Heinemann, 2000. (includes a CD-ROM).
- Rubin, Cynthia E. and Williams, Morgan. *Larger than life: The American Tall-Tale Postcard, 1905-1915.* New York: Abbeville Press, 1990.

RELATED LINKS

Taking the Long View: Panoramic Photographs, 1851-1991

(<http://memory.loc.gov/ammem/pnhtml/pnhome.html>)

Panorama-rama! A Short History of Panoramic Photography

(<http://www.sav.org/e/panorama.html>)

Panoramic Cameras (<http://www.cirkutpanorama.com/cameras.html>)

Fruit Crate Labels of the Golden State

(<http://www.lemongrovehistoricalociety.com/fruitlbls.html>)

A History of California Citrus Crate Labels

(http://www.lnholt.com/citrus_labels/citrustext.htm)

History of Sunkist's Crate Labels (http://www.sunkist.com/about/crate_labels.asp)

California Historical Society | Exhibits | Past Exhibits Online

(http://www.californiahistoricalociety.org/exhibits/big_orange2/create.html)

Packing Labels: A Unique Look into California History

(<http://www.cratelabelsonline.com/history.html>)

Exaggerated Postcards (<http://www.kshs.org/cool2/coolpost.htm>)

Fantasy Photographs by W. H. Martin -- American Museum of Photography

(<http://www.photographymuseum.com/talltale.html>)

The Golden Age of Picture Postcards

(<http://www.nysl.nysed.gov/msscfa/qc16510.htm>)



The **Sacramento History Online** (SHO) Collection is a digital database of primary sources for studying history. Primary sources include documents, paintings, photographs, letters, newspapers, and other materials that originate in a specific time period rather than accounts that are written at a later time. In this collection, the primary sources categories are books, ephemera, manuscripts, maps, photographs, postcards, prints, and technical drawings.



Photographs are one of the most common items in the agricultural collection. Many of these photos show different crops that were grown in California and how they were harvested and processed. Some photos show small family farms, while others document large company-owned agricultural projects.

Some of the photos in the collection are examples of panoramic photography. Panoramic photos allow viewers to see a wide-angle view, as much as 360 degrees. They are usually at least twice as wide as they are tall, although they can be as much as 10 times wider than their height.

Experiments with panoramic photography began around 1840. At first, photographers made panoramic photos by taking regular-sized daguerreotypes of different views of a scene and arranging them side-by-side. Later, many different types of panoramic photography processes and cameras were invented. A swing-lens camera pivoted around to pan the scene. A rotating camera panned in one direction while mechanically moving the film in the opposite direction.

Commercial photographers were the main users of the early panoramic cameras. One of the most popular cameras was the Kodak Cirkut, introduced in 1907. This type of camera let photographers take pictures of large groups of people from a closer viewpoint. Before the invention of photo enlargers, negatives were as large as the finished image. Panoramic negatives could be as big as four feet wide by one foot high. By 1911, smaller and easier-to-use cameras that used film rolls were produced for amateur photographers. Although some modern photographers still create panoramic photos, this style was probably most popular during the early part of the twentieth century.



Ephemera include miscellaneous items such as brochures, advertisements, menus, and tickets. Ephemera is a word to describe materials that are not usually saved or even meant to be permanent but that have managed to survive the years, perhaps in someone's scrapbook. Ephemera might include a souvenir button or a can label.

One type of ephemera that is well represented in the agricultural collection is called *agrilithography*, which refers to printed labels that were used on wooden crates for fruit and vegetables. Growers and packers used crates to ship fruit and vegetables to market, and store owners used them for displays.

Railroads began shipping California produce to the east coast as early as the 1870s, but no one is sure exactly when crate labels were first used. However, these labels became a big industry in the 1880s, with the increased shipping created by the success of new crops and the development of refrigerated railroad cars. Fruit was often individually wrapped, so the label identified and advertised what was in the crate through attractive colors, designs, and brand names. Thousands of different labels were created, with a variety of themes, including animals, scenic landscapes, and patriotic icons.

The shape and size of a particular label depended on the box used for the product. For example, tomatoes could not be stacked, so they were packed in shorter boxes. Asparagus crates and crate labels used a keystone design, narrower on the top, which reflected the shape of the vegetable. Today, many people collect crate labels because of their variety and colorful images. Because labels that have been glued to a crate are almost impossible to remove, collectors prize unused labels, extras left over after a crop was harvested and packed into crates.

Many labels were printed in San Francisco by immigrants from Germany, a country that was famous for its high-quality printing industry. One of these immigrants was Max Schmidt, who founded the Schmidt Lithographic Company. Most early labels used a process called stone lithography, which was later replaced by the use of metal plates in the 1920s.

Some labels had recognizable logos, such as the Blue Anchor brand of the California Fruit Exchange, a group of citrus growers established in 1905. The Exchange later created the Sunkist brand. After the 1906 San Francisco earthquake, the California Fruit Exchange formed the Fruit Growers Supply Company to purchase timber for crates. Eventually, they even established their own logging railroad. Crate labels continued to be used as late as the 1950s, when cardboard boxes rapidly replaced wooden crates.



Postcards are also well represented in the agriculture collection. Many of these are examples of *exaggerated* or *tall-tale postcards*. They show huge fruit or vegetables, sometimes on railroad cars. California was famous for its produce, so tourists often sent these cards to friends and relatives in other states. Following their introduction in the 1890s and until World War I, collecting picture postcards was a popular American pastime.

Between 1905 and 1915, hundreds of millions of postcards were mailed each year in the United States. In those years, people often saved their postcards in elaborate albums and shared them with friends as entertainment.

The first private picture postcards were printed for the 1893 Chicago World Columbia Exposition. At that time, it cost two cents to send such a card. Only government-issued postcards could be sent for one cent. In 1898, a law was passed to change the postal rate for private picture postcards to one cent, starting the penny postcard craze. The U.S. Postal Service did not allow any writing on the address side of cards until 1907, when the split design for a message and address was approved.

Until a law was passed that charged a tariff on certain imports, many picture postcards were printed in Germany. In the United States, the largest postcard company in the west was that of Edward H. Mitchell, of San Francisco, who printed most of the exaggerated postcards in this collection. The Martin Post Card Company, Alfred Stanley Johnson, and others were also known for unusual cards. E. Curtis created cards showing characters made from vegetables or fruit, such as a pumpkin-head man.

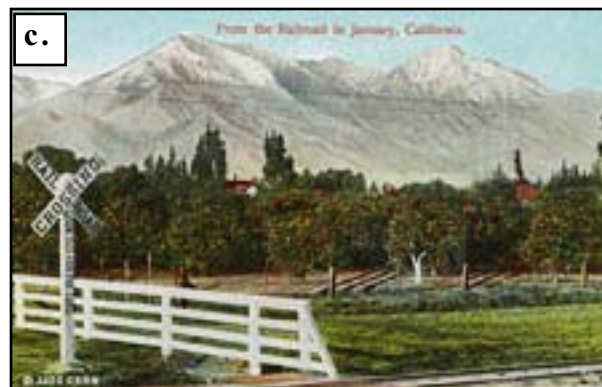
Some exaggerated postcards were made by illustration and lithography techniques. Others were created by taking close-up and wide-shot photos. These photos were cut, reassembled, and glued into a photomontage, which was then re-photographed and printed.

activity sheet 9 Agriculture

INTRODUCING THE SACRAMENTO HISTORY ONLINE COLLECTION

I. Document Match: (documents are not shown to scale)

Place correct letter by each description to describe the document.



_____ 1. Realistic postcard

_____ 4. Exaggerated postcard

_____ 2. Panoramic photograph

_____ 5. Vegetable crate label

_____ 3. Fruit crate label

_____ 6. Standard photograph

Modern Ephemera

Name a modern item related to food and agriculture that might often be thrown away. Give an example of what it might tell someone in the future about life today.

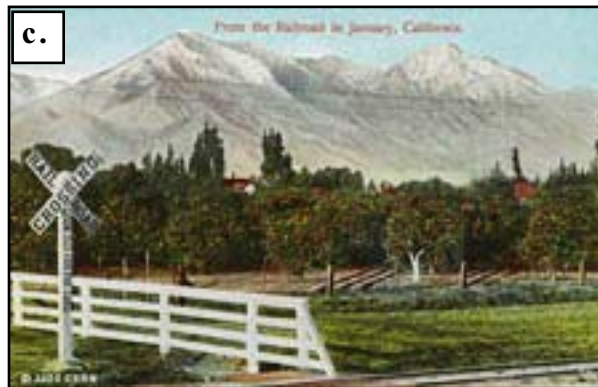
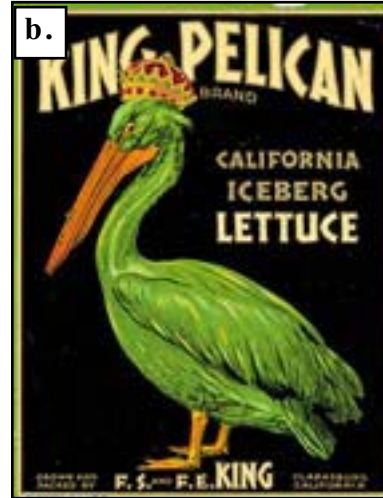
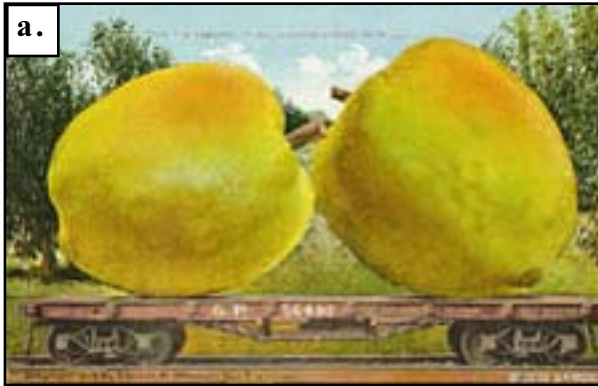
activity sheet 9 Agriculture

INTRODUCING THE SACRAMENTO HISTORY ONLINE COLLECTION

KEY

I. Document Match: (documents are not shown to scale)

Place correct letter by each description to describe the document.



 c 1. Realistic postcard

 a 4. Exaggerated postcard

 e 2. Panoramic photograph

 b 5. Vegetable crate label

 f 3. Fruit crate label

 d 6. Non-panoramic photo

Modern Ephemera

Name a modern item related to food and agriculture that might often be thrown away. Give an example of what it might tell someone in the future about life today.

(answers will vary but may relate to social customs, date, cost, subject, format, location)

lesson 10 Agriculture

USING THE SACRAMENTO HISTORY ONLINE DATABASE

OVERVIEW

This lesson introduces students to the actual **Sacramento History Online** collection (SHO) at <http://www.sacramentohistory.org> and provides activities for practicing database searches. You can view or print most images directly as a JPEG file. However, some documents in the database are in Adobe Acrobat PDF format and must be viewed or printed through an Acrobat viewer. *In Lesson 10, students will use the database materials online.*

STUDENT OBJECTIVES

1. Find a specific database record, using a *Keyword* search.
2. Find a specific database record, using a *Restricted* search.
3. Use the SHO database to find specific historical information.

CALIFORNIA HISTORY STANDARDS

This lesson emphasizes database search strategies and how to use the SHO collection to find information about agriculture, rather than teaching specific history content.

BACKGROUND ARTICLE 10

Using the Sacramento History Online Database (page 10-4)

STUDENT ACTIVITY SHEET 10 AND KEY

Using the Sacramento History Online Database (pages 10-5 and 10-6)

DOCUMENTS TO DISCUSS

The images below provide screen print examples of keyword searches, a restricted search, search results, and an individual entry.



Screen 1.
Main Menu

Screen 2. Keyword Search (*wheat*)



Screen 3. Search Results

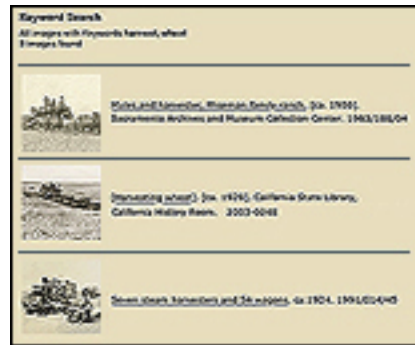


Screen 4. 2-Keyword Search



Screen 5. Search Results

(wheat and harvest)



Screen 6. 2-Keyword Search

(wheat and harvest, restricted to decade 1900-1909)



Screen 7. Search Results



Screen 8. Database Record



INSTRUCTIONS

1. Print any of the images shown above that you will use in your discussion, as well as **Student Activity Sheet and Key 10**. (Label the images above by their number to identify them in the instructions).
2. Read **Background Article 10**. You may wish to read it to your students or print it and have them read it by themselves. Discuss any questions that they may have.
3. Introduce students to the SHO database by using printouts from Lesson 9 and from the images above. Ask students what kinds of images they think might be included in a database about transportation.

4. Using **Screen 1** above or the online database, lead students through the process of using the database. Start with the main menu at <http://www.sacramentohistory.org>.
5. Show them the broad **Agriculture Browse** search button above the keyword entry on the Home page. The Browse search is also available on the Browse page.
6. Show students how to use the button at the top of the screen to go to the **Search** page. With **Screen 2** above or the online database, show them the **Keyword** search entry area.
7. Enter a sample keyword. (**Screen 2**) (*wheat*) How many items are returned? (**Screen 3**)
8. Discuss how you can narrow the search by adding more keywords, such as *harvest*. (**Screen 4**) (*wheat harvest*) How many items are returned? (**Screen 5**)
9. To further narrow the search, show students how to restrict the results to a decade. (*1900-1909*) (**Screen 6**) How many items are returned? (**Screen 7**)
10. Show students a sample database record. (**Screen 8**) Ask them to find the summary and date fields.
11. Give students **Activity Sheet 10: Using the Sacramento History Online Database (page 10-5)**. Work through the first question together, asking students how they would begin to search for the answer using the SHO database. After they have finished the activity, discuss their answers as a group. (or searches usually return more hits).

FOLLOW-UP

1. Use the online database to **find materials for a report** on agriculture. Try your own keyword and advanced searches. Discover what types of keywords are most useful in finding materials for this report.
2. **Search the database** for one photograph related to agriculture that you particularly like. Print the photograph. Pretend that you are the photographer. Write a story about the day that the photograph was taken, what the photo shows, and why you took it
3. **Search the database** for one piece of ephemera related to agriculture that you particularly like. Pretend that you are the person who saved the item. Write a story about the day that you got the item and why you saved it instead of throwing it away.

background 10 THE SACRAMENTO HISTORY ONLINE DATABASE



The Sacramento History Online collection lets you search for materials in several ways. Once a search is completed, the database displays a set of records that matches the search criteria.

Individual Database Records

Most database records include the following fields: Title, Date, Description, Subject(s), Summary, Owning Institution, Copyright, Call Number, and Filing Location (within the institution). Some records list the date of the copy rather than the original, so you may also want to look for pictures for a certain time period by adding a decade limiter on the Search page.

Browse Search

The Agriculture images have been divided into seven broad topics available on the Home page, the Browse page, and other pages with the Browse tabs labeled *Transportation* and *Agriculture*:

- Buildings**
- Equipment**
- Food**
- Land**
- Livestock**
- People**
- Miscellaneous**

Keyword Search

A simple keyword search is available on the main Search page. To go to the Search page, use the button at the top of the screen. You can enter one or more keywords in the search area. The database will look for the keyword(s) in the title, date, subject, or summary fields.

Restricted Search

You can narrow a search by combining keywords with pre-determined categories: Decade, Topic (agriculture or transportation), Document Type, and Institution.

USING THE SACRAMENTO HISTORY ONLINE DATABASE

Find the Category

1. Buildings 3. Food 5. Livestock
2. Equipment 4. Land 6. People

Place the correct category number by each item to show where you might find the most documents about the following subjects. You may list more than one.

- | | | | |
|-------|------------------|-------|-----------------|
| _____ | a. steam tractor | _____ | e. pig |
| _____ | b. dairy cow | _____ | f. field of hay |
| _____ | c. cannery | _____ | g. plow |
| _____ | d. recipe | _____ | h. farm family |

Fill in the Answer

Use the Keywords search to find the answer in the database.

1. What is the title of one of the entries found by using the keyword *orange*?

2. For what animal disease did the *Crump* company make a cure?

3. What kind of farm equipment did the *Holt* company make?

4. What month was the California State Fair held in 1902? _____

5. What grain did John McFarland grow on his ranch?

lesson 11 Agriculture

CALIFORNIA AGRICULTURE OVERVIEW

OVERVIEW

This lesson introduces students to the general history of agriculture in California, including the move from raising livestock for hides to the growth of wheat farming and the introduction of specialty crops. *In Lesson 11, students use the Sacramento History Online database at <http://www.sacramentohistory.org>.*

STUDENT OBJECTIVES

1. Explain how the geographic features of California affected the growth of agriculture.
2. Identify several projects, ethnic groups, and events that helped make the Sacramento Delta suitable for farming.
3. Analyze several documents to see how farming was promoted in the early 20th century.
4. Use the SHO database to find specific historical information.

CALIFORNIA HISTORY STANDARDS

4.1.3 - 4.1.5 Physical and human geographic features that define places and regions in California

4.2.3 - 4.2.8 Social, political, cultural and economic life and interactions among people of California

4.3.3 - 4.3.4 Economic, social and political life from the Bear Flag Republic through the Gold Rush

4.4.2 - 4.4.6 California's rise as an agricultural and industrial power

BACKGROUND ARTICLE 11

California Agriculture Overview (*pages 11-5 through 11-7*)

STUDENT ACTIVITY SHEET 11 AND KEY

Sacramento Transportation (*pages 11-9 and 11-10*)

DOCUMENTS TO DISCUSS

The documents shown below provide an overview of the history of agriculture in California.



1. Sutter's Hock Farm

[ca. 1849]

This farm was one of the first agricultural projects in California. This photo of a painting shows the first steamboat that passed up the Feather River receiving a cannon salute from General Sutter at the Hock Farm.



2. Levi Painter's fruit and vegetable ranch

[1880]

Shows the steamboat *Julia* on the Sacramento River; Painters Hall left; dock at right; farmhouse, barn, outbuildings, orchards, fields in the distance. The location is identified as one mile south of Courtland.



3. Map of California Delta District

[ca. 1920]
Map of the Sacramento and San Joaquin River delta area northwest of Stockton; shows rail lines, rivers, sloughs, and Delta islands.



4. Celery gathering and growing on Grand Island

[unknown]
Workers on a celery farm in the Delta.



5. Bella Vista Ranch

[ca. 1890]
View from the north of Bella Vista Ranch near Rocklin originally owned by the Thomas Marshbrowne family; shows house and outbuildings surrounded



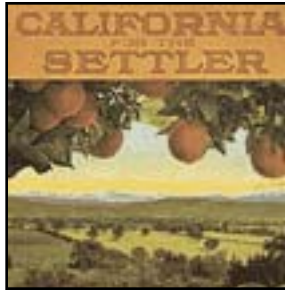
6. Yolo County orchards

[ca. 1910]
Aerial view of orchards spreading across the valley floor. At lower right, people posed near fruit drying trays on the ground; at upper right foreground, foothills in the distance.



7. Loading watermelons

[ca. 1915]
View of two men loading watermelons from a truck onto a railroad box car, at Orland.



8. California for the Settler

[1910]
Southern Pacific Railroad booklet describes agricultural opportunities available in California. Includes the types of crops grown in each region of the state, with details about production and yields.



9. Natomas News

[1911]
This newsletter includes photos of reclamation phases and equipment, including the *Hercules*, described as *the largest clam shell dredge in the world*.



10. Cultivating field, Bear River area

[1912]
Land being cultivated with a horse-drawn disking machine. The field location is in the upper Bear River area Natomas Company Reclamation Dist. 1001.

INSTRUCTIONS

1. Print any of the images shown above that you will use in your discussion, as well as **Student Activity Sheet 11 and Key**.
2. Read **Background Article 11**. You may wish to read it to your students or print it and have them read it by themselves. Discuss any questions that they may have.
3. Show and discuss **Document 1, Sutter's Hock Farm**. Tell students that the image shows one of the first farm projects in California and ask them what time period it depicts. (1840s) What clues are in the image? (*steamboat, cannons, clothing*)

What do they already know about John Sutter? Why would he need a farm? (*to provide food for the settlers at Sutter's Fort*) Ask why they think the men are shooting cannons? (*documentation for the image does not explain the cannons, but students may have ideas.*) Why do they think that the Indians who lived in what is Northern California did not rely on farming for their food? What did they eat instead, and how did they obtain it?

4. **Document 2, Levi Painter's fruit and vegetable ranch.** This print shows a later view of a farm along the Sacramento River. What details can students identify in the image? The location is identified as one mile south of Courtland. How do they think a modern image of the same area might look today? What would have changed?

5. **Document 3, Map of California Delta District and Document 4, Celery gathering and growing on Grand Island.** What do students notice about the geography of the area depicted on the map? Do they recognize any of the names on the map? What do they think would be some of the challenges of living, traveling, and farming in this area?

6. **Document 5, the Bella Vista Ranch near Rocklin and Document 6, Yolo County orchards.** Have students determine how long ago the photos were taken. (*1890 and 1910*) Locate Rocklin and Yolo County on a map. How do they think the land in these areas would look today? For example, much of the area around Rocklin is now filled with residential and commercial buildings. Discuss how population growth and development has affected farming in California. Is farming an important business in your area? How do people decide how land should be used in your community?

7. **Document 7, Loading watermelons.** Discuss the railroad's impact on California agriculture.

8. **Document 8, California for the Settlers.** This 1910 booklet from the Southern Pacific Railroad celebrates the wonders of Northern California as a farming region. At this time, railroads and others who were interested in selling land for development and promoting tourism often published such brochures. Some of these publications made exaggerated claims about the climate and crops that could be successfully grown in California. Read the brochure to your students and have them decide how accurately it describes growing conditions at that time. Do students agree that there is no climactic difference between Northern and Southern California? Have them locate annual weather data to support their conclusions. Which crops shown are still widely grown commercially in Northern California?

9. **Document 9, Natomas News and Document 10, Cultivating field, Bear River area.** These images show some of the work involved in reclamation of the Delta lands for farming. Locate the Bear River area on a map.

10. Give students **Activity Sheet 11: Agriculture Overview** (*page 11-9*). After they have completed the activity, discuss their answers as a group.

FOLLOW-UP

1. **Search the database** for a photo showing some type of farming in the area where you live or a place you have visited. How long ago was the photo taken? Has the land changed since then? If so, how?

2. **Learn about the agricultural history of your own community.** Find other websites to help you learn more. Where else can you find information?

3. **Find out if any reclamation or irrigation projects** were implemented in your own area. When were they started? What impact did they have on your community?

3. **Look for more information** on early farmers such as Levi Painter. You can find one article (originally published in 1890) on the internet at rootsweb.com (<http://freepages.genealogy.rootsweb.com/~npmelton/sacpain.htm>)

REFERENCES AND RESOURCES

- 2003 *Teacher resource guide: A guide to educational materials about agriculture.*
Sacramento, CA: California Foundation for Agriculture in the Classroom, 2003.
- Chang, S. *The bitter sweet soil: The Chinese in California agriculture, 1860-1910*
Berkeley, CA: University of California Press, 1986.
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RELATED LINKS

California Department of Food and Agriculture Kids

(<http://www.cdfa.ca.gov/kids>)

California Farm Bureau Federation

(<http://www.cfbf.com/info/>)

California Foundation for Agriculture in the Classroom

(<http://www.cfaitc.org/>)

Early California History: An Overview

(<http://memory.loc.gov/ammem/cbhtml/cbrush.html>)

National Agriculture Statistics Service

(<http://www.usda.gov/nass/nasskids/nasskids.htm>)

Sacramento's Delta History

(<http://www.sacdelta.com/hist.html>)



The Indians who lived in what is now California relied on hunting and gathering plants that grew naturally in the area for food. Except for limited farming by Indians along the Colorado River, agriculture began in California in the 1770s, with the establishment of the Spanish Missions. Using Indian labor, the missions grew wheat, vegetables, grapes, citrus, and other fruit to support the people living there.

By the 1830s, when the missions had declined and California was ruled by Mexico, large ranchos were common. Raising cattle for hides and tallow became the most important agricultural activity. Hides were shipped to New England to provide leather for shoes and other items. Most of these hides were sent on ships from the ports of San Diego and Monterey around South America's Cape Horn. The wealthy rancheros did not need to farm to provide all of their food, and they could afford to import many goods.

By the time that Mexico transferred control of California to the United States in the 1840s, they had given away much of the land in grants. One of the people to receive such a land grant was John Sutter. Although Swiss by birth, Sutter became a naturalized Mexican citizen to qualify for the land. In 1840, he began to build the settlement known as Sutter's Fort, in what is now Sacramento. The next year, he also started one of the first agricultural projects, known as Hoch Farm, on the Feather River, near the current town of Yuba City in Sutter County. The name *Hoch* comes from a German word meaning *upper*, perhaps referring to a place upriver from Sutter's Fort. Sutter developed the farm to provide wheat, fruit, and vegetables for the residents of the Fort.

After leaving Sutter's Fort in 1849, Sutter moved to Hoch Farm, where he lived with his family until 1865. Even on the farm, cattle rustlers or squatters who disputed his right to the land sometimes bothered him. In 1865, a fire that may have been set by an angry employee destroyed the farm, and Sutter left California for the East.

During the Gold Rush, few people in California except Sutter took the time to plant crops. Everyone wanted to strike it rich in the gold fields. However, many miners turned to farming after placer mining quickly became unproductive. Placer mining required only a gold pan or a sluice box and a claim on a riverbank. The hardrock and hydraulic mining that followed the initial Gold Rush were more expensive operations, requiring large crews and special equipment. Hydraulic mining washed vast amounts of dirt from hillsides using water cannons (called *monitors*) that shot jets of water. Debris from this type of mining caused the Sacramento, American, Yuba, and Feather rivers to fill with silt and increased flooding along their banks in the valleys below. In 1884, a lawsuit finally stopped hydraulic mining operations, and the conditions for valley farmers began to improve.

Eventually, the hide trade of the Spanish rancheros gave way to wheat farming, the introduction of fruit and row crops, and livestock ranching for meat and dairy products. By the 1860s, California farmers were exporting wheat to England, sending it around Cape Horn on sailing ships. These ships could travel in deep water and were not as expensive to operate as coal-burning steamboats. Wheat was a major crop until about 1900, when the amount of grain the land would produce began to decline. Wheat farming without crop rotation had depleted the soil, and California even had to import wheat to meet the needs of its own citizens. Although wheat and other grains, such as barley, continued to be important in the Sacramento and San Joaquin Valleys, farmers increasingly began to plant row crops and orchards. Processing and shipping agricultural products also became an important industry. The railroad's arrival let farmers ship some crops by rail, although it initially was more cost effective to ship wheat by boat. However, the development of refrigerated rail cars eventually opened markets for fruit and vegetable crops in the East.

Farming required a big labor force. Many Chinese immigrants, almost all men, arrived in California during the Gold Rush and later helped to build the Transcontinental Railroad. Many of these Chinese laborers also found work on farms in the Sacramento Valley. Some saved enough money to buy small farms of their own, while others became sharecroppers. In fact, in the 1880s, the majority of farm laborers in California were Chinese men. However, in 1882, the Chinese Exclusion Act barred the entry of any more Chinese immigrants, and, eventually, other ethnic groups began to replace the Chinese laborers, including workers from Mexico and Japan.

The climate in California supports a wide variety of crops, but most of the land still requires irrigation for successful farming. Irrigation districts eventually were formed to manage large water projects. Although the Sacramento River Delta soil was rich, farming there required extensive reclamation work, such as draining swamps and building levees to stop annual flooding. Early efforts by individual farmers to build levees in the 1850s were not very successful. In the 1860s, legislators passed laws to establish reclamation districts. Other laws also rewarded those who invested in reclamation work with refunds and the title to the land they reclaimed. Although many acres of Delta land were reclaimed for agriculture, this latter approach sometimes meant that too many levees were built with too little planning.

Building levees and draining swamps was dirty, wet, and hard work, and Chinese laborers were often the only ones willing to do it. Many of the levees built in the 1880s were made of peat bricks and mud. However, peat would dry out, and mud would crack, so that even these levees were not always high or strong enough to resist the force of the river.

The Chinese immigrants in California brought more with them than a willingness to work hard. Most had been farmers in China and were skilled at growing specialized crops such as celery. Some brought plants and seeds from their homeland that they eventually grew in California. Many other farmers in the Sacramento area were immigrants from Portugal or Italy, where they had learned how to grow crops in a dry Mediterranean climate.

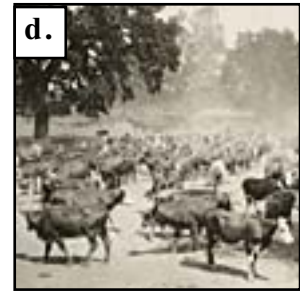
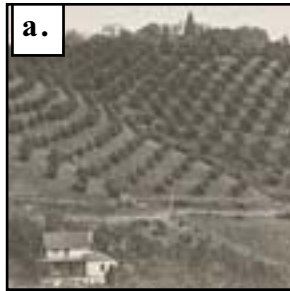
In the years after the United States took control of California, land disputes were common and continued for many years. California had sold a large amount of the land that the federal government had given it when it became a state. When the railroads were built in California, the U.S. government also gave railroad companies land in exchange for their construction efforts, much of which they also sold. Still, settlers had a difficult time competing against large landholders to purchase land for small farms. However, in the late 1800s and early 1900s, land was heavily promoted and sold by developers, and colonies of small farms were established in many locations including Thermalito, Orange Grove, and the Natomas reclamation districts.

The Natomas Consolidated Company began as the Natoma Water and Mining Company in 1851, building a water canal system for mining and agriculture in Placer County. When mining became less profitable, they became involved in agriculture-related projects. The company used steam-powered dredging, with what was called a *clamshell dredge* for mining operations on the American River. Such dredging also allowed the building of taller, stronger levees in the Delta region. In 1911, the State Reclamation Board was established to supervise levee construction and reclamation work. Reclamation District 1000 was located in Sacramento County and District 900 in Yolo County. The Natomas Company began reclamation work in Districts 900 and 1000 in 1912 and sold parcels of the reclaimed land for farming.

activity sheet 11 Agriculture
CALIFORNIA AGRICULTURE OVERVIEW

I. Image Match

Match the image by putting the correct letter next to the description.



- _____ 1. Beef cattle, Los Molinos
- _____ 2. Strawberry field in Yolo County.
- _____ 3. Fifth alfalfa cutting on Saylor's ranch in Natomas Reclamation District No. 1000.
- _____ 4. Notice to sell the assets of Bent Nelson on August 12, 1871
- _____ 5. Pile of potatoes
- _____ 6. Olive orchard near Auburn
- _____ 7. Hauling grapes to Woodland
- _____ 8. Shipping produce in 1924

II. Agriculture Scramble

Number the following items from 1 to 4 by when they became important in California agriculture

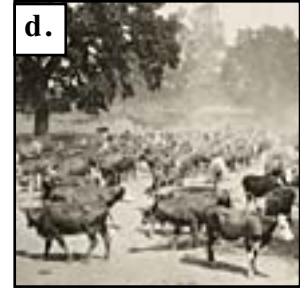
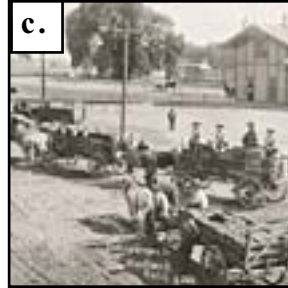
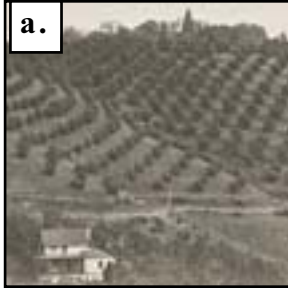
- _____ wheat _____ irrigation districts _____ oranges _____ cow hides

activity sheet 11 Agriculture

CALIFORNIA AGRICULTURE OVERVIEW

I. Image Match

Match the image by putting the correct letter next to the description.



- d 1. Beef cattle, Los Molinos
- b 2. Strawberry field in Yolo County.
- f 3. Fifth alfalfa cutting on Saylor's ranch in Natomas Reclamation District No. 1000.
- h 4. Auction notice to sell the assets of Bent Nelson on August 12, 1871
- g 5. Pile of potatoes
- a 6. Olive orchard near Auburn
- c 7. Hauling grapes to Woodland
- e 8. Shipping produce in 1924

II. Agriculture Scramble

Number the following items from 1 to 4 by when they became important in California agriculture

 2 wheat 4 irrigation districts 3 oranges 1 cow hides

lesson 12 Agriculture CALIFORNIA CROPS

OVERVIEW

This lesson introduces students to some of the varied crops and livestock that have been raised in California. You can view or print most single images directly as a JPEG file. However, some documents are in Adobe Acrobat PDF format and must be viewed or printed with Acrobat Reader *In Lesson 12, students use the Sacramento History Online database at <http://www.sacramentohistory.org>.*

STUDENT OBJECTIVES

1. Give examples of the different types of crops that have been important in California agriculture.
2. Explain why growers formed cooperative organizations.
3. Use the SHO database to find specific historical information.

CALIFORNIA HISTORY STANDARDS

4.1.3 - 4.1.5 Physical and human geographic features that define places and regions in California

4.4.5 - 4.4.6 California's rise as an agricultural and industrial power

BACKGROUND ARTICLE 12

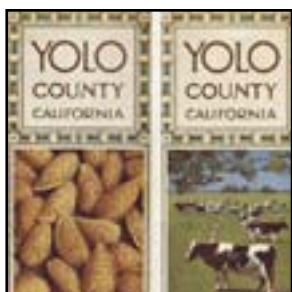
California Crops (page 12-5 through 12-7)

STUDENT ACTIVITY SHEET 12 AND KEY

California Crops (pages 12-9 and 12-10)

DOCUMENTS TO DISCUSS

The documents below provide examples of different types of horse-drawn vehicles.



1. Yolo County pamphlet

[ca. 1913]

This pamphlet describes crops grown in Yolo county and includes many photos.



2. Sacramento County pamphlet

[ca. 1926]

This brochure provides similar information about Sacramento County.



3. A wheat field

[ca. 1924]

Man demonstrates how tall wheat has grown on Natomas Lands wheat farm.



4. Field of beans

[1925]

Man displays bean vine, approximately three weeks after planting.



5. Peach harvest
[unknown]
Wagon with peaches.



6. Summit Pears crate label
[ca. 1900]
This label features the California Fruit Exchange Blue Anchor brand logo.



7. Almond harvest history
[unknown]
This brochure documents the harvesting and processing of almonds before mechanical equipment was used.



8. Almond advertising
[ca.1920]
Drawing/painting of a young girl holding a basket of California almonds. It is a cut-out mounted on card stock.



9. E. Clemens Horst hop field
[1900 - 1920]
View of mule-drawn hop wagon, filled with hop vines at the edge of Horst's hop field in Wheatland.



10. Ostrich farm ad
[unknown]
Advertisement for the Sacramento Ostrich Farm.

INSTRUCTIONS

1. Print any of the images shown above that you will use in your discussion, as well as **Student Activity Sheet 12 and Key**. (Label the images by their number to identify them in the instructions).
2. Read **Background Article 12**. You may wish to read it to your students or print it and have them read it by themselves. Discuss any questions that they may have.
3. Show and discuss **Documents 1 and 2, Pamphlets for Yolo and Sacramento Counties**. Ask students to list crops and livestock that are raised in California. These documents may then be used for small group activities. Have students read through the documents and look at the pictures. They may need help in understanding some of the flowery vocabulary used, so you may want to read and discuss specific pages with them. Have each group make a chart for the booklet they studied, listing the livestock raised and the crops mentioned. Can they identify any changes in the counties and in agriculture since the booklets were published?
4. **Document 3, A wheat field**. Ask students to guess the crop. Relate the image to those of the Natomas reclamation project in Lesson 11. Have students list foods that include wheat. Discuss the importance of wheat in California agriculture.

5. **Document 4, Field of beans.** Ask the students to guess what crop is shown. Discuss the meaning of the term row crops and ask students to name other plants that are grown in rows. Some students may have had experience growing row crops in a garden. Discuss the tasks involved in growing and harvesting such crops.
6. **Document 5, Peach harvest.** Have students name other fruits that are grown in California.
7. **Document 6, Summit Pears crate label.** Tell students that the Blue Anchor logo means that the grower belonged to the California Fruit Exchange. Discuss the benefits of collaborative marketing organizations such as the Exchange.
8. **Document 7, Almond harvest history.** This document illustrates how almonds were harvested before the introduction of mechanical equipment. You may want to print several of the documents for children to review in small groups. Find out how almonds are harvested today and discuss what has changed. If you have access to almonds in the hull, bring some of them into the classroom for children to see.
9. **Document 8, Almond advertising.** The historical collection of the California Almond Growers Exchange is stored in the Sacramento Archives and Museum Collection Center, which has included many of these documents in the *Sacramento History Online* Collection. This cutout is one example of a collaborative marketing effort for the Blue Diamond brand. Ask students how they think it might have been used. (*possibly as a store or fair display*)
10. **Document 9, E. Clemens Horst hop field.** Hops is an unusual crop with which many children might not be familiar, but it was once an important agricultural product in California. You can see a very early film of the Horst Hops Ranch on this site. (http://www.sacramentohistory.org/films_hopfarm.html) *To download and play the film clips, you must have a current QuickTime Player (6.0 or higher).*
11. **Document 10, Ostrich farm ad.** How many children have seen a real ostrich? Where? If possible, bring an ostrich feather to class to show children. Have they seen other unusual animals on farms in California? (*llamas, buffalo, etc.*)
12. Give **Activity Sheet 12: California Crops** (page 12-9). After they have completed the activity, discuss their answers as a group.

FOLLOW-UP

1. **Search the SHO collection** together, using the keyword search. How many of the crops on the lists created in #3 above can you find represented in the collection?
2. **Document 1, The Yolo County pamphlet** mentions that land could be purchased for six to 125 dollars per acre. Find out how much 20 acres of land would cost today and compare the two prices.
3. **Draw an ad** for an agricultural product that could be used in a store display.

REFERENCES AND RESOURCES

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Kelley, R. L. Gold vs. grain: *The hydraulic mining controversy*

in California's Sacramento Valley. Glendale, CA: A.H. Clark Co., 1959.

Jelinek, L.J. *Harvest empire: A history of California agriculture.*

San Francisco, CA: Boyd and Fraser Publishing Company, 1979.

Schlebecker, J.T. *Whereby we thrive: A history of American farming, 1607-1972.*

Ames, IA: The Iowa State University Press, 1975.

Selling the Gold: The history of Sunkist and Pure Gold. Stanford, CA: Stanford

Upland Library Foundation, 1999.

RELATED LINKS

Almond

technical summary of almond characteristics

(<http://www.uga.edu/fruit/almond.htm>)

California Asparagus Commission

includes a page for kids

(<http://www.calasparagus.com/industry/background.htm>)

California State Historical Landmarks for Yuba County

includes marker information for Wheatland Hop Riot

(http://ceres.ca.gov/geo_area/counties/Yuba/landmarks.html)

History of Almonds from Blue Diamond Growers

(<http://www.bluediamond.com/almonds/history/index.cfm>)

History of Blue Diamond Growers

<http://www.bluediamond.com/about/history/index.cfm>)

Oranges for Health--California for Wealth

history of citrus farming

(http://www.californiahistory.net/8_pages/industry_oranges.htm)

Ostrich entry in *World Almanac for Kids*

(<http://www.worldalmanacforkids.com/explore/animals/ostrich.html>)

sacbee: Our Century

life in Sacramento 1900-1919, Wheatland riot, importance of canneries

(http://www.sacbee.com/static/archive/news/projects/people_of_century/century_special/early.html)

Sunkist Growers

includes a page for kids

(<http://www.sunkist.com>)

background 12 CALIFORNIA CROPS



Following the decline of the Spanish ranchos and the hide trade, California farmers began to plant wheat on a large scale. Raising livestock for meat and dairy products also became important industries in the state. As irrigation and reclamation made more land available, farmers planted a remarkable variety of new crops, including rice, cotton, row crops (such as celery, melons, lettuce, and tomatoes), citrus fruits, stone fruits (such as peaches, cherries, and plums), and nuts (almonds and walnuts).

Specialty crops also included olives, sugar beets, hops, and strawberries. Other business ventures, from growing eucalyptus trees to raising ostriches, were not as successful. Except for oranges, apples were the first fruit grown on a large scale. The development of canning and drying methods soon made it profitable to grow other fruits such as peaches and pears. Tomatoes and asparagus also became important crops for canning.

Before the invention of specialized planting, harvesting, and processing machines, it took many laborers to have a successful farm. Immigrants from other countries, including China, Japan, Mexico, Italy, and Portugal made up much of the labor force in California. Even after machines took over many farming tasks, some operations, such as picking tomatoes or delicate fruit, still required human labor.



Wheat. From the 1860s until about 1900, wheat was the main crop in California. It did not require irrigation and was relatively easy to grow. However, in the 1880s, some farmers changed from dry-land wheat farming to irrigating their fields. In California, harvested wheat could be stored in fields during the summer and did not need to be covered to prevent rotting. One of the largest wheat-farming operations was that of Dr. Hugh J. Glenn, for whom Glenn County is named.

The ports that were used for the hide trade, especially San Diego and Monterey, became the center of the wheat export business. In the 1850s, Isaac Friedlander, a German immigrant, began by importing wheat and flour, but he soon became an exporter. Known as the *Grain King*, Friedlander bought crops from farmers and arranged to send the wheat to England on tall ships. However, in 1877, a crop failure left him with too many ships and not enough wheat, and his business never recovered. George McNear became the next big wheat exporter, dominating the business for 25 years.



Citrus fruits include oranges, lemons, grapefruit, and limes. Citrus trees were brought to California with the Spanish padres who founded the early missions. However, William Wolfskill planted the first commercial orange grove, in 1841, in what is now Los Angeles. During the Gold Rush, oranges protected miners from scurvy, a once-common disease caused by a lack of Vitamin C. In the 1870s, Joseph Wolfskill, William's son, was the first person to ship oranges to the East coast by railroad.

In 1871, the U.S. Department of Agriculture gave Eliza Tibbetts, who lived in Southern California, several fruit trees from Brazil. This seedless variety is known as the Washington Navel Orange. Navel oranges are easy to peel and keep well for shipping. Eliza sold cuttings from the original trees to farmers throughout California, where navel oranges quickly became a popular crop. About that time, farmers also began to plant Valencia oranges, which ripen in summer and are used mainly for juice.

In 1892, some farmers joined to form the Southern California Fruit Exchange. This group established districts and local associations with their own brands. After several reorganizations, the California Fruit Growers Exchange was founded in 1905, to include Northern California growers. The Fruit Exchange controlled prices and helped farmers cooperatively sell and market their produce without competing against each other. Many other produce growers also formed cooperative groups.



Almonds. In California, almonds were first planted in the 1850s. Today, the state produces more than two thirds of the world's almond crop, and no other state grows them commercially. Almonds are related to peaches. However, because they start to bloom in February, they cannot be grown where winters are too cold. A crop like almonds could successfully be grown on a smaller piece of land than a crop such as wheat, because the almond farmers could earn a higher price for their crop.

Like the citrus growers, almond farmers formed a cooperative group for marketing and selling their crop. Founded in 1910, this group was named the California Almond Growers Exchange. In 1914, the growers association created the Blue Diamond brand, which is still used today.

Until the 1960s, most almonds were harvested by hand. Men would climb the trees and shake the nuts loose with large mallets. They would then stand on the ground to knock the remaining nuts down with long poles. The nuts fell onto a canvas sheet, which was dragged by hand from tree to tree or moved on wooden sleds by horses and unfolded under each tree. After each tree was knocked, the sheets were folded again and moved to the next tree.

Almonds have an outer hull that dries and splits as the almond ripens. This hull must be removed before shipping. Prior to mechanization, hulling was done by hand, often by women and children. Once hulled, the nuts were transferred to drying racks. When they were dry, the almonds were put into sacks that were sewn closed, ready to be shipped to market.

Today, almonds are shaken from the trees by machines onto ground that has been rolled smooth. Farmers use other machines to sweep the nuts into rows, pick them up, and put them into trailers for hauling to the processing facility.



Hops is a plant that is used in brewing beer. The hops cones contain different oils, which add flavor and make the beer foamy. The cones grow on high vines and originally had to be picked by hand. At one time, Emil Clemens Horst owned more acres of hops than anyone else in the entire world. He had large hops ranches in Oregon and California, including one in the Sacramento area. In 1909, Clemens patented a mechanical hops separator that made it easier to harvest the crop. (This machine is shown in the film about hops on the sacramentohistory.org web site.)

A hops farm was the site of one of the most famous labor-related events in California history, the Wheatland Hops Riot of 1913. Four people died and many were injured in the incident. The farmer, Ralph Durst, advertised for 1,000 workers, but about 3,000 people showed up. The riot started after laborers (immigrants from many countries) began protesting over poor housing, conditions, and pay, and a deputy sheriff fired a warning shot to break up an angry crowd. Many workers were arrested, and the National Guard was called in to restore order. Two labor organizers from the International Workers of the World were sentenced to life imprisonment. However, because of the strike, some government agencies began to look at ways to improve conditions for farm laborers, and the State Commission on Immigration and Housing was formed, which focused attention on poor conditions in labor camps and led to new laws.



Ostriches were one of the most unusual commercial birds to be introduced in California. The American ostrich, called a *rhea*, was imported from Africa in the 1880s. They were bred for ostrich feathers (plumes), which were fashionable in the latter part of the nineteenth century as decorations for hats and clothing. Eventually, fashions changed, and ostrich feathers went out of style.

activity sheet 12
CALIFORNIA CROPS

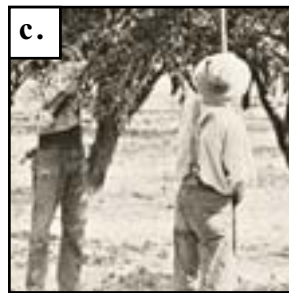
I. Name the Crop

Find a matching image for the names using the keyword search. Write down at least one crop that was grown on the person's farm or ranch. In most cases, you only need to search by the person's last name.

1. Kherkeva _____
2. Dan Sturm _____
3. Philip S. Driver _____
4. Jane Garden _____
5. O.M. Saylor _____
6. W.W. Pallady _____
7. H.M. Swally _____
8. Joseph Bittencourt _____
9. Charles and Lewis Moreing _____
10. F. W. Keisel _____

II. Photo Match

Match the photo by putting the correct letter next to the description.



- _____ 1. almond orchard
- _____ 2. shaking almond trees
- _____ 3. almond bleacher
- _____ 4. almond drying yard

activity sheet 12
CALIFORNIA CROPS

KEY

I. Name the Crop

Find a matching image for the names using the keyword search. Write down at least one crop that was grown on the person's farm or ranch. In most cases, you only need to search by the person's last name.

1. Mr. Kercheva _____ **pears** _____
2. Dan Sturm _____ **almonds** _____
3. Philip S. Driver _____ **beans, peaches** _____
4. Jane Garden _____ **lettuce** _____
5. O.M. Saylor _____ **alfalfa** _____
6. W.W. Pallady _____ **broom corn** _____
7. H.M. Swally _____ **pears** _____
8. Joseph Bittencourt _____ **sugar beets** _____
9. Charles and Lewis Moreing _____ **rice** _____
10. F.W. Keisel _____ **peaches** _____

II. Photo Match

Match the photo by putting the correct letter next to the description.



- b** 1. almond orchard
- c** 2. shaking almond trees
- d** 3. almond bleacher
- a** 4. almond drying yard

lesson 13 Agriculture

LIFE ON A FAMILY FARM

OVERVIEW

This lesson introduces students to on a family farm. You can view or print most single images directly as a JPEG file. *In Lesson 13, students use the Sacramento History Online database at <http://www.sacramentohistory.org>.*

STUDENT OBJECTIVES

1. Describe how life on a farm without electricity and refrigeration differs from modern farm or city life.
2. Identify how farm families obtained their food and how they preserved it.
3. Use the SHO database to find specific historical information.

CALIFORNIA HISTORY STANDARDS

- 4.1 Physical and human geographic features that define places and regions in California
- 4.4 California's rise as an agricultural and industrial power

BACKGROUND ARTICLE 13

Life on a Family Farm (pages 13-5 through 13-7)

STUDENT ACTIVITY SHEET 13 AND KEY

Life on a Family Farm (pages 13-9 and 13-10)

DOCUMENTS TO DISCUSS

The documents below are related to life on a family farm.



1. Buildings on the G.F. Simpson Ranch

[ca. 1950]
Buildings on the G.F.Simpson Ranch in Natomas District No. 1000. There are two adults and a teenage boy, presumably the Simpsons. A windmill and truck are shown.



2. Prize calf and children in alfalfa field

[ca. 1924]
F.W. Kiesel Ranch. The photo shows F.W. Kiesel's son and two daughters along with a prize-winning calf in a field of mown alfalfa.



3. Our turkeys

[ca. 1893]
McFarland ranch in Galt, flock of turkeys being tended by 3 women and 3 children.



4. Pump on McFarland Ranch

[ca. 1893]
Galt, CA. View of McFarland ranch barns, corrals and outbuildings. Pump in foreground is labeled "Fulton#1."



5. Wiseman family ranch [ca. 1900]
Dairy farm corral with cows on Wiseman family ranch in Sacramento. Also shows barn, milk cans, and Wiseman family members.



6. Boy driving tractor [ca. 1925]
Taking peaches to market.



7. Seed catalog [1891]
Catalog contains the description of the W.R. Strong Company's inventory, prices, and ordering information for seeds, trees, and nursery stock. Also illustrates fruits, vegetables, and growing regions.



8. Home garden headquarters [ca.1925]
John Swanson's garden. Jim Olson standing in cabbage patch. Farm house in the background, unidentified child in the foreground.



9. Picking corn [1910]
Colorful fruit crate label advertising pears grown in the Sacramento Valley and shipped via steamer on the Sacramento River.



10. School garden [ca. 1915-16]
View of teenage boys and girls working in a flower and vegetable garden in Highland Park, Sacramento.

INSTRUCTIONS

1. Print any of the images and PDF files shown above that you will use in your discussion, as well as **Student Activity Sheet 13 and Key**. (Label the documents by their number to identify them in the instructions).

2. Read **Background Article 13**. You may wish to read it to your students or have them read it by themselves. Discuss any questions that they may have.

3. Show and discuss **Document 1, Buildings on the G.F. Simpson Ranch**. Ask students to describe what they think it might have been like to live in this farmhouse. Do they think the family had electricity? If not, what things would they have had to do differently in preparing and preserving food?

4. **Document 2, Prize calf and children in alfalfa field**. Ask students what they think daily life would have been like for children on this ranch? What kinds of activities would the children in the photograph have enjoyed? Has anyone in the class had a livestock animal as a pet or responsibility?

5. **Document 3, Our turkeys** and **Document 4, Pump on McFarland Ranch**. The McFarland Ranch was established by John McFarland, the founder of Galt and is being developed as a living history center. The SHO database includes several photos of this ranch that were taken in the 1880s.

6. **Document 5, Wiseman family ranch** and **Document 6, Boy driving tractor**. Children had many chores on a farm. Discuss what some of these chores might have been. Ask students why they think that the boy was allowed to drive the tractor.

7. **Document 7, Seed catalog**. Examine the catalog to see what kinds of things could have been planted in an 1891 garden. Are there any fruits or vegetables that the children have never heard of? (*e.g. salsify*) If so, find out what type of plant it was and how it was used. (*for example, a root vegetable that was boiled and mashed*)

8. **Document 8, Home Garden Headquarters** and **Document 9, Picking corn**. Ask children what is being grown in these gardens. (*cabbages and corn*) Can they find the child in the cabbage patch?

9. **Document 10, School garden**. Some schools had their own gardens. Other gardens were sponsored by industrial and 4-H clubs. During World War I, some children grew and canned food for the war effort. To learn more about Victory Gardens in World War II, you can see a film on this site about the Sacramento gardens, which were celebrated in Harvest Festivals. *To download and play the film clips, you must have a current QuickTime Player (6.0 or higher).*

10. Give students **Activity Sheet 13: Life on a Family Farm** (page 13-9). After they have completed the activity, discuss their answers as a group. (*More information on Levi Painter and John Sutter's Hock Farm is available in Lesson 11*).

FOLLOW-UP

1. **Imagine that the year is 1900** and that you live on a farm in the Sacramento Valley. Write a letter to a friend in the city and tell them about your daily life.

2. **Draw a map** for a vegetable garden using plants from the 1891 *Strong Catalog*. Calculate the cost of the garden. Compare the *Strong Catalog* to a modern catalog, in terms of text and graphic style, plants offered, and prices.

3. **Create a menu** for a meal that you would serve in 1900 if you lived on a farm. Which ingredients could you grow, and which would you buy at a store?

4. **Interview someone in your community** who lived on a farm as a child at least 70 years ago. How was their childhood different from yours? How was it different from that of their own parents or grandparents? Make a book that illustrates your interviewee's life on the farm.

5. **Make your own butter**, with the help of an adult.

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- Kalman, B. *Food for the Settler*. Toronto, New York: Crabtree Publishing Co., 1992. (juvenile)
- Kalman, B. *Hooray for dairy farming!* New York: Crabtree Publishing Co., 1998. (juvenile)
- Kalman, B. and Hale, L. *Pioneer recipes*. New York: Crabtree Publishing Co., 2000. (juvenile)
- King, D.C. *Pioneer days: Discover the past with fun projects, games, activities, and recipes*. New York: Wiley, 1997. (juvenile)
- Luchetti, C. *Children of the West: Family life on the frontier*. New York: W.W. Norton, 2001. (juvenile)
- Peavy, L.S. and Smith, U. *Pioneer children*. Norman, OK: University of Oklahoma Press, 1999.
- Peavy, L.S. and Smith, U. *Pioneer women: the lives of women on the frontier*. Norman, OK: University of Oklahoma Press, 1998.
- Saunders-Smith G. *Fall harvest*. Mankato, MN: Pebble Books, 1998. (juvenile)

RELATED LINKS

Ardenwood Historic Far, Fremont, CA

(<http://www.ebparks.org/parks/arden.htm>)

Discovery Museum, Sacramento, CA

agricultural exhibits, including a 1928 kitchen and crate label collection

(http://www.thediscovery.org/technology/tec_agr.html)

Heidrick Ag History Center, Woodland, CA

(<http://www.aghistory.org/>)

Yolo Land and Cattle Company, a working ranch offering guided tours

(<http://yololandandcattle.com/>)

Country Kitchens (Springfield-Greene County Library)

(<http://thelibrary.springfield.missouri.org/lochist/periodicals/bittersweet/sp751.htm>)

The Daily Routine of a Kansas Farm Wife in the Last Quarter of the Nineteenth Century

(<http://www.kckpl.lib.ks.us/kscoll/lochist/exhibits/farmwife.htm>)

Explore the History and Making of Butter, Online Exhibit

(<http://webexhibits.org/butter/index.html>)

History Corner 12- 23-99, Memories of Milking Cows

(<http://home.ctcweb.net/~jcpeart/19991223.htm>)

Milking and Making Butter in th 1800s

(<http://www.geocities.com/Nashville/6000/butter.html>)

background 13 LIFE ON A FAMILY FARM



After the Gold Rush, large landowners dominated California agriculture, but many people lived on small family farms or in rural areas where they raised much of their own food. Although mechanical inventions made some tasks easier, life on a farm did not change very much between the 1870s and the 1920s. In fact, except in cities, electricity was not widely available until the late 1930s, under a government program called the Rural Electrification Administration.

At the turn of the nineteenth century, a typical family farm had several buildings besides the main house, including one or more barns, a smokehouse, and a poultry or henhouse. A visitor might also have noticed a windmill, water well, cistern, water pump, and even an icehouse. Of course, indoor plumbing was rare, so almost everyone had an outhouse.

Work on the Farm. Everyone on a farm helped with the work, and there was a lot to do. Men usually worked in the fields or orchards, repaired buildings and farm equipment, chopped wood, and managed livestock. Women did most of the household tasks, such as cooking, cleaning, sewing, and laundry.

A woman's day usually began early in the morning when she had to get up to build a fire in the cast-iron cooking stove and start to prepare breakfast. If she had light, it was often from only a kerosene lamp. It took about half an hour for the stove to heat up enough for cooking. Wood was the common fuel, although dried corncobs or cow dung could be used in areas where wood was scarce. Hot water was heated on the stove. After breakfast, it was time to clean up and start preparing the next meal, which was usually the largest meal of the day, called dinner. A lighter evening meal was called supper. Jobs such as washing clothes might only be done once a week, but it could take all day to do them.

Farm children also had their own chores. They might take care of younger children, carry water to the house, hoe weeds in the garden, milk cows, gather eggs from the henhouse, help with a harvest, collect wood for the fire, and empty ashes from the stove. Children also helped with cooking chores such as peeling potatoes and churning butter.

Water. A hand pump or bucket was used to draw drinking water from a well. Some people had windmills to pump water from the well into a cistern (a holding reservoir or tank, often built out of rocks and concrete). Some cisterns collected rainwater or stored water that was carried from a stream. Cistern water was often used for bathing or washing dishes. Sinks with drains were very rare. Although a few people developed systems to pump water all the way into the house, most farmers had to carry water into the house in buckets and carry it out again when it was dirty. Hot water for bathing was heated on the stove. Water was not wasted, so dirty water was commonly recycled to water the garden.

Food. Many family farms had a vegetable garden, chickens for eggs, and at least one dairy cow for milk, butter, and cheese. For meat, farmers might butcher cattle, hogs, chickens, and turkeys. In some places, people took advantage of native foods by catching fish or picking wild berries. Some people raised and ground their own wheat or took it to a mill for grinding. If you did not grow your own wheat, you could buy flour in town, along with other staples such as sugar, coffee, and tea.

Baked Goods. Although baked goods were sold in some stores, most women made their own. Families were often large, so it was not unusual to make six or eight loaves of bread each week. Women also baked the family's biscuits, rolls, pies, cakes, and cookies.

Meat. It was difficult to keep fresh meat from spoiling in the summer, so people ate meat that had been preserved. To preserve meat, many farmers had a smokehouse to make ham, bacon, and sausage, after butchering hogs in the fall. The smokehouse had a dirt floor where a fire would slowly cure and dry meat. Women also canned, dried, and salted meat to preserve it.

Milk. Most cows had to be milked twice a day. Milking was a tricky job that required balancing on a stool and avoiding having the cow slap you with her tail or knock over the milk pail. Fresh milk was strained to remove any dust or hairs by pouring it through a metal strainer into a milk can or through a cloth into a crock or jar.

Butter. Even though margarine was available in stores at the turn of the century, farm wives with a milk cow usually made their own butter. Making butter requires cream. Raw milk is warm when it comes from the cow. As the milk cools, the cream separates and rises to the top. Mechanical cream separators were introduced in the 1880s, to speed the separation process. Fresh milk was poured into the separator, which had a crank handle and two spouts, and, after much turning of the crank, milk came out one spout and cream out of the other.

Cream separators were so difficult to clean that many women continued to use older methods. Instead of using the separator, they would pour raw milk into a crock or shallow pan and leave it overnight. The cream was then skimmed off the top, leaving behind what is called skimmed milk. When the cream was slightly sour, it was poured into a butter churn. Churns came in many shapes, sizes, and materials, including wood and glass, but all had a container and a paddle or dasher to agitate the cream. One common style was a stoneware crock and a wooden lid with a hole in the center for the handle of the dasher (sometimes called a *plunger* or a *stomper*). The dasher was pumped up and down until the cream started to set into butter. The leftover liquid is called buttermilk. The butter was rinsed and placed in a wooden bowl, where it was worked with wooden paddles to add salt and remove any remaining liquid. Finished butter was placed in a crock or jar or molded into decorative shapes with a butter mold.

Refrigeration. Before electricity, keeping dairy products cool on the farm was a challenge, and imaginative solutions were often found. Cooling methods varied according to the location of the farm. In some areas, food was stored outside in the winter. Where winters were cold enough, blocks of ice could also be cut from a pond and hauled to an icehouse for storage. However, by the turn of the century, many sources of ice were polluted, so good ice was sometimes difficult to find. If you lived close enough to town, an iceman might deliver your ice by wagon, but ice delivery was not available in many rural areas. If your property had a spring, you could build a springhouse over it, a small building with no floor where food could be placed on shelves or directly into the spring to let the cold water flow around it. Some people lowered milk or butter into their cistern or well to partially submerge it in the water. Others kept food in cool cellars, under buildings.

Although they became available around 1915, electric refrigerators were not widely used until the 1930s. However, before that, people who were lucky enough to have a supply of ice could use iceboxes to cool their food. Typical iceboxes were insulated wooden cabinets lined with metal. Blocks of ice were placed at the top of the icebox, which would stay cool for several days until the ice melted. Water from the melted ice drained into a pan that had to be emptied often.

Fruit and Vegetables. Most families had a vegetable garden, sometimes called a kitchen garden, regardless of what crops they grew for sale to others. A wide variety of vegetable seeds and plants were available from catalogs and nurseries. California gardens might include corn, beans, carrots, potatoes, peas, broccoli, celery, spinach, cabbage, eggplant, onions, peppers, lettuce, squash, and melons. Root crops such as beets, turnips, parsnips, rutabagas, and salsify (vegetable oyster) were also popular.

Most farms had several fruit trees such as apples, pears, plums, peaches, and cherries. Women spent much of their time in the summer and fall cooking, canning, and drying fruit and vegetables. They used apples to make cider, applesauce, dried apples, and apple butter. They made cucumbers into pickles. Vegetables such as potatoes, onions, winter squash, and root vegetables could be stored in a cool basement room called a *root cellar*.

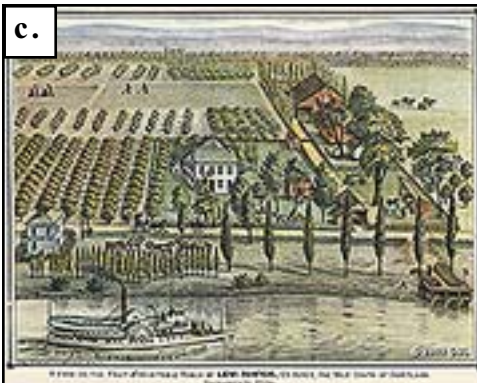
On farms where specialized crops were raised and sold, such as wheat, almonds, or fruit, harvest time often meant cooking great quantities of food to feed extra workers. Wheat threshing could take several days, and almond harvesting could last several weeks. Children often helped in the harvests, hulling almonds, picking fruit, or even driving wagons.

Victory Gardens. During World War I and World War II, even people who did not live on farms planted vegetable gardens. Around 1917, during World War I, some Americans were concerned about food shortages and planted gardens, sometimes as a school project. In the 1940s, the United States government asked Americans to plant Victory Gardens, because of a shortage of canned food in World War II.

activity sheet 13 Agriculture
LIFE ON A FAMILY FARM

I. Find the Farm:

Place the correct letter by each number to match the image to its description.
Put the date of the image beside the name of each farm.



_____ 1. John McFarland Ranch

Date _____

_____ 2. Sutter's Hock Farm

Date _____

_____ 3. Levi Painter Ranch

Date _____

_____ 4. Home of F.L. Azevedo

Date _____

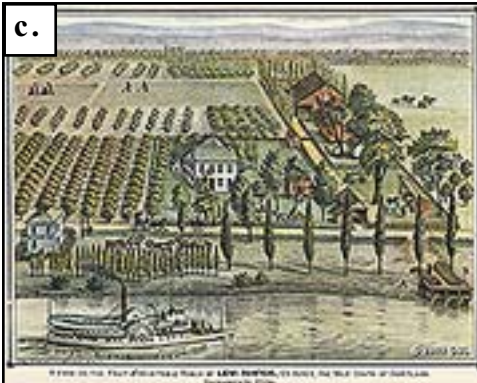
Choose A Farm

Circle one of the four images to show which farm you would choose as a home.
Explain your choice. Where was your farm located? How would life there have been different than on the other farms and from your life today?

activity sheet 13 Agriculture
LIFE ON A FAMILY FARM

I. Find the Farm:

Place the correct letter by each number to match the image to its description.
 Put the date of the image beside the name of each farm.



 d 1. John McFarland Ranch

Date 1893

 b 2. Sutter's Hock Farm

Date 1849

 c 3. Levi Painter Ranch

Date 1880

 a 4. Home of F.L. Azevedo

Date ca. 1924

Choose A Farm

Circle one of the four images to show which farm you would choose as a home.
 Explain your choice. Where was your farm located? How would life there have been different than on the other farms and from your life today?

(answers will vary)

lesson 14 Agriculture

ADVANCES IN AGRICULTURE

OVERVIEW

This lesson introduces students to a few of the advances in technology that have had an impact on agriculture in California. *In Lesson 14, students use the Sacramento History Online database at <http://www.sacramentohistory.org>.*

STUDENT OBJECTIVES

1. Explain how technological improvements made growing, harvesting, and preserving crops easier.
2. Identify some of the problems farmers encountered in using steam-powered equipment.
3. Use the SHO database to find specific historical information.

CALIFORNIA HISTORY STANDARDS

4.1 Physical and human geographic features that define places and regions in California

4.4 California's rise as an agricultural and industrial power

BACKGROUND ARTICLE 14

Advances in Agriculture (pages 14-5 through 14-7)

STUDENT ACTIVITY SHEET 14 AND KEY

Advances in Agriculture (pages 14-9 and 14-10)

DOCUMENTS TO DISCUSS

The documents below relate to technological advances in agriculture.



1. Asparagus cannery

[1911]
Interior of an asparagus cannery.



2. Drying peaches

[1922]
Peaches drying on racks.



3. Sorting almonds

[ca. 1920]
Six women sort and inspect almonds. Large machines shown are dryers. After being sorted, the almonds continued through another machine.



4. Almond processing

[ca. 1920s]
Interior of Almond Grower's plant showing two men standing next to sorting and cleaning machinery.



5. Steam Power of California

[unknown]
This booklet illustrates some early steam-powered equipment that was developed by Californians.



6. Steam harvesters

[ca. 1924]
Seven steam harvesters with 54 horse teams hauling five tons of hay each. The hay was cut, loaded on barges and on its way 100 miles down stream to the Sperry Flour Mills, all on the same day.



7. Best's traction engine

[1891]
This engraving shows Best's Engine pulling seven carts of gravel in Sacramento.



8. Holt tractor and harvester

[ca. 1924]
Holt-built tractor towing a harvester. Four men (possibly the Sieferman Brothers) and a dog pose on the equipment near Woodland.



9. Mowing tules

[ca. 1917]
Men operate a mowing tractor in preparation for plowing. The tractor is pulling a large wooden barrel which flattens the tules. One man is on the roof to look out for hazards and holes.



10. Steam tractor

[ca. 1880s]
Ten people pose in front of a steam tractor.



11. Refrigerator car

[unknown]
Pacific Fruit Express refrigeration car No. 50187.



12. Icing a refrigerator car

[unknown]
Men load ice into Fruit Growers Express refrigerator car.



13. Icing a refrigerator car

[unknown]
Fruit Growers Express car No. 35832 restored to its 1938 appearance, and on display at the California State Railroad Museum.



14. Southern Pacific Bulletin [1927]

This bulletin includes The story of a half-million cakes of ice, an article describing how ice was cut at the Pacific Fruit Express' natural ice plant at Carlin, Nevada, a re-icing station for perishable shipments.

INSTRUCTIONS

1. Print any of the images shown above that you will use in your discussion, as well as **Student Activity Sheet 14 and Key**. (Label the images by their number to identify them in the instructions).
2. Read **Background Article 14**. You may wish to read it to your students or have them read it by themselves. Discuss any questions that they may have.
3. Show and discuss **Document 1, Asparagus cannery** and **Document 2, Drying peaches**. Tell students that this image shows different ways that people learned to preserve food. What canned and dried fruits and vegetables have they eaten? Have any of their relatives dried or canned fruits or vegetables? If so, what steps did they have to take to do so? What foods would not be available in their community if canning had not been invented?
4. **Document 3, Sorting almonds** and **Document 4, Almond processing**. These images show how processing of almonds began to involve machines and assembly lines. However, some of the processing still required tedious hand labor, such as the sorting shown in **Document 3**. Have your class investigate how almonds are harvested and processed today.
5. **Document 5, Steam Power of California**. This document illustrates some of the early steam equipment used for harvesting. Identify the purpose of each machine shown. Discuss how farm equipment has changed since 1911.
6. **Document 6, Steam harvester**, illustrates the size, horsepower requirements, and weight of steam-powered equipment, as well as the scope of the harvest on a large tract of land. It also illustrates how equipment owners would combine labor and machines to harvest one farm at a time. Have students calculate how many tons of hay the seven harvesters hauled. (*35 tons*) How many pounds? (*70,000*)
7. **Document 7, Best's traction engine** and **Document 8, Holt tractor and harvester**. Ask students to describe the differences between the traction engines shown. They may note that Best's engine had a distinctive tall boiler, and Holt's has a track-type crawler. Discuss the pros and cons of different steam engine and tractor designs. Have students suggest other approaches or come up with their own designs that would help keep tractors from sinking in the Delta mud. Compare these tractors to modern tractors. Are any of the features of the modern machines similar to the older equipment? How have they been improved?
8. **Document 9, Mowing tules**. This image depicts a specialized machine designed to help farmers in the Delta area. Ask students if they have seen tules. Why would these plants grow in the Delta area? (*grow in wet areas*)
9. **Document 10, Steam tractor**. This image is another example of a steam tractor showing its size and wide wheels. Based on the students' knowledge of Holt and Best, whose machines do they think this tractor most resembles. (*probably Best*)

10. **Document 11, Refrigerator car** and **Documents 12 and 13, Icing a refrigerator car** show refrigeration cars and how they were filled or iced. Read the article *The story of a half-million cakes of ice* in **Document 14, Southern Pacific Bulletin** to students or have them read it independently. Assign several students to find out how modern foods are kept cool for shipping and report to the class.

11. Give students **Activity Sheet 14: Advances in Agriculture** (page 14-9). After they have completed the activity, discuss their answers as a group.

FOLLOW-UP

1. **Search the SHO collection** together, using the keyword and advanced searches. Find additional examples of mechanical harvesting and processing equipment.

2. Print **Document 5, Steam Power of California**. Create additional illustrations showing later inventions and bind all the pages into a booklet for the class.

3. **Play the role of Best or Holt** to sell one of your engine designs to your class.

4. **Identify at least five other sources** that might help you identify the specific builder and date of the tractor shown in **Document 10**, and use the sources to search for the information.

5. In Sacramento, visit the **California State Railroad Museum** to see a railroad refrigeration car or the **Discovery Museum** to see Holt and Best steam tractors.

REFERENCES AND RESOURCES

Blandford, P.W. *Old farm tools and machinery: An illustrated history*.

Fort Lauderdale, FL: Gale Research Co., 1976.

Martin, G.A. *Farm equipment and hand tools* Brattleboro, VT: The Stephen Greene Press, 1980. (facsimile of a book printed in 1887)

Murphy, J. *Tractors: From yesterday's steam wagons to today's turbocharged giants*. New York: Lippincott, 1984. (juvenile)

RELATED LINKS

California State Railroad Museum, Sacramento,
(<http://www.californiastaterailroadmuseum.org>)

Canning industry history (<http://www.cancentral.com/brochure/enterprise.htm>)

Coast to coast (shipping oranges in a refrigerated railroad car in 1947)
(<http://www.sdrm.org/stories/reefer/>)

Discovery Museum, Sacramento,
(http://www.thediscovery.org/technology/tec_agr.html)

The Holt family business history (<http://www.holtpipeline.com/history.htm>)

Heidrick Ag Center Antique Ag Collection, Woodland, CA
(<http://www.aghistory.org/equipment.html>)

Monterey County agriculture history, includes description of wheat harvest
(<http://www.pebble-beach-real-estate.com/index.cfm?pageID=480>)

background 14 ADVANCES IN AGRICULTURE



Many advances in agriculture were made in the nineteenth and twentieth centuries, including improvements in planting, cultivating, harvesting, processing, and distribution. Early inventions included John Deere's 1827 steel plow, which eventually replaced wooden plows for cultivation. In the 1830s, Cyrus McCormick patented a mechanical reaping machine for cutting hay. New horse-drawn equipment that made work easier for farmers included gang plows, which used multiple blades to cultivate the soil. Seed drills cut a furrow and dropped seeds into it while a farmer rode behind the drill.

A big boom in farming in the second half of the nineteenth century was also accompanied by advancements in mechanized farming, including the use of steam-powered equipment. Although machines were developed to help with many farm tasks, especially for harvesting wheat, many crops in California continued to require manual labor. However, eventually, specialized machines also were created for harvesting and processing many row crops and specialty crops such as almonds.



Agricultural Equipment. The first large mechanical farm equipment was pulled by horses, and, by the 1860s, mechanical, horse-drawn cutting and threshing machines were used to harvest California wheat. Threshing separates wheat grains from other parts of the wheat plant by removing what is called the *chaff*. Mechanical binders were also used in some areas, where wheat could not be left to dry in the field. The machines commonly used in California did not have a binder, but were called *headers*.

Around the mid-1800s, combine machines were invented, to do both jobs of cutting and threshing. Steam-powered threshers became common in California in the 1880s, and steam-powered combines soon followed. These combines required a boiler for water and were extremely heavy. They could weigh as much as 15 tons, need at least 40 horses or mules to move them, and have a 40-foot wide header.

Wheat harvesting was a big operation. Farm equipment was so expensive that machines were moved from farm to farm at harvest time. Farm owners either hired crews that traveled with the equipment or went in with a group of other farmers to purchase equipment that was shared by the group.

In the 1880s and 1890s, two California men, Daniel Best and Benjamin Holt, both competed to build machinery to match the soft and often soggy soil conditions that farmers encountered in the Delta area, and both men built steam-powered threshers and combines. They also experimented with ways to keep the heavy steam-powered equipment from sinking in the mud. One of Holt's combines had 9-foot diameter wheels that were 15 feet wide. Best also used wide wheels on his combines, which had tall vertical boilers.

By the 1870s, some inventors had designed steam traction engines, or steam tractors, which could pull other equipment. Best and Holt worked to develop wide-wheeled steam traction engines that could replace the large teams of horses and mules required to move their heavy steam combines.

Neither steam tractors nor combines were very successful because they were so heavy and difficult to move and could easily explode or start a fire. Steam traction engines were difficult to turn and still could bog down in the wet Delta soil. To overcome the latter problem, Holt is known for inventing a steam-powered, track-laying tractor or crawler, which he first tried in 1904. However, it was not until tractors were powered by internal combustion gasoline engines that they became safe, reliable, and cost-effective. Until self-propelled gasoline tractors were widely available, the first gasoline engines were stationary, meaning they did not move, and even gasoline-powered farm equipment was sometimes pulled by horses.

John Froelich produced one of the first successful gasoline-powered traction engines in 1892. Eventually, his work led to the creation of the John Deere Tractor Company. Best soon built his own gas-powered tractor engine, and Holt added a gasoline engine to his track-laying tractor. Best's sons continued their father's work and also built a crawler-type tractor. Eventually, the Best Company and the Holt sons' company merged to form the Caterpillar Tractor Company.



Canneries. Many of the farm crops produced in California did not ship well and were grown and sold to feed only the local residents. However, once methods were introduced to preserve foods, new agricultural products could be shipped to distant locations. Canning was invented in the early 1800s, to provide food for soldiers in the French army. Early canners knew how to use pressure and heat, but did not know about bacteria that caused food to spoil. Seafood was one of the first foods to be canned, and canned milk and other foods were available by the time of the Civil War.

In California, canning was introduced during the Gold Rush. In the 1860s, a salmon canning industry began on the Sacramento River. However, it was soon discontinued because debris from hydraulic mining damaged the salmon population and eventually the fishing industry. By the 1870s, canned fruit from California was being shipped to the east coast. The popularity of canned foods led to the development of specialized processing equipment such as cherry pitters and fruit peelers.

Making cans and bottles for the canneries also became a big industry. Early cans had a plug design, so that food had to be small enough to fit through a hole on top of the can. The invention of conveyor systems to move cans and of equipment to handle open-top cans made it possible to can larger amount of foods in a shorter time.

Many canneries were started to handle the specialty crops introduced into California, including asparagus, tomatoes, peaches, and pears. By the turn of the nineteenth century, many of these canneries had merged to form the California Packing Corporation under the Del Monte brand. Like the California Fruit Growers Exchange, the canning organization helped coordinate marketing and distribution efforts for owners of small canneries.



Railroad cars. Different styles of railroad cars were designed and built to ship different products. For example, special cars were designed to transport fish in water, while tank cars were used to ship wine. Some crops, such as potatoes, didn't need refrigeration and were shipped in cars that were ventilated by opening the hatch cover. Railroad cars were first cooled with ice to ship milk and seafood in the 1840s. Later, others shipped fish, game meat, and birds.

J.B. Sutherland patented an early method of refrigeration for railroad cars in 1867. His system combined air circulation, insulation, and ice compartments on each end of a wooden car to keep it cool. Refrigerated railroad cars began to be widely used in the second half of the nineteenth century, especially after the width of railroad tracks (called the gauge) was standardized. Having standard gauges meant that the fresh food that railroads hauled across the country did not have to be transferred from car to car before reaching its destination.

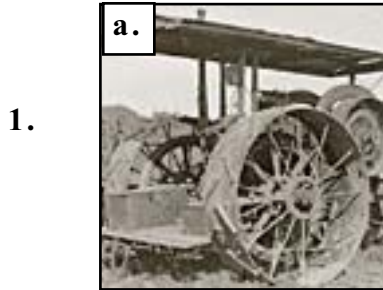
Because railroad refrigeration required a constant supply of ice, ice harvesting became an important business in some communities along the railroad lines. In California, almost all refrigerated cars headed east, taking produce to markets in other states. Some stops in California and Nevada became icing stations, such as Truckee, California, and Carlin, Nevada. Although mechanical methods were eventually developed to manufacture ice, icing stations were first established in areas with cold winters. Residents would cut pond ice into blocks and store it in an icehouse. When the railroad stopped, they would replenish the ice that had melted. Refrigeration cars could travel between 200 and 400 miles between icing stops. The container area in the railroad car that held the ice was called an ice bunker, which was filled from the top. Salt was often used to help keep the ice from melting. Loading the railroad car with ice sometimes required an icing deck or platform. At large icing stations, the bunkers were filled with huge ice blocks suspended from overhead cables.

Refrigeration cars were not cheap to operate. They required extensive cleaning after each load, held less than a regular car and often made their westbound return trip empty. However, some railroads continued to use diesel-powered, iced refrigerator cars until the 1950s, when refrigerated trucks were introduced.

activity sheet 14
ADVANCEMENTS IN AGRICULTURE

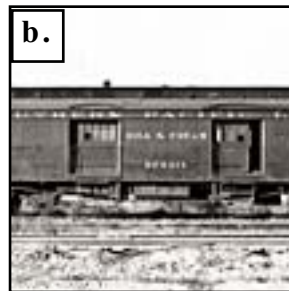
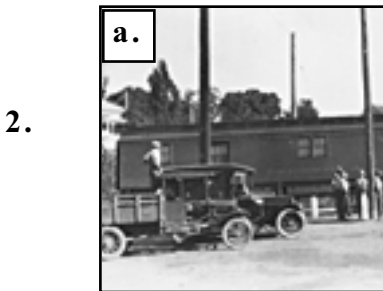
I. Which Is Which?

Find each pair of images in the database, using the keyword search.
Write an *a* or *b* in the blank to identify which picture is which.



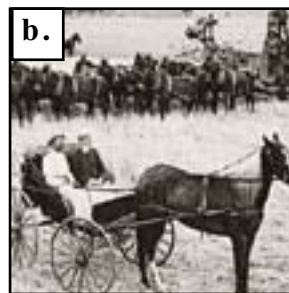
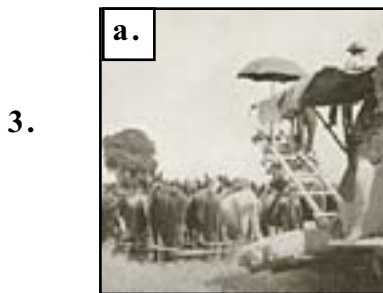
Which shows a Holt product?

Which shows a Buffalo Pitts product?



Which shows a railroad car to carry milk and cream?

Which shows a railroad car to carry fish?



Which shows a 26 horse harvester?

Which shows a 22 mule harvester?



Which shows asparagus canning?

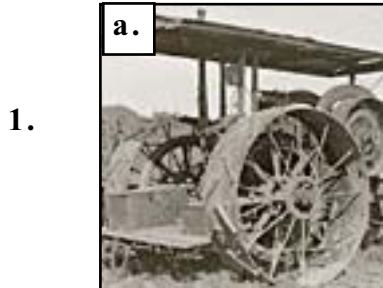
Which shows a peach cannery?

activity sheet 14
ADVANCEMENTS IN AGRICULTURE

I. Which Is Which?

Find each pair of images in the database, using the keyword search.

Write an *a* or *b* in the blank to identify which picture is which.

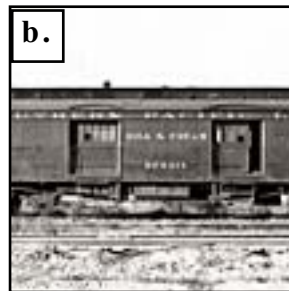
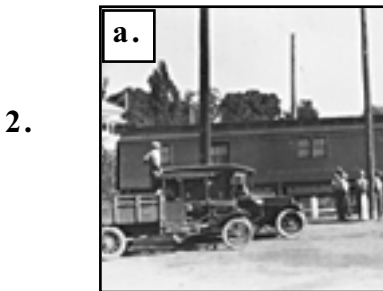


Which shows a Holt product?

_____ **a** _____

Which shows a Buffalo Pitts product?

_____ **b** _____

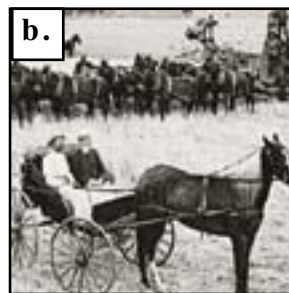
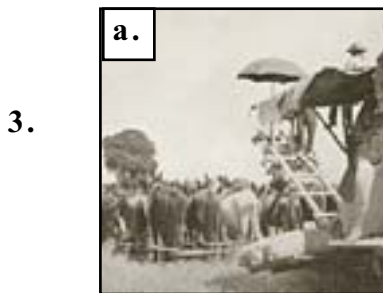


Which shows a railroad car to carry milk and cream?

_____ **b** _____

Which shows a railroad car to carry fish?

_____ **a** _____



Which shows a 26 horse harvester?

_____ **a** _____

Which shows a 22 mule harvester?

_____ **b** _____



Which shows asparagus canning?

_____ **b** _____

Which shows a peach cannery?

_____ **a** _____

lesson 15 Agriculture CLUBS, FAIRS, AND SHOWS

OVERVIEW

This lesson provides a brief overview of some of the ways that agricultural advances and achievements were shared and celebrated. *In Lesson 7, students use the Sacramento History Online database at <http://www.sacramentohistory.org>.*

STUDENT OBJECTIVES

1. Identify agricultural activities that were available to children in the early 1900s.
2. Explain the purpose of citrus fairs, and describe the types of exhibits that were displayed.
3. Compare and contrast California fairs in the 1800s and 1900s with modern fairs.
4. Use the SHO database to find specific historical information.

CALIFORNIA HISTORY STANDARDS

4.4.5 California's rise as an agricultural and industrial power

BACKGROUND ARTICLE 15

Automobiles in the Sacramento Valley (page 15-5)

STUDENT ACTIVITY SHEET 15 AND KEY

Automobiles (pages 15-6 and 15-7)

DOCUMENTS TO DISCUSS

The documents below relate to agricultural clubs, fairs, and shows.



1. Jersey Calf Club of Galt takes delivery of calves
[1920]
Two boys and two girls taking delivery of four calves to raise for the Jersey Calf Club of Galt.



2. California State Fair button
[1902]
A button badge worn on the lapel, features sheep, pigs, cattle, and horses on the top and fruits and vegetables on the bottom.



3. Agricultural Hall
[1859]
This brick building at 6th and M streets in Sacramento became the official site of the California State Fair.



4. Pavilion of the State Agricultural Society
[ca. 1912]
This larger pavilion was the next home of the State Fair.



5. Citrus Fair display

[1891]

Oranges on display at the Citrus Fair, Marysville, 1891.



6. Sacramento County exhibit at the Northern Citrus Fair

[1893]

Illustration from front page of the January 28, 1893 issue of the Pacific Rural Press. The Northern Citrus Fair was held at the Mechanics' Institute pavilion in San Francisco.

INSTRUCTIONS

1. Print any of the images and PDF files shown above that you will use in your discussion, as well as **Student Activity Sheet and Key 15**. (Label the images above by their number to identify them in the instructions).

2. Read **Background Article 15**. Read it to your students or print it and have them read it themselves. Discuss any questions that they may have.

3. Show and discuss **Document 1, Jersey Calf Club of Galt takes delivery of calves**. Explain that the children in the picture are being given the calves to raise. Ask students why the children would be given calves. What jobs do they think would be involved in raising a calf? Find out if anyone in your class belongs to a club such as 4-H. What kind of activities does their club sponsor? Find out if any of your students have exhibited something at a fair or raised a livestock animal. If so, have them describe the experience.

4. Ask students which of the documents in the set is an example of ephemera. They should be able to identify the souvenir button. Show and discuss **Document 2, California State Fair button**. The button can be called ephemera because it probably was not intended to be saved for many years. Have students calculate the age of the 1902 button. (*at least 101 years*) Ask students if they have saved any souvenir buttons from modern events.

5. **Document 3, Agricultural Hall, Sacramento** and **Document 4, Pavilion of the State Agricultural Society**. Tell students that these buildings were built for the California State Fair in Sacramento. Have them decide which pavilion was built first. How was the newer pavilion different? If any of your students have been to the current State Fair location, have them describe how the site looks today and what type of activities are available.

6. **Document 5, Citrus Fair display** and **Document 6, Sacramento County exhibit at the Northern Citrus Fair**. Ask students to decide what materials were used to create the displays in the photos. (*oranges*) Discuss what might be seen at a citrus fair, why they were started, and why people enjoyed them.

Ask if any of your students have attended a modern fair where fruits and vegetables were used to build displays. If so, have them describe what they saw. Read the article in Document 6, which discusses the appropriateness of a railroad theme to represent Sacramento County at the 1893 Citrus Fair. Do the students agree with the article's author? Would this theme still be appropriate today? What other displays could be constructed of oranges to represent Sacramento County or your own county. Ask students what they think the author means by *the dire ills [that would take place] if the orange horse should take on the functions of the iron horse whose semblance he assumes?*

7. Search the *Sacramento History Online* database together using the keyword and advanced searches, or let students explore the database independently. What other fair displays can they discover?

8. Give students **Activity Sheet 15: Clubs, Fairs, and Shows** (page 15-7). After they have completed the activity, discuss their answers as a group.

FOLLOW-UP

1. **Find out more** about what types of fairs have been held in your community. If there was a citrus fair, find out what years it was held and what type of displays were exhibited.

2. Imagine that you attended the Marysville Citrus Fair in 1891 or the California State Fair in 1902. **Write a postcard or letter** to a friend describing what you saw there.

3. **Design a display** for a citrus fair that represents your community. Determine the size of your display and estimate how many oranges or other fruits would be required. Build a scale model or make a drawing of your display. (*Colored press-on dots could be used to represent oranges*). Have a *mini-fair* with your classmates, and write an account of the fair as if you were a reporter of the day.

4. **Make a poster** for a citrus fair or State Fair. You can see historical examples from the California State Library Foundation at (<http://www.csifdn.org/exhibits.html>).

REFERENCES AND RESOURCES

Jelinek, L.J. *Harvest empire: a history of California agriculture*.

San Francisco, CA: Boyd and Fraser Publishing Company, 1979.

RELATED LINKS

California Farm Bureau Federation History

(<http://www.cfbf.com/about/fbhistory.htm>)

California Farm Bureau Federation History - 60th Anniversary

(<http://www.scif.com/60th/history.htm>)

California State Fair history

(<http://bigfun.org/html/history.asp>)

California State Library Foundation posters

includes examples from the California State Fair and National Orange Show

(<http://www.csifdn.org/exhibits.html>)

The History of Citrus Fair

Cloverdale, CA, Historical Society

(<http://www.cloverdalehistoricalsociety.org/citrusfair/>)

The Origins of the California State Fair

(<http://www.capitolmuseum.ca.gov/virtualtours/park/html/links/link30.html>)

background 15 CLUBS, FAIRS, AND SHOWS



Agricultural clubs. Around the turn of the twentieth century, boys and girls clubs (sometime called industrial clubs) were established to promote education for children living in rural areas. Industrial clubs sponsored fairs that gave children a chance to show the results of farm projects. 4-H clubs have their roots in these early organizations.

In many communities, 4-H clubs grew out of the Cooperative Extension Service, established by the U.S. Department of Agriculture (USDA) and land-grant colleges, including the University of California. The Cooperative Extension Service was created in 1914 by the Smith-Lever Act and began to sponsor girls and boys clubs, although the name 4-H was not used until 1918.

The extension service was organized to improve life on family farms in rural areas. Before providing educational services to a community, including club sponsorship, the Cooperative Extension Service required that counties establish a Farm Bureau. Yolo County was one of the first to qualify and take advantage of the new programs offered.

Typical club activities included raising a calf or pig, sewing, or growing a vegetable garden, with boys and girls having separate clubs. (The photo of the boy with the pig in this article was taken at the California State Fair in 1920). 4-H club members also raised and canned food during World War I. Many industrial and 4-H clubs were connected to schools and were established to make education more practical in farming areas. Both the extension service and the boys and girls clubs were important in introducing new farm technologies. Another agricultural club, the Future Farmers of America, was founded in the 1920s.



Citrus Fairs. The first citrus fair was held in 1879 in Riverside, in Southern California. These fairs became popular events to show off California produce and promote agricultural development. Although they were called *citrus* or *orange shows*, these events usually featured a variety of other farm products, including apples, walnuts, almonds, and wine. Growers, packers, and distributors, as well as the general public, were encouraged to attend.

Displays at the first Riverside fair celebrated the Washington Navel Orange, a citrus variety that had been introduced to California six years earlier. This first fair was so successful that it became an annual event, and other communities started their own, including Los Angeles. The first San Bernadino Orange Show was held in 1889. In 1911, it became the very popular National Orange Show, which is still held every year.

Citrus fairs were not limited to Southern California. One was held in Marysville in 1891. The \$200 grand prize was awarded to the Oroville City Association for the Thermalito Citrus Colony, which had been created in the 1880s by a group of businessmen. Prizes were also given for other fruits including prunes and raisins. The Cloverdale Citrus Fair, which began in 1892, grew from a county fair and is still an annual event.

In 1890, Charles Howard Shinn described the 1889 Oroville Citrus Fair in this way: *Counties of the State have held many and very beautiful citrus fairs, but it is only of late years that the central counties have had the oranges to exhibit. This Oroville fair, however, was held in a large canvas pavilion, under [the] bluest of California skies. There were chrysanthemums, roses, lilies, sweet peas, fresh from the gardens, and wild flowers gathered from the forests. Oranges are displayed in wagon loads and among other exhibits of the season were ripe raspberries, strawberries, melons, peppers and tomatoes, besides green peas and new potatoes.* (Shinn, H.S. *Outing*, 15:4, January, p.2)

The Sacramento History collection includes photos from several different citrus fairs. These images show how the arrangements of fruits in the displays became increasingly elaborate. For example, a steam locomotive built out of oranges was the highlight of the 1902 San Francisco Citrus Fair. Some fairs allowed schools and community groups as well as growers to enter the competition. Some also allowed entrants to incorporate other food items, besides oranges, into their displays. According to the current rules for the Cloverdale Citrus Fair, displays must use at least 1,080 fruits, half of them oranges.

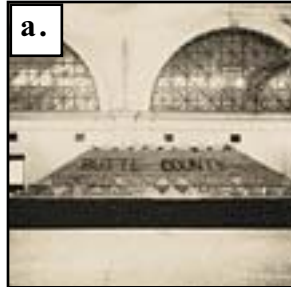


California State Fair. In 1852, the California State legislature established the California State Agricultural Society. Two years later, San Francisco was the site of the first California State Fair. The fair location was changed every year for several years so that people from all over the state could attend. However, Sacramento eventually became the permanent site, and an Agricultural Hall was built at 6th and M Streets. In the 1880s, a much bigger pavilion was built for the fair in the Capitol park area of Sacramento. It was the largest building in California at the time.

In the first decade of the twentieth century, the Pavilion was torn down, and the fair moved to a new location in Sacramento, on Stockton Boulevard. In 1967, the Fair moved to its current location at Cal Expo. Over the years, the Fair has included agricultural displays, county exhibits, livestock shows, horse racing, fine arts shows, auto racing, and even staged locomotive crashes. A carnival was added around 1917. According to the State Fair's web site (<http://bigfun.org/html/history.asp>), the 1854 displays included *2-inch long peanuts, 72-pound beets, and a 10-pound carrot measuring three feet long.*

I. What's Going on Here?

Find the image with a keyword or advanced search. Put the correct letter by the name of each event, and fill in the missing dates.



image

event

date

- | | | |
|----------|--------------------------------------|-------|
| _____ 1. | California State Fair | _____ |
| _____ 2. | Fourth of July Parade in Galt | _____ |
| _____ 3. | Marysville Citrus Fair | _____ |
| _____ 4. | Thanksgiving Citrus Fair | _____ |

II. What Did You Do at the Citrus Fair?

Look at images of the Marysville and Thanksgiving Citrus Fairs in the database and choose your favorite. Write about the fair, imagining that you are one of the following: a grower, visitor from another state or country, newspaper reporter, child from a farm, or child from the city.

Who are you? _____

Which event did you attend? _____

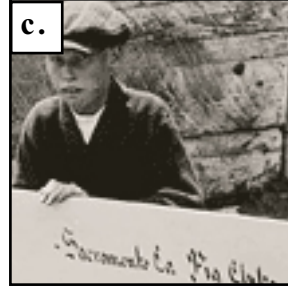
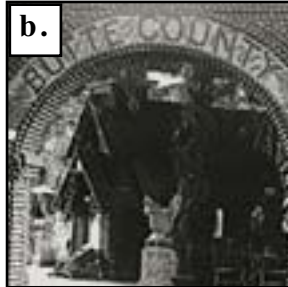
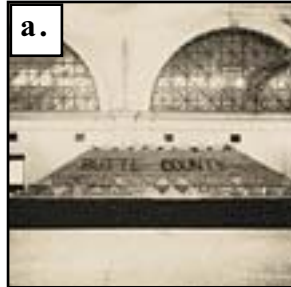
Did you have a display there? _____ If so, describe it. If not, then describe your favorite display.

BONUS: Make an ad for the event you chose on the back of this paper or on a separate sheet. Include a picture of it and why someone should attend it.

activity sheet 15
CLUBS, FAIRS, AND SHOWS

I. What's Going on Here?

Find the image with a keyword or advanced search. Put the correct letter by the name of each event, and fill in the missing dates.



image

event

date

<u>c</u>	1. <u>California State Fair</u>	<u>1920</u>
<u>d</u>	2. <u>Fourth of July Parade in Galt</u>	<u>1920</u>
<u>b</u>	3. <u>Marysville Citrus Fair</u>	<u>1891</u>
<u>a</u>	4. <u>Thanksgiving Citrus Fair</u>	<u>1902</u>

II. What Did You Do at the Citrus Fair?

Look at images of the Marysville and Thanksgiving Citrus Fairs in the database and choose your favorite. Write about the fair, imagining that you are one of the following: a grower, visitor from another state or country, newspaper reporter, child from a farm, or child from the city.

Who are you? _____

Which event did you attend? _____

Did you have a display there? _____ If so, describe it. If not, then describe your favorite display.

BONUS: Make an ad for the event you chose on the back of this paper or on a separate sheet. Include a picture of it and why someone should attend it.

lesson 16 Agriculture

INTRODUCING THE AGRICULTURE GAME

OVERVIEW

This lesson helps reinforce student learning related to the history of agriculture in California, especially life on a family farm. *In Lesson 16, students play the Agriculture Game under GAMES at the Sacramento History Online website at <http://www.sacramentohistory.org>. To play the game, you must have a current Flash Player (6.0 or higher).*

STUDENT OBJECTIVES

1. Apply knowledge of life on a family farm and California agriculture.
2. Complete the agriculture unit with an entertaining final activity.

CALIFORNIA HISTORY STANDARDS

4.4 California's rise as an agricultural and industrial power

STUDENT ACTIVITY SHEET 16 AND KEY

My Farm Visit Journal (pages 16-3 and 16-4)

Aunt Sarah's Recipe (pages 16-5)

DOCUMENTS TO DISCUSS

The documents below provide background information related to the Agriculture Game.



1. *Eat California Fruit*

[1904]

Illustrated pamphlet describing the wonders of California Fruit, includes recipes. (*Large PDF File - 3.7 MB*)



2. *Hack ranch in Freeport*

[ca. 1890]

View of yard around farm house, showing barn, other outbuildings, areas fenced off in sections, horse-drawn wagons, and windmills; orchard in distance.

INSTRUCTIONS

1. Print **Student Activity Sheet 16 and Key (My Farm Visit Journal and Aunt Sarah's Recipe)**.

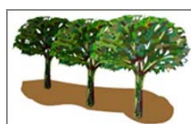
2. **In this activity, students play the Agriculture Game at <http://www.sacramentohistory.org>.** (Choose *Agriculture Game* from the Games menu at the top of the screen).

3. Before introducing the game, you may want to review and print the two documents above. **Document 1** is a pamphlet from 1904, which provides additional background about agriculture and food in that time period. **Document 2** is an image of a family farm in the 1890s.

4. In the game, children make an imaginary visit to their aunt and uncle’s farm in the Sacramento Valley. Although set in the early 1900s, the events and activities shown are typical for any family farm without electricity and refrigeration, from the 1880s through the 1920s. Featured areas on the farm include the following:



a. Farmhouse kitchen



e. Almond orchard



b. Henhouse



f. Almond hulling shed



c. Barn



g. Garden



d. Cistern



h. Additional images:
railroad depot,
exaggerated postcard,
and State Fair button

5. There are several ways to visit the farm. You can explore different locations on your own to learn more about farm life or gather clues to solve a puzzle.

6. **Puzzle.** Before they play the game, give students **Activity Sheet 16: My Farm Visit Journal** (page 16-3), to record clues. In the online game, they are asked to find ingredients for **Aunt Sarah’s recipe** (page 16-5) at various sites around the farm. If they solve the puzzle, they are rewarded with a virtual animated cake. To solve the puzzle, drag small icons to their proper location on the chart to indicate the following information for each of six ingredients (butter, milk, eggs, potatoes, flour, and almonds):

- Where they found the ingredient on the farm (e.g. the barn)
- The plant or animal it originates from (e.g. milk comes from a cow)
- The kitchen tool or utensil that was used to prepare the ingredient

FOLLOW-UP

- At the end of the game, **discuss the puzzle and your virtual visit** to the farm. Pretend that you are the child who made the visit, and write a letter to your family in the city, describing what you saw on the farm.
- Create a drawing or a mural** showing a family farm in the years 1900 and 2000. What changes would have taken place during those 100 years?
- With adult supervision, **make Aunt Sarah’s recipe** and share the results. Can you find other dessert recipes that call for vegetables?

activity sheet 16 choose **Agriculture Game** from GAMES at <http://www.sacramentohistory.org>.
Fill in the blanks in your journal as you play the Agriculture Game.
Use it to help you solve the puzzle when you have found all the ingredients.

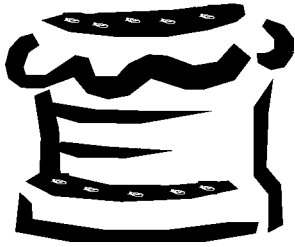
MY FARM VISIT JOURNAL

1. I found _____ in the _____.
This ingredient comes from a **plant** **animal** (*circle one*).
Name the plant or animal: _____.
Name the tool or utensil used: _____.
2. I found _____ in the _____.
This ingredient comes from a **plant** **animal** (*circle one*).
Name the plant or animal: _____.
Name the tool or utensil used: _____.
3. I found _____ in the _____.
This ingredient comes from a **plant** **animal** (*circle one*).
Name the plant or animal: _____.
Name the tool or utensil used: _____.
4. I found _____ in the _____.
This ingredient comes from a **plant** **animal** (*circle one*).
Name the plant or animal: _____.
Name the tool or utensil used: _____.
5. I found _____ in the _____.
This ingredient comes from a **plant** **animal** (*circle one*).
Name the plant or animal: _____.
Name the tool or utensil used: _____.
6. I found _____ in the _____.
This ingredient comes from a **plant** **animal** (*circle one*).
Name the plant or animal: _____.
Name the tool or utensil used: _____.

activity sheet 16 choose **Agriculture Game** at <http://www.sacramentohistory.org>.
 (ANSWERS WILL VARY IN THE ORDER INGREDIENTS ARE LISTED,
 UNLESS YOU FILL IN INGREDIENT NAMES BEFORE DUPLICATING.)

MY FARM VISIT JOURNAL

1. I found **butter** in the **cistern** .
 This ingredient comes from a **plant** **animal** (*circle one*).
 Name the plant or animal: **cow, Jersey cow, Daisy** .
 Name the tool or utensil used: **butter churn** .
2. I found **milk** in the **barn** .
 This ingredient comes from a **plant** **animal** (*circle one*).
 Name the plant or animal: **cow, Holstein cow, Bonnie** .
 Name the tool or utensil used: **milk strainer, cloth** .
3. I found **flour** in the **farm kitchen** .
 This ingredient comes from a **plant** **animal** (*circle one*).
 Name the plant or animal: **wheat** .
 Name the tool or utensil used: **flour sifter** .
4. I found **potatoes** in the **garden** .
 This ingredient comes from a **plant** **animal** (*circle one*).
 Name the plant or animal: **potato plant** .
 Name the tool or utensil used: **potato masher** .
5. I found **almonds** in the **hulling shed** .
 This ingredient comes from a **plant** **animal** (*circle one*).
 Name the plant or animal: **almond tree** .
 Name the tool or utensil used: **nutcracker** .
6. I found **eggs** in the **henhouse** .
 This ingredient comes from a **plant** **animal** (*circle one*).
 Name the plant or animal: **chicken, hen** .
 Name the tool or utensil used: **eggbeater** .



AUNT SARAH'S RECIPE

for her special chocolate mashed-potato cake

INGREDIENTS

1/2 cup butter
2 cups sugar

4 eggs, separated
1 cup hot mashed potatoes
2/3 cup cocoa
1 teaspoon vanilla

2 cups flour
1 tablespoon baking powder
1/2 teaspoon salt
1/2 teaspoon cinnamon

1 cup milk
1 cup chopped almonds

INSTRUCTIONS

1. Heat the oven to 350 degrees.
2. Grease a 9" x 12" cake pan (or two layer cake pans)
3. Cream the butter, and add the sugar
4. Slightly beat the egg yolks and add to the butter and sugar.
5. Mix in the mashed potatoes, cocoa, and vanilla.
6. Sift the dry ingredients (flour, baking powder, salt, and cinnamon) together and add them alternately with the milk.
7. Stir in the almonds.
8. Beat the egg whites until they are stiff, and fold them into the mixture.
9. Pour into the cake pan and bake for 50 minutes.
10. Cool and frost. Decorate with additional almonds.