



# CALIFORNIA STATE HISTORY DISCOVERY JOURNAL



IN CASE OF EMERGENCY

1. If you are separated from your group, call 1-800-906-4750 for assistance.
2. If you cannot reach anyone at the number above, contact the police department by dialing 911.

# My WorldSTRIDES CALIFORNIA STATE HISTORY DISCOVERY JOURNAL

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My Name

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My Program Leader's Name

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My Course Leader's Name

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Dates of My WorldStrides Program

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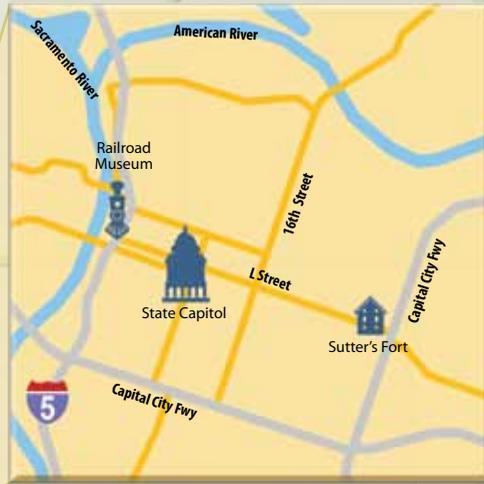
My Hotel / My Bus #



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# Sacramento



CALIFORNIA

# California

## WORD BANK

Choose from these options to fill in the blanks below.

Eureka  
Mount Whitney  
CA Desert Tortoise  
California Redwood  
California Grizzly Bear  
Sacramento

California Gray Whale  
September 9, 1850  
Death Valley  
Golden Poppy  
California Valley Quail  
Golden State

I love you, California  
Dog-face Butterfly  
Native Gold  
California Golden Trout

Fill in the following blanks based on what you learn on your California State History program.

State Song: \_\_\_\_\_

State Motto: \_\_\_\_\_

State Nickname: \_\_\_\_\_

State Tree: \_\_\_\_\_

State Mineral: \_\_\_\_\_

State Bird: \_\_\_\_\_

State Flower: \_\_\_\_\_

State Fish: \_\_\_\_\_

State Reptile: \_\_\_\_\_

State Animal: \_\_\_\_\_

State Insect: \_\_\_\_\_

State Marine Mammal: \_\_\_\_\_

Date State Entered the Union: \_\_\_\_\_

State Capital: \_\_\_\_\_

Highest Point (14,494 ft.): \_\_\_\_\_

Lowest Point (-282 ft.): \_\_\_\_\_

Draw a picture of the California State Flag:



**Statehood:** California became the 31st state on September 9, 1850.

- Between 1849 and 1854, San Jose, Vallejo, Benicia, and Sacramento served as temporary capital cities.
- In 1854, the capital city moved permanently to Sacramento.
- The first State Constitution was written in Monterey, but the first Legislature and the first elected governor, Peter Burnett, met for the first time in San Jose.
- The present State Capitol was built between 1860 – 1874.
- All three branches of government moved into this building in 1869, even though it was not yet completed.
- The Capitol was remodeled three times to accommodate growth and earthquakes. It was finally restored to its original look between 1975 and 1982.
- This was the largest restoration project in the western United States; it brought back the original elegance of the Capitol and established it as a working museum.
- Today the Capitol houses the legislative branch (Senate and Assembly) and the offices of the governor and lieutenant governor.
- San Francisco was used as an interim meeting place when flooding occurred in Sacramento, but was never a permanent capital.

# Government



## Questions to Think About

1. What was the first capital city of the state of California?

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2. Who was California's first elected governor as part of the Union?

---

3. On what date did California become a state?

---

4. California was the \_\_\_\_\_ state to join the Union.

## "Capitals" and "Capitols"



**Capital** = the city where government meets

**Capitol** = the building where laws are made

Hint: Capitol has a dome.

The capital of California moved FIVE times in its first four years as a state.



List the cities that served as California state capitals below in order:

1. \_\_\_\_\_ 3. \_\_\_\_\_

2. \_\_\_\_\_ 4. \_\_\_\_\_

\*Monterey was the capital prior to statehood.

## California Counties



1. Add a star to the map for Sacramento, the state capital.

2. Identify and mark your county.

3. Which county is the largest?  
\_\_\_\_\_

4. Which county is the smallest?  
\_\_\_\_\_

- |                 |                    |                     |                |
|-----------------|--------------------|---------------------|----------------|
| 1. Alameda      | 21. Marin          | 37. San Diego       | 48. Sonoma     |
| 2. Alpine       | 22. Mariposa       | 38. San Francisco   | 49. Solano     |
| 3. Amador       | 23. Mendocino      | 39. San Joaquin     | 50. Stanislaus |
| 4. Butte        | 24. Merced         | 40. San Luis Obispo | 51. Sutter     |
| 5. Calaveras    | 25. Modoc          | 41. San Mateo       | 52. Tehama     |
| 6. Colusa       | 26. Mono           | 42. Santa Barbara   | 53. Tulare     |
| 7. Contra Costa | 27. Monterey       | 43. Santa Clara     | 54. Tuolumne   |
| 8. Del Norte    | 28. Napa           | 44. Santa Cruz      | 55. Trinity    |
| 9. El Dorado    | 29. Nevada         | 45. Shasta          | 56. Ventura    |
| 10. Fresno      | 30. Orange         | 46. Sierra          | 57. Yolo       |
| 11. Glenn       | 31. Placer         | 47. Siskiyou        | 58. Yuba       |
| 12. Humboldt    | 32. Plumas         |                     |                |
| 13. Imperial    | 33. Riverside      |                     |                |
| 14. Inyo        | 34. Sacramento     |                     |                |
| 15. Kern        | 35. San Benito     |                     |                |
| 16. Kings       | 36. San Bernardino |                     |                |



## State Seals

The state seal was adopted in 1849, one year before California was admitted into the Union. The **31 stars** across the top represent one for each state, before California became the 31<sup>st</sup> state in 1850. Beneath the stars appears the state motto, **“Eureka”** (a Greek word meaning “I have found it”). The **Sierra Nevada Mountains**, as well as the San Francisco Bay, accent the natural beauty of California. The **ships** symbolize trade and commerce. The **miner** in the background represents the state’s mining industry and the Gold Rush. The **agricultural wealth** is seen in a sheaf of wheat and cluster of grapes. Keeping watch over the seal is the armored figure of the mythological **Goddess of Wisdom**, Minerva (in Roman mythology) or Athena (in Greek mythology). Minerva was born an adult the same way that California was born a state, but not ever considered to be a territory. At her feet is the **California Grizzly Bear**, which is the state symbol for strength and independence.



The images on the Great Seal of California remind us of only a part of our state history. Two new seals at the Capitol now honor the California Indian and Spanish/Mexican people. These new seals help to remind us of people who came before California’s statehood. These people continue to have great influence in California today.

At the request of the Legislature, the new bronze seals were placed near the west steps of the State Capitol on May 28, 2002. You will find them on each side of the State Seal.



**Instructions:** Read the information and answer the two questions below.



- The state's great native diversity is represented by 68 California Indian tribes and languages.
- The Indian woman with the child represents the importance of family unity and cultural continuity to native peoples today and in the past.
- A basket, an oak tree, and several other images represent diverse aspects of Indian culture.
- Three planes represent Indian participation in the American military.



- This seal honors the contributions and history of Spanish/Mexican California.
- The face in the center is actually two faces, representing the Spanish and native peoples. A third face appears at the center representing the melding of these cultures in California.
- The three rings around the center show familiar images from California's Spanish period, Mexican period, and statehood.

**1. What symbols represent Indian history in California?**

**2. What symbols are related to Spanish/Mexican history?**

## California Vietnam Veterans Memorial

Located in the California State Capitol Park, the 600 square foot memorial is constructed of concrete, granite and bronze. It commemorates the Californians that died in the Vietnam War. The Memorial is circular in design, with bronze sculptures depicting people with many different roles, such as soldiers, nurses, and POWs.

- The 5,822 names of California's dead and missing are engraved on 22 black granite panels, arranged by their hometowns.
- The Memorial cost 2.5 million dollars to build and was entirely funded by donations.



## The Three Branches of Government

**LEGISLATIVE**  
*Makes the law*

Assembly  
80 legislators

Senate  
40 legislators

**EXECUTIVE**  
*Executes and  
Enforces the law*

Governor, lieutenant governor,  
attorney general,  
secretary of state, treasurer,  
controller, insurance  
commissioner, superintendent  
of public instruction

**JUDICIAL**  
*Interprets  
the law*

State courts and judges  
(the seven Supreme Court  
justices head the judicial  
branch)



## What Is the Law?

- A rule tells us what we should or should not do.
- A state law is a rule that all people in California must follow.
- Ideas for laws can come from anyone, of any age, but a bill can only be taken through the official steps by a legislator.
- A bill is an idea for a law that has been written in legal language.
- There are two groups, or houses, of legislation in California – senators and assembly members.
- A committee is a group of legislators who study the bill.
- Debate is a discussion about the bill.
- Veto means “to forbid.” It gives a government official the right to reject or prohibit a proposed act or bill.

## How an Idea Becomes a Law



## Let's Make a Law

Use the information in the chart on page 9 to answer the following questions.

1. What is a state law?

---

---

2. What is a bill?

---

---

3. Ideas for laws can come from \_\_\_\_\_ .  
A. only people born in California  
B. anyone whether a citizen or not  
C. only citizens of the United States

4. Name the two houses (groups) of the legislature.  
\_\_\_\_\_  
\_\_\_\_\_

5. After a bill passes both houses, it \_\_\_\_\_ .  
A. becomes a law  
B. returns to committee  
C. goes to the governor

6. The governor may choose to sign the bill, not sign the bill, or \_\_\_\_\_ it.

7. If the governor does not sign the bill within 12 days, the bill \_\_\_\_\_ .  
A. returns to committee  
B. becomes a law anyway  
C. will not become a law

8. How old must you be to present an idea for a law to the state legislature? \_\_\_\_\_  
A. 18 years or older  
B. 21 years or older  
C. any age

9. Most state laws take effect on \_\_\_\_\_ .
- A. the first day of the following year
  - B. the day the governor signs the bill
  - C. the same day the idea is presented to the legislature

10. What idea do you have for a new state law? Write your idea below and explain why you think this law is important for California.

---

---

---

11. If you wanted to propose your idea, you could present it to the assembly member or senator who represents your district. Write their names here:

Assembly Member: \_\_\_\_\_

Senator: \_\_\_\_\_

12. What are the pros/cons of your proposed law? What makes your law a good law to have?

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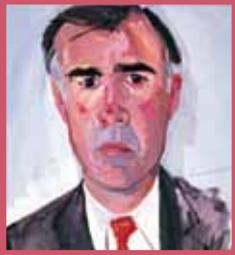
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Pros	Cons

## Governor's Portrait

Each governor's portrait is on display in the Capitol. The artist of each portrait is chosen by the governor, so that the picture represents the personality of the governor. Explain the character displayed by these governors and then draw your own portrait and character.



Edmund G. Brown, Jr. (Democrat) 1975-1983

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Pete Wilson (Republican) 1991-1999

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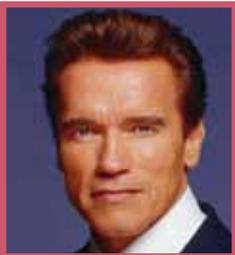
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Arnold Schwarzenegger (Republican) 2003-2011

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Your Portrait here

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## Sutter's Fort

### WORD BANK

Choose from these options to fill in the blanks below. Some answers may be used more than once.

1839	James W. Marshall	1880
Mexican	47,827	1803
American	Bear Flag	Kandern/Baden
New Helvetia	1891	Alta

John Sutter was born in \_\_\_\_\_, Germany and was married by the age of 23 to Anna Dubeld. In 1834, when Sutter was 31 years old, he sailed to New York and briefly settled in Missouri. His interest in adventure didn't end there. He soon picked up and traveled to Kansas, Washington, Hawaii, Alaska, and eventually sailed up the American River and settled in \_\_\_\_\_, California.

In 1840, "Captain" Sutter became a \_\_\_\_\_ citizen, and in 1841, he received a grant of \_\_\_\_\_ acres along the Sacramento River. By 1845, Sutter had lots of cattle, horses, and sheep on his working fort. Although the name, "\_\_\_\_\_" didn't last, Sutter's Fort became a magnet for travelers. Anyone who arrived at the fort was fed and some were employed.

Sutter's Fort, of course, flew the \_\_\_\_\_ flag, as Sutter maintained a friendly relationship with everyone. In 1846, the \_\_\_\_\_ Revolt in Sonoma caused a new flag, a lone star, to be raised briefly over Sutter's Fort. Soon thereafter, the American flag was raised. Sutter was given back his command of the fort in March of 1847.

Among the dozens of men Sutter employed was \_\_\_\_\_, who, in 1848, discovered gold in the \_\_\_\_\_ River, about 50 miles east of the fort. Soon, the gold rush became a refuge for many miners and traders. Some unscrupulous men began swindling Sutter out of his holdings and squatters took over much of his land. As debts piled up, John Sutter was forced to sell the fort at the end of 1849, resulting in his retirement at his ranch near Marysville, CA.

By the late 1850s all that was left of Sutter's Fort was the Central Building. The Native Sons of the Golden West purchased it in 1890 and donated it to the State in 1891. Reconstruction began in \_\_\_\_\_, and was completed in 1893. Sutter's Fort became part of the California State Park System in 1947.

After a fire destroyed the ranch, Sutter and his wife decided to go to Washington, D.C. to obtain reimbursement from Congress for his aid to emigrants and for his help in colonizing the State of California. His pleas were never answered, however, because on June 16<sup>th</sup>, \_\_\_\_\_, Congress adjourned without passing the reimbursement bill and Sutter died two days later. His wife, Anna, lived another six months and was buried alongside him in Lititz, Pennsylvania.

# Sutter's Fort

## Questions to Think About

1. Which of the jobs you saw at Sutter's Fort would you like to do? Why?

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2. What types of chores would you do at Sutter's Fort if you were living there now?

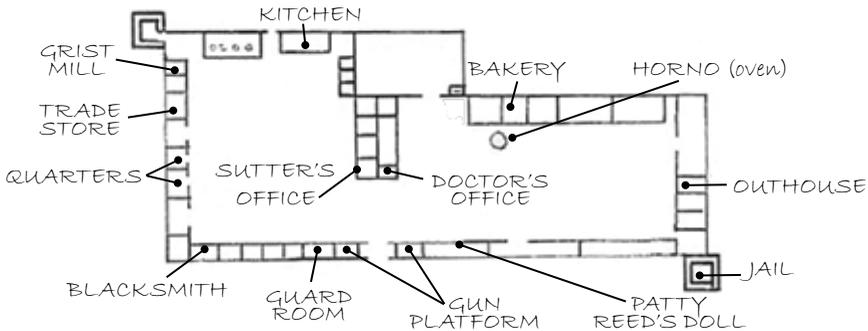
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3. How did children who lived at the Fort have fun?

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4. Why didn't Sutter build his fort by the river?

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## Sutter's Fort Scavenger Hunt

1. Find **Sutter's trade store** (not the souvenir shop). Name three things they sold there.

- a. \_\_\_\_\_
- b. \_\_\_\_\_
- c. \_\_\_\_\_

2. Find the **blacksmith's shop**.

- a. How many horse shoes can you count there? \_\_\_\_\_
- b. Why did the blacksmith need a fire? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3. Find the **gristmill**.

- a. What was the mill used for? \_\_\_\_\_
- b. What made the wheel turn? \_\_\_\_\_

4. Find the **kitchen**. How many places were there in the kitchen to build a fire for cooking?

\_\_\_\_\_

5. How is **this kitchen** different from your kitchen at home?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

6. Find the **bakery**.

- a. Where was the bread baked? \_\_\_\_\_
- b. What shape is the oven? \_\_\_\_\_

7. Find the **doctor's office**. How is it different from your present-day doctor's office?

\_\_\_\_\_

8. Find **Patty Reed's doll**. What was different about the doll you discovered?

\_\_\_\_\_  
\_\_\_\_\_

9. Find **a bedroom** in the fort. How is it similar to or different from your own bedroom?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

10. Find a place where **prisoners** might be kept. Why do you think it might be a jail?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

# Gold Rush

## California Gold Rush

Imagine you have been traveling three months with a wagon train on the California Trail. You have reached the dreaded desert in Nevada called the Carson Sink, and your wagon must be abandoned because your oxen are too weak to continue the trek. Other members of the wagon train had to leave wagons alongside the trail, too. Now, only a few wagons continue to roll across the desolate land.

A sympathetic companion offers you space in his wagon, but says you can only bring seven items. Ahead lies more desert, and after that the Sierra Nevada. What seven items would you take and what could you live without?

### Choose your seven items:

100-lb. bag of flour	5-lb. bag of salt	one buffalo hide
\$5000 in gold	table and chairs	farming tools
10-gallon pail	iron stove	shovel and axe
book about California	seeds for farming	medicines
Bible	warm clothes	spyglass
100 feet of rope	kitchen pots	beef jerky
sewing kit	paper and pen	keg of nails
fiddle	hammer and saw	blankets
chest of drawers	saddle	glass windows

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

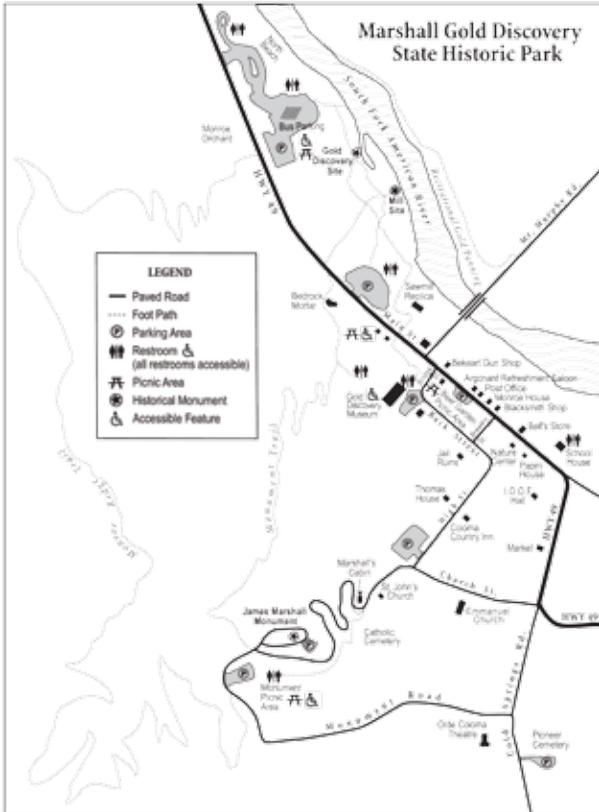
## Making Connections

Write the number of the answer in the space next to the matching definition

1. PLACER \_\_\_\_\_ A liquid metal used by miners to concentrate gold
2. MARSHALL \_\_\_\_\_ The workers who constructed Sutter's Mill
3. ADOBE \_\_\_\_\_ A ditch that drains water away from machinery
4. BRANNAN \_\_\_\_\_ The kind of rock within which gold is found
5. SAWMILL \_\_\_\_\_ An odd-shaped chunk of gold
6. GRISTMILL \_\_\_\_\_ A deposit of sand with gold dust in it
7. MORMONS \_\_\_\_\_ A brick made out of dried mud
8. SUTTER \_\_\_\_\_ The Native Americans who lived near Sutter's Mill
9. MERCURY \_\_\_\_\_ Looking for gold
10. ADZE \_\_\_\_\_ A forest of large shrubs found in the foothills
11. TAILRACE \_\_\_\_\_ A small machine used for washing out placer gold
12. NISENAN \_\_\_\_\_ He built a sawmill and discovered gold
13. QUARTZ \_\_\_\_\_ A machine that cuts lumber from logs
14. NUGGET \_\_\_\_\_ A machine that grinds grain into flour
15. CHAPARRAL \_\_\_\_\_ The owner of New Helvetia, a fort and a mill
16. PROSPECTING \_\_\_\_\_ He announced the news of the gold discovery
17. CRADLE \_\_\_\_\_ A tool for making the sides of a log flat



## The Town of Coloma



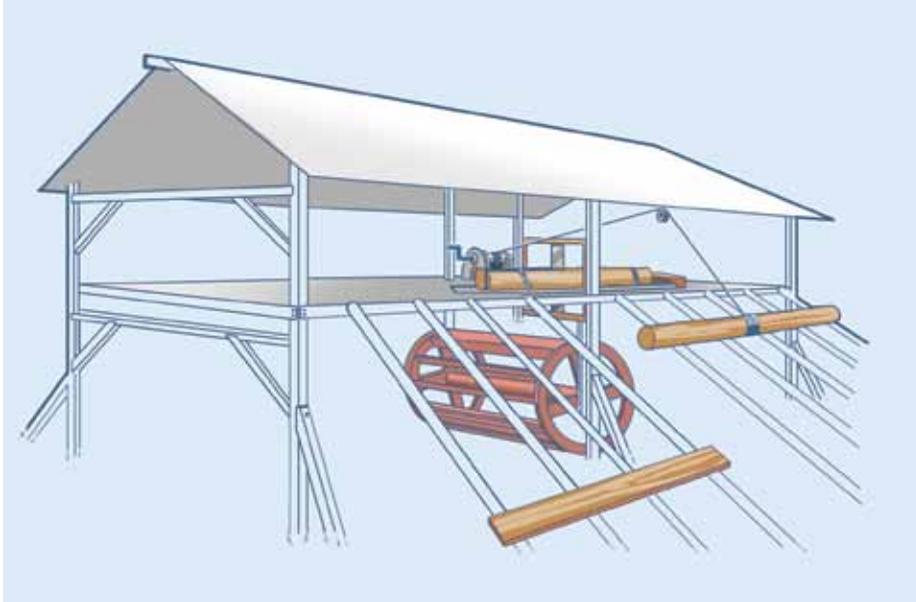
Coloma was a thriving town in the mid-1850s, with busy stores, hotels, and saloons crowding both sides of Main Street for nearly a half mile. Most of the buildings burned down or were torn down long ago, but thirteen historic structures remain on Coloma's Main Street.



### Questions to Think About

1. How would California be different if gold had not been discovered?
2. People usually think of the gold rush as an adventure for the people involved. What is an adventure? Did most people have a good or bad adventure?
3. How does it feel to hope and plan for great success, only to lose everything because of adversity? What adversities did the early pioneers face? How did they overcome these problems? Should people risk everything for a chance to be rich?

## Understanding Sutter's Mill



***Find these things and write their names on the picture, then connect the description to the part of the mill.***

WATERWHEEL	Turned by the water, it powers the mill
TRUNNEL	Cuts the log
SAW-BLADE	On the loading ramp
LOG	On the log carriage
BOARD	On the discharge ramp
LOG CARRIAGE	A heavy block of wood that pushes the log into the saw
LOG	An assembly that slides along the floor of the mill and carries the log through the saw
HEADBLOCK	A machine with a hand crank that pulls on the rope
WINDLASS	A large wooden peg that holds the wood beams together
DOGS	It holds the rope out of the way and provides leverage to pull log up
PULLEY	Iron hooks that hold the log onto the log carriage

# Gold Rush



Put these events in chronological order by labeling numbers inside the boxes:

James Marshall  
discovers gold

Nisenan

State Park is created

Boom town of Coloma

The Gold Rush

Building of the James  
Marshall Monument

## The Nisenan

The Native Americans who lived along the American River called themselves “Nisenan.” Their society, while rich in oral and cultural tradition, religion, and other human attributes, was lacking in technology. Their primary source of food was acorns, along with bulbs, seeds, fish, and much more. The land was generous with its gifts, and the Nisenan were numerous, content, and thriving. Aside from occasional trade, they had little contact with other peoples. The Nisenan called their home along the American River “Cullumah,” meaning beautiful vale, now known as Coloma. Here they lived for thousands of years, unaware of the yellow metal that would attract the invaders who would devastate their land and threaten their very existence.

Fill in the chart below with the correct answers:

What did the Nisenan learn from John Sutter and the other mining families?	What did John Sutter and the other mining families learn from the Nisenan?

What problems did the Nisenan face due to the mining?	What problems did the mining families face due to the Nisenan?

# Gold Rush

## Mining Gold

### WORD BANK

Choose from these options to fill in the blanks below.

placer  
rocker  
coyote  
eight  
water

hydraulic  
hardrock  
panning  
riffles  
settle

lode  
soil  
rocks  
Tom  
bedrock



1. A dry river bed was a good place to make a \_\_\_\_\_ hole. By sinking a hole down to the \_\_\_\_\_, a miner could bring up soil that contained the \_\_\_\_\_ (lode or placer) deposits that had settled through the shifting of the earth.
2. Mine shafts sunk deep underground into these hills were most likely used for \_\_\_\_\_ (lode or placer) deposits. This was called \_\_\_\_\_ mining and it usually required a lot of men and money.
3. If enough water could be diverted to build up pressure, this slope could quickly be washed away down to sluices using the \_\_\_\_\_ technique.
4. Sand bars that form on the inside curves in a river may catch gold. These were often good places to get gold-bearing material such as sand and gravel for \_\_\_\_\_ (the easiest way to remove gold from sand, gravel, rock, and dirt).
5. Tree roots in a river can catch gold. This was a good place to get soil for a \_\_\_\_\_ (a rectangular box that was placed on \_\_\_\_\_ and sloped forward). The \_\_\_\_\_ was poured in first, and then the water.
6. Near a river was a good place to have a Long \_\_\_\_\_, because miners could divert \_\_\_\_\_ from the river to flow through it. The gold was caught in \_\_\_\_\_ in the trough.
7. Since gold is about \_\_\_\_\_ times heavier than the sand and gravel that accompanies it as it flows down the river, it is likely to \_\_\_\_\_ in the still water which occurs on the downstream side of a rock in a river.

## Digging for Numbers

Please fill in the blanks with the correct answers.

1. Fifty feet below the earth's surface is a large layer of gold. You and some friends dig 36 feet straight down during the first week. How much deeper do you need to dig before you find the gold? \_\_\_\_\_
2. You have just found a 5-ounce gold nugget! You hurry to the bank and learn that gold is selling for \$8 an ounce. How much is your gold nugget worth? \_\_\_\_\_
3. At the end of a full week of panning you found \$28 worth of gold. If you panned exactly for the same amount of gold each day, how many dollars worth did you pan each day? \_\_\_\_\_
4. You have just bought 2 cans of beans, some tobacco, and a half pound of coffee at the general store. If 1 can of beans cost 42 cents, the tobacco costs 75 cents and 1 pound of coffee costs \$1, how much did you spend in total? \_\_\_\_\_
5. In 1848, about 14,000 people lived in California. By 1852, California's population increased to about 250,000. Approximately how many people flocked into California between 1848 and 1852? \_\_\_\_\_
6. You don't have much money, but you need to buy a horse. Mrs. Williams, who lives in town, will sell one to you for \$11.25. Miner Edward said he would exchange his horse for 3 ounces of gold. If gold is worth \$3.50 an ounce, who should you buy the horse from? \_\_\_\_\_
7. What a gold mine! On your first day of digging you found \$150 worth of gold. On the next day, using better tools, you gathered \$665, and on the third day, you found another \$2000. You were so excited that you spent \$120 celebrating with friends. How much did you have left after the celebration? \_\_\_\_\_
8. You and four of your friends have struck it rich! Together you have found \$100 of gold in one day, and you want to divide up the gold evenly among you. How much will each person get? \_\_\_\_\_

# Gold Rush

## Digging for Numbers (continued)

Use the following chart to answer the questions:

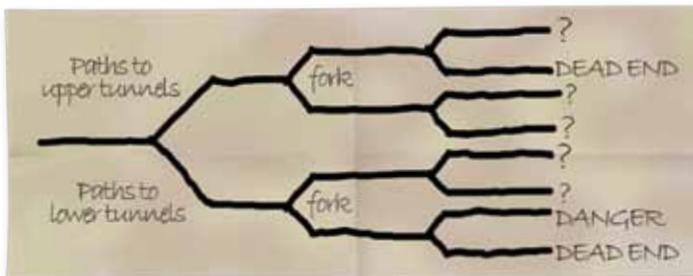
Chart of hours Miner Joe worked					
Days of week	Mon	Tue	Wed	Thur	Fri
A.M. hours	4	?	6	6	6
P.M. hours	5	4	8	?	8

- a. Miner Joe worked a total of 41 hours on the sunny days. How many hours did he work Thursday afternoon?  
\_\_\_\_\_
- b. Miner Joe worked 7 more hours in the afternoons than he did in the mornings. How many hours did he work Tuesday morning? \_\_\_\_\_

## The Lucky Miner's Mine

Your Uncle Homer has left a will making you the proud owner of the Lucky Miner Mine. Before he died, Uncle Homer told you that all of the tunnels in the mine end in either a dead end, danger, or gold. But he didn't tell you which tunnels are which, or even how many of each type there are!

Fortunately, Uncle Homer left you a partly finished map of the mine with some mysterious clues scribbled on it. (Uncle Homer was a mathematician before he left for the gold fields and he loved puzzles). Can you use Uncle Homer's clues on the next page to finish the map and find the tunnels that end in gold?



Directions:

Figure out which tunnels have the gold. Use the clues and hints to finish the map and explore the mine safely. Remember, a tunnel can lead to either a dead end, danger, or gold – these are the only three options. Don't give up too soon, but if you need more help, check out the extra hints at the bottom of the next page.

## Uncle Homer's Clues

1. Beware of going into the mine if you don't know your way! There are just as many tunnels that end in danger as there are tunnels that end in gold! (HINT: Does this clue tell you how many tunnels end in danger and how many end in gold? Why not?)
2. If you follow the paths to the four ends of the upper tunnels, the chances of finding danger at the end of a tunnel are exactly 1 in 2. (HINT: Based on this clue, how many *upper tunnels* must end in danger?)
3. When you reach one of the small forks in the mine, the chances that *both* tunnels on that fork will end in danger are exactly 1 in 4. (HINT: how many small forks are there?)

**Extra Hint #1:** Based on clue #1 and the map, what is the most number of tunnels that could end in danger? (Remember, for every tunnel ending in danger there has to be one that ends in gold.) \_\_\_\_\_ Now, based on clue #2, determine how many upper tunnels end in danger. (If 1 out of 2 end in danger, then how many out of 4 end in danger?) \_\_\_\_\_ So, how many total tunnels ending in danger do you now know exist? (Don't forget that you were already given the location of one danger on the map.) \_\_\_\_\_ If you look at clue #1 again, how many tunnels ending in gold are there? \_\_\_\_\_ All you have to do now is figure out which ones are which! If you get stuck, try the next hint.

**Extra Hint #2:** Based on clue #3, how many small forks in the mine have both of their two tunnels ending in danger? \_\_\_\_\_ If you can label these tunnels on the map, you'll be well on your way to finding the gold.

### Bonus Question:

There is a mine that has nine tunnels. Four of the tunnels lead to gold, three lead to copper, and two lead to silver. If you walked to the end of only one tunnel, are you more likely to find gold there, or something other than gold?

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# Pony Express

## Pony Express

### WORD BANK

Choose from these options to fill in the blanks below. Some answers may be used more than once.

1966

10-15

19

20

St. Joseph

10

A Bible

11-18

2

80-100

### Young Mail Carriers

The Pony Express began carrying mail between California and \_\_\_\_\_, Missouri, on April 3, 1860. The route was nearly \_\_\_\_\_ miles long and service was provided bi-weekly. In summer, the trip took ten and a half days.

The Missouri freighting firm of Russell, Majors, and Waddell hired \_\_\_\_\_ young riders to carry the mail across the continent aboard fleet-footed ponies. The age range of the riders was just \_\_\_\_\_ years old. The company supplied the riders with \_\_\_\_\_ and prohibited them from engaging in any "drinking or swearing." The riders wore close-fitting clothes to reduce wind resistance and on their ponies were light racing saddles. They carried leather pouches filled with \_\_\_\_\_ pounds of mail wrapped in oiled silk to keep out the moisture.

These dashing young riders sped across the continent at an average of \_\_\_\_\_ miles an hour, stopping every \_\_\_\_\_ miles for a fresh horse at one of the hundreds of relay stations along the way. As the rider approached each station, his replacement mount would be saddled and ready to go.

The rider would transfer his mail pouch and be on his way again in less than \_\_\_\_\_ minutes. The Pony Express delivered mail to California far faster than other means. But the cost was much higher. After only about \_\_\_\_\_ months, the Pony Express went out of business. It ended on October 24, 1861, the day the telegraph began providing instant communication across the continent. The language used for the telegraph was Morse Code.



## Let's Build a Railroad

While exploring The Railroad Museum, see if you can answer the following questions:

1. What nationality were majority of workers building the Central Pacific Railroad? How many were there? \_\_\_\_\_  
\_\_\_\_\_
2. To coordinate trains and prevent accidents, railroads agreed to develop \_\_\_\_\_ time zones.
3. Railroad agents sent messages via the telegraph using \_\_\_\_\_ code.
4. Track workers moved along railroad lines in a hand-powered car called a \_\_\_\_\_.
5. "Safety \_\_\_\_\_" is an important railroad motto.
6. The bass drum in "Railroad Work, Railroad Life" was played by a worker from \_\_\_\_\_.
7. Pullman cars were known as "hotels on \_\_\_\_\_."

## Railroad Opportunity

1. Why was the railroad so important for California?

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2. What were the benefits of the railroad to California?

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# Railroads

## Train Cars

1



**Sleeping Pullman car**

Function of car: \_\_\_\_\_

Jobs on car: \_\_\_\_\_

3



**Box car**

Function of car: \_\_\_\_\_

Jobs on car: \_\_\_\_\_

2



**Baggage car**

Function of car: \_\_\_\_\_

Jobs on car: \_\_\_\_\_

4



**Dining car**

Function of car: \_\_\_\_\_

Jobs on car: \_\_\_\_\_

## San Francisco

San Francisco occupies just 49 hilly square miles at the tip of a slender peninsula, almost perfectly centered along the California coast. In 1848, the discovery of gold in the Sierra foothills precipitated the rip-roaring Gold Rush and within a year, fifty thousand pioneers had traveled from the west and east, turning San Francisco from a muddy village and wasteland of sand dunes into a thriving supply center and transit town. By the time the transcontinental railroad was completed in 1869, San Francisco was a rowdy boomtown that gave way to the construction of wide boulevards, parks, a cable car system and elaborate Victorian redwood mansions.

In the midst of the city's golden age, however, a massive earthquake, followed by three days of fire, wiped out most of the town in 1906. Rebuilding began immediately, resulting in a city more magnificent than before. Many of the city's landmarks, including Coit Tower and both the Golden Gate and Bay bridges were built in the 1920s and 1930s. Today, San Francisco's reputation and attraction continues to grow, attracting waves of re-settlers from all over the US. It is estimated that over half the city's population originates from somewhere else, and it remains one of the most proudly distinct places in the world.



## San Francisco: Cable Cars

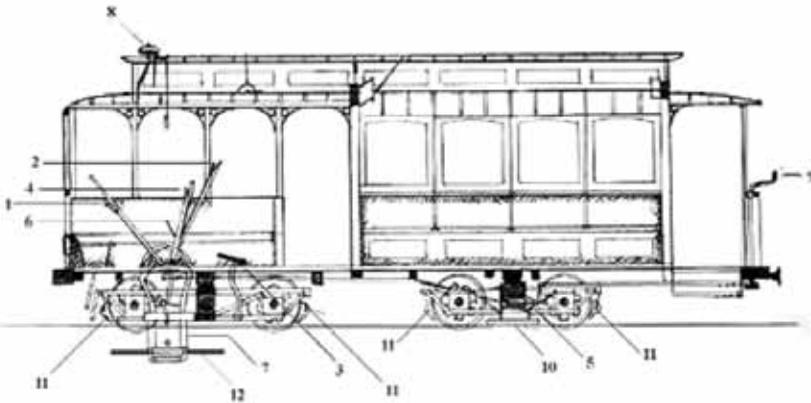
Andrew Smith Hallidie invented the loop mechanism and cable car in 1873 after seeing a horse and carriage filled with goods tumble down a San Francisco street.

The cable car is pulled on rails by latching onto a moving cable inside a channel beneath the street. The cable is guided by an intricate system of pulleys and sheaves (large pulleys). At the powerhouse, huge winding wheels driven by 510 horsepower electric motors pull cable loops at a constant speed of 9.5 miles per hour.

Through a slot in the street the car grabs the cable with a big vise-like lever mechanism called a **grip**. To start the car, the gripman pulls back on the lever, which closes the grip around the cable. To stop the car, the gripman releases the grip and applies the brakes.

Each cable car has three types of brake systems: **wheel brakes** place pressure directly on the wheels with steel brake shoes; **track brakes** are two foot long pieces of Monterey pine mounted between each of the wheel sets that press down on the track; and a **slot brake** is an 18-inch steel wedge that gets jammed into the street slot to bring the car to a sudden stop in emergency cases.

The cable car is America's only national historic monument that is mobile. It was the first and last cable car system to be used in the world.



- |                          |                           |
|--------------------------|---------------------------|
| 1. Emergency brake lever | 7. Grip                   |
| 2. Track brake lever     | 8. Bell                   |
| 3. Wheel brake lever     | 9. Rear wheel brake lever |
| 4. Grip lever            | 10. Track brake           |
| 5. Emergency brake       | 11. Wheel brake           |
| 6. Adjusting lever       | 12. Cable                 |

## Cable Cars

### Questions to Think About

1. Why were cable cars invented?

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2. Were the cable cars needed for transportation in San Francisco in the 1870s? Why or why not?

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3. How is the cable car superior to a horse and cart? How is it inferior?

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4. Why are cable cars still in use?

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## Exploratorium



Housed in San Francisco's Palace of Fine Arts, the Exploratorium was founded in 1969 by famous physicist Dr. Frank Oppenheimer. It has over 650 science, art, and human perception exhibits. At the museum, you can touch a tornado, stick your shadow to a wall, paint with light, and experiment with illusions.

1. Find 5 exhibits that use pendulums:
  - a. \_\_\_\_\_
  - b. \_\_\_\_\_
  - c. \_\_\_\_\_
  - d. \_\_\_\_\_
  - e. \_\_\_\_\_
  
2. Find 3 exhibits that can give you a shock:
  - a. \_\_\_\_\_
  - b. \_\_\_\_\_
  - c. \_\_\_\_\_
  
3. With your partner, choose one exhibit that shows how science benefits California. What did you select and why?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4. Find 3 exhibits that can test your physical or mental capabilities:

a. \_\_\_\_\_

b. \_\_\_\_\_

c. \_\_\_\_\_

5. What is your favorite exhibit? Why?

\_\_\_\_\_

\_\_\_\_\_

6. Find 4 exhibits where you see something that isn't really where you see it:

a. \_\_\_\_\_

b. \_\_\_\_\_

c. \_\_\_\_\_

d. \_\_\_\_\_

7. Find 5 exhibits that involve spinning something:

a. \_\_\_\_\_

b. \_\_\_\_\_

c. \_\_\_\_\_

d. \_\_\_\_\_

e. \_\_\_\_\_

7. Find 5 exhibits that do something weird to your speech:

- a. \_\_\_\_\_
- b. \_\_\_\_\_
- c. \_\_\_\_\_
- d. \_\_\_\_\_
- e. \_\_\_\_\_

### Questions to Think About

What are some things that you want to know more about after spending time at the Exploratorium?

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## Alcatraz

Alcatraz is a small island located off the San Francisco Bay. For many years, it was home to one of the most famous prisons of all time. Many people have lived on Alcatraz, from members of the lighthouse keepers and their families to prisoners and guards. Prison guards lived in housing with their families. The children, who attended school in San Francisco by riding the ferry every day, also played outside and lived normal lives on the island. Prisoners had no freedom, and they spent their years isolated and alone. One wrote of the dispiriting effect of hearing laughter from San Francisco carried on the late-night breezes. The geography of “the Rock” (oddly, Alcatraz is the Spanish word for “strange bird,” referring to the pelican, not rock) lends it certain qualities, isolation being chief among them. Many people often comment on the ever-present element of fear, maybe because of its position in the cold, forbidding, dangerous, and very deep bay, or because of the fact that some of the worst criminals in the early part of the twentieth century were incarcerated there. There are no native plants or animals. Families planted yards and gardens and tried to make the island home. Even the tide pools were made by hand. The only animals inhabiting the island are birds; in fact, Alcatraz is an important bird rookery.

### Five Significant Uses of Alcatraz:

- 1) Military fort
- 2) US Military prison
- 3) Federal prison
- 4) Home to the American Indian Movement
- 5) Part of the Golden Gate Recreation Area







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