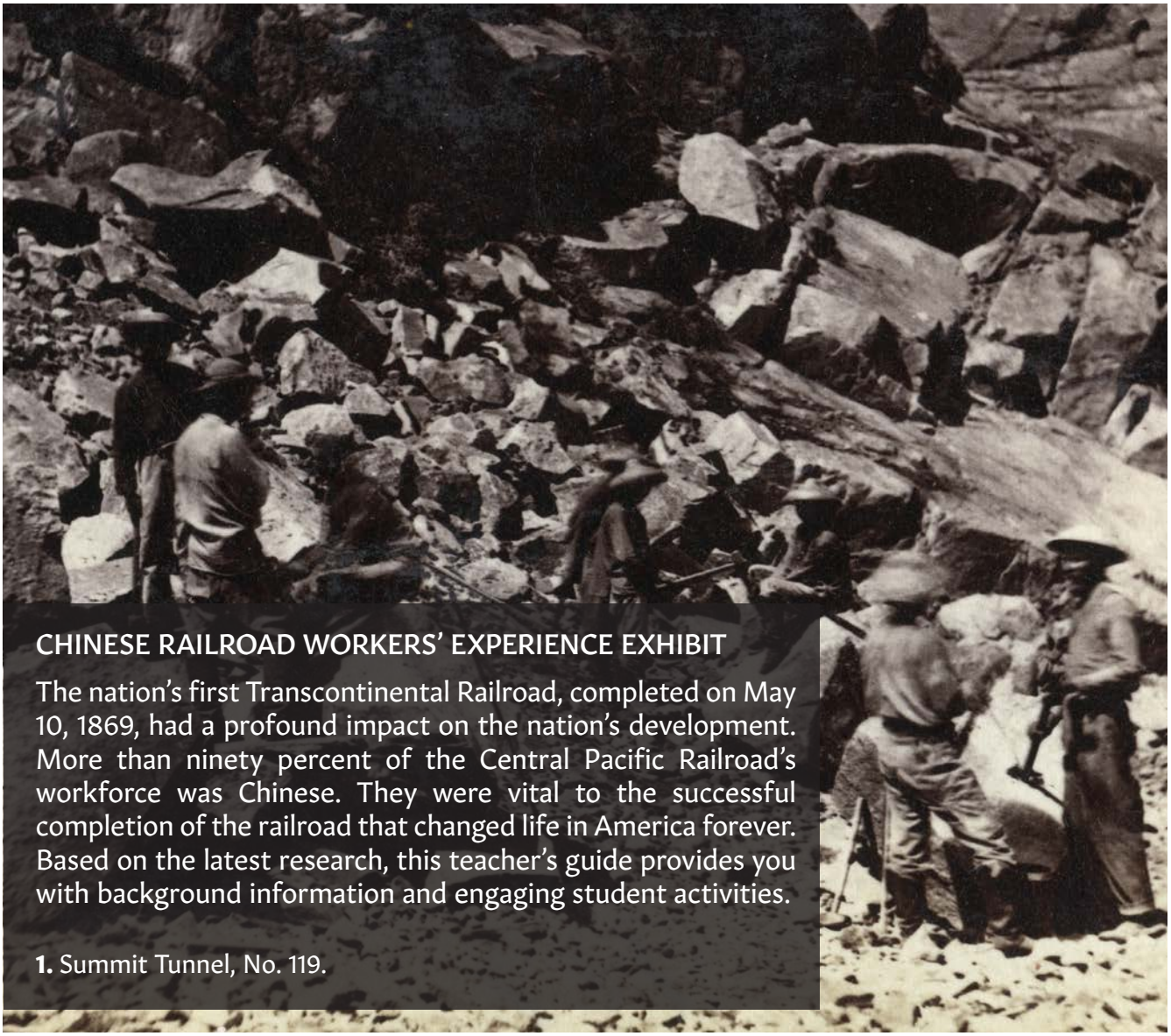
TEACHER'S GUIDE

Chinese Railroad Workers' Experience Exhibit | 4th Grade | 2020



CHINESE RAILROAD WORKERS' EXPERIENCE EXHIBIT

The nation's first Transcontinental Railroad, completed on May 10, 1869, had a profound impact on the nation's development. More than ninety percent of the Central Pacific Railroad's workforce was Chinese. They were vital to the successful completion of the railroad that changed life in America forever. Based on the latest research, this teacher's guide provides you with background information and engaging student activities.

1. Summit Tunnel, No. 119.

WHAT'S INSIDE THIS GUIDE

- Background information on the building of the Transcontinental railroad & the Chinese railroad workers' experience fueled by the latest research.
- Transcontinental Railroad Timeline
- Glossary of Terms
- Resources for further reading
- Student Activities

CALIFORNIA STATE RAILROAD MUSEUM

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California State Railroad Museum

Chinese Railroad Workers' Experience Exhibit

Teacher's Guide

4th Grade

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Interpretive Programs

California Teaching Standards: 4.4.1, 4.4.3, RI 4.1, 4.3. 4.6, W 4.1, 4.2, 4.3

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INTRODUCTION

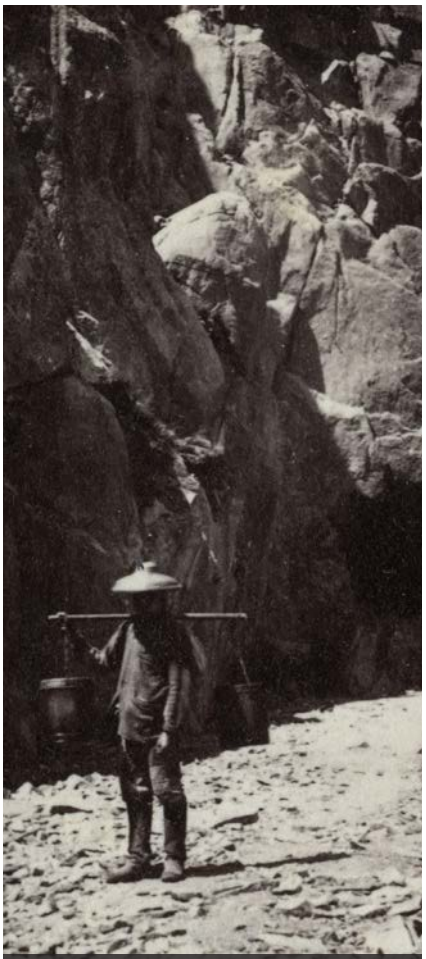
The nation's first transcontinental railroad, completed on May 10, 1869, had a profound impact on the nation's development. It increased the rate of urbanization, industrialization and agricultural development in nineteenth-century America. Rail travel reduced the time required to cross the continent, thus encouraging settlement, trade and industry. The railroad changed life in America forever.

The Central Pacific Railroad (CPRR) hired more than 10,000 Chinese men to build the western portion of that railroad. By 1868, over ninety percent of the CPRRs labor force consisted of Chinese immigrants. They were vital to the successful completion of the Transcontinental Railroad.

On May 10, 2019, the California State Railroad Museum celebrated the 150th anniversary of this event with a renovation of our Chinese railroad workers exhibit located in the Museum's Transcontinental Gallery. The Chinese Railroad Workers' Experience offers visitors a view of a labor force that achieved the impossible and was subsequently marginalized by history.

In our endeavor to foster an atmosphere represented by diverse voices and to be a museum of, by, and for all people, we invited the Chinese community to help plan this new exhibit. Our advisory committee consisted of members of the US/China Railroad Friendship Association, Chinese Cultural Association and the Locke Foundation. We also consulted with the Stanford faculty who founded Stanford University's Chinese Railroad Workers in North America Project.

The Chinese immigrants' experience is one of hard work and dedication, but also one of extreme prejudice and racism. Professor Gordon Chang of Stanford University describes the Chinese story as one "of sacrifice, of suffering, of tragedy, but also of heroism. This is a heroic endeavor and accomplishment."[1] This story of accomplishment culminates with the first congressional act designed to restrict the immigration of an entire race of people—The Chinese Exclusion Act of 1882.



2. East Tunnel No. 8, No. 204.

The lessons offered in this teacher's packet will help students:

1. Learn about the history of the Chinese immigrant experience in California.
2. Understand the physical and social challenges the Chinese railroad workers encountered while building the Transcontinental Railroad.
3. Consider the impact of laws and practices against the Chinese had on the Chinese community.

CALIFORNIA TEACHING STANDARDS

History-Social Science Content Standards for California Public Schools
4.4.1, 4.4.3

California Common Core State Standards, Fourth Grade
RI 4.1, 4.3, 4.6 W 4.1, 4.2, 4.3

FROM CHINA TO SACRAMENTO, CALIFORNIA

Tens of thousands of Chinese men came to California for the Gold Rush and, later, to work on the railroad. Most came from the Chinese province of Guangdong, a province in the southern part of China. War, poverty, and over-population made living there difficult. Seasonal typhoons caused great destruction. These brave young men looked to a new country to cultivate their dreams.

California offered promise and excitement. The Chinese referred to it as Gum San, or "Gold Mountain." They left their families, villages, and ways of life. They dreamed of returning to China as wealthy men.

Their "California Dream," however, proved elusive. Prejudice, violence and low wages greeted them. Legislators passed laws designed to drive them out of California. Through it all, they stayed and worked hard. They fought for their rights. Their energy and work ethic transformed American history and the villages and homes of their birth.

THE DEVELOPMENT OF THE TRANSCONTINENTIAL RAILROAD

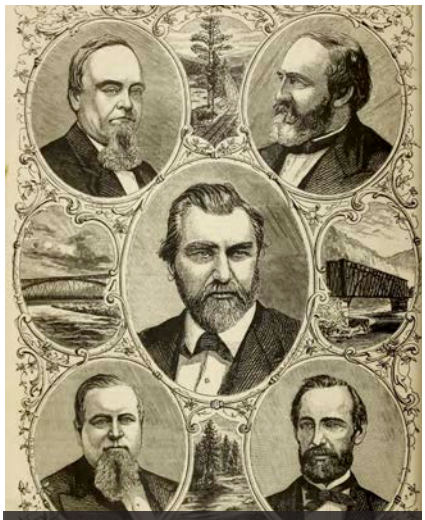
On July 1, 1862, President Lincoln signed the Pacific Railway Act authorizing the Union Pacific Railroad to build west from Omaha, Nebraska and the Central Pacific Railroad to build east from Sacramento. The federal government provided incentives in the form of land grants and subsidies based on the number of miles of track laid. With this basis for payment, the geography of the land played an important role. Flat prairie land dominated the landscape upon which the Union Pacific had to build. The Central Pacific, on the other hand, encountered the formidable Sierra Nevada mountain range before they could reach the flat deserts of Nevada. The rugged mountain terrain presented a major challenge that provided them with a slow start in a race for miles and funding.

3. Canton, China - 1850s

4. Sacramento, California - 1850

5. J Street Sacramento City From The Levee, No. 235.

6. Theodore Judah.



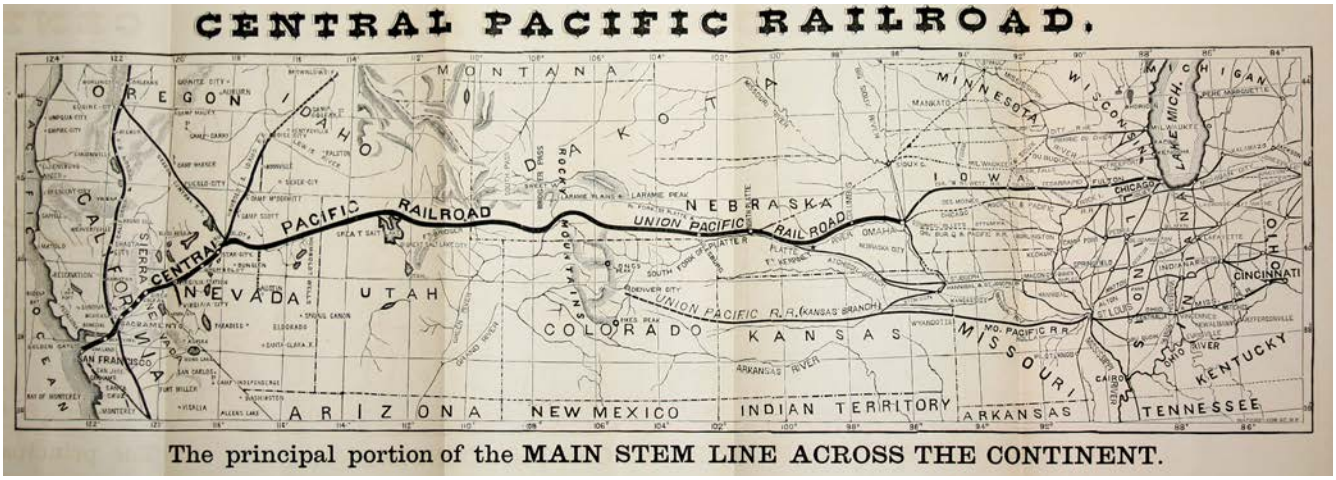
7. The Associates.

The biggest hurdle to overcome for both companies was the need for labor. Building a railroad by hand required thousands of workers. For the Union Pacific, the Civil War occupied much of the available workforce, so construction was delayed until July 1865. In the west, mining interests distracted a labor pool of available men.

Four men known to history as the "Big Four" dominate the transcontinental railroad construction story. Leland Stanford was president of the Central Pacific Railroad. He was also governor of California from 1861-1863. C.P. Huntington was the company's vice-president and Mark Hopkins was treasurer. Charles Crocker was the Chief of Construction.

E.B. Crocker, Charles' younger brother, was the railroad's attorney and managed its business for 6 years. He was also Chief Justice of California's Supreme Court, appointed to that post in 1862 by Governor Stanford. E.B. Crocker was an art collector who traveled extensively throughout Europe. His art collection is the basis for the Crocker Art Museum, located in Sacramento.

Not included in this group of men, but no less important is the Central Pacific's original chief engineer, Theodore D. Judah. Judah dreamed of building a transcontinental railroad. He worked tirelessly surveying a route for a railroad to connect California to the rest of the country. It was Judah who convinced several Sacramento businessmen (including the Big Four) to invest in the Central Pacific Railroad. When Judah lost control of the railroad in 1863, he traveled east to recruit new investors. Sadly, Theodore Judah did not witness the completion of his dream. He died in New York after contracting yellow fever in the Isthmus of Panama.

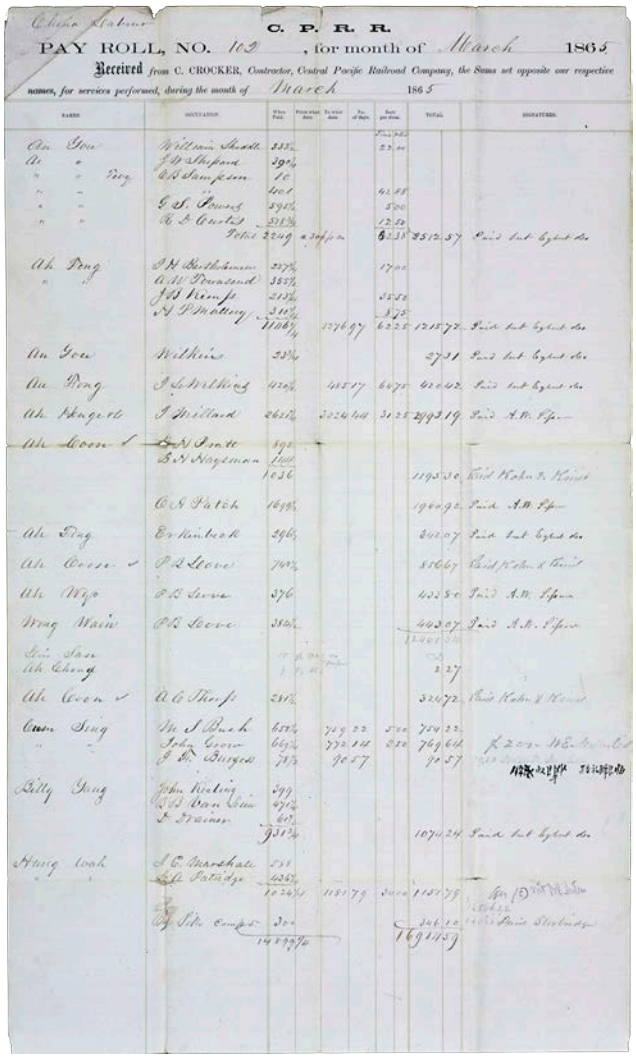


8. The Route of the Central Pacific Railroad

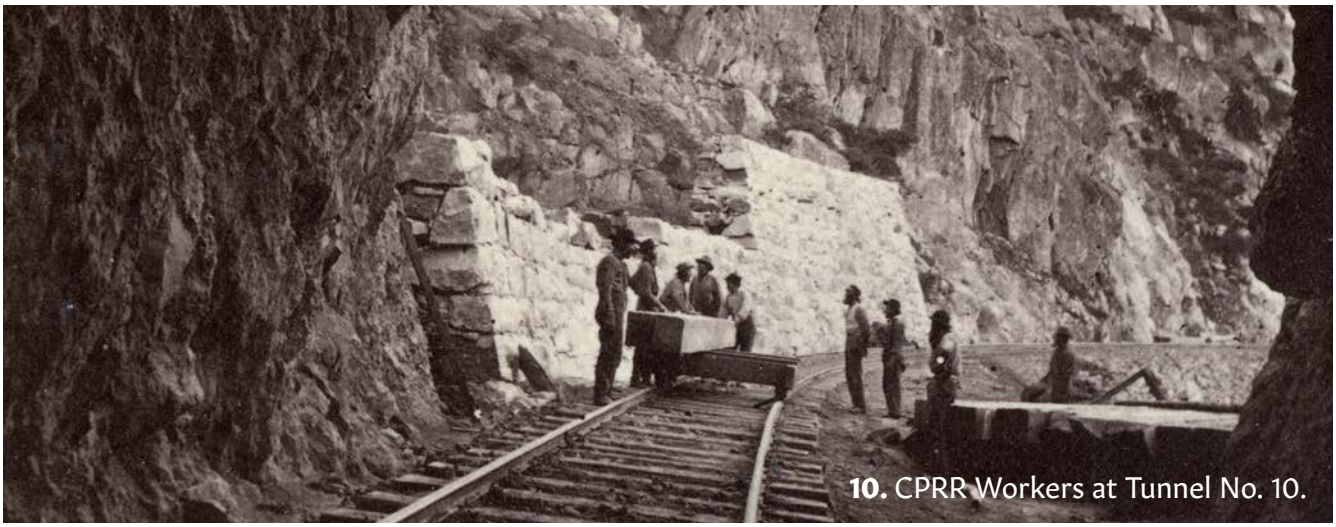
THE PEOPLE WHO BUILT THE RAILROAD

The Transcontinental Railroad was built mostly with immigrant labor. The Union Pacific Railroad hired Irish immigrants and Civil War veterans, including African American freemen. The Central Pacific Railroad hired Chinese and Irish immigrants. Mormon laborers worked for both lines.
The railroad and related settlement threatened Native peoples' ways of life. Farmers, miners, and tourists destroyed wildlife and habitats. Some tribes including Lakota, Shoshone, and Cheyenne resisted the railroad as it moved into their territory. Others, such as the Pawnee worked cooperatively with the railroad.

Chinese immigrants made up 90% of the Central Pacific Railroad's workforce. Attracted by the Gold Rush, many Chinese lived in California before the building of the Transcontinental Railroad. Charles Crocker (Chief of Construction) encouraged his superintendent of construction, James Strobridge, to hire 50 Chinese men because it was hard to find the labor they needed. They turned out to be hard-working and dependable. After hiring as many Chinese as he could find living in California, Crocker worked with labor contractors to bring men directly from China. The project offered opportunity to Chinese men suffering difficult living conditions in China. Even though the Chinese were reliable workers, they faced discrimination and racial hatred when they arrived here; many Americans viewed the Chinese as racially inferior to white workers.


C. P. R. R.
PAY ROLL, NO. 102, for month of March 1865
Received from C. CROCKER, Contractor, Central Pacific Railroad Company, the Sums set opposite our respective names, for services performed, during the month of March 1865

9. Central Pacific Railroad Payroll with Chinese worker signature. Payroll No. 102.



10. CPRR Workers at Tunnel No. 10.

11. Guangdong Province, China.

WHO WHERE THE CHINESE RAILROAD WORKERS?

Chinese immigrants came primarily from Guangdong Province (Pearl River Delta) in southern China. War, ethnic conflict and economic reasons made life in China difficult. Many Chinese looked to America for a better life. If they were married, their wives stayed in China where they were close to family. It was not considered safe or proper for women to travel. It was also expensive. Many men paid labor contractors to cover the cost of passage. The indebted immigrants repaid their fares (plus interest) out of their future earnings.

The five-thousand-mile trip from Asia to the United States twice per month took an average of thirty-four days. Chinese immigrants traveled mostly in the steerage section of the ship. Steerage passengers carried their own bedding and were not allowed on deck for the entire trip.[2]

Chinese immigrants planned to earn money in the United States and return to China wealthy men. Many achieved that goal, but many more remained to work in the United States.

CHINESE WOMEN

There were no Chinese women working for the railroad. If workers were married, men left their wives in China while they migrated to America to work. For the most part, it was cheaper and safer for the women to remain in China. Wives did not see their husbands for years.

Making matters worse, Congress passed the Page Act in 1875. This law excluded certain groups of people from immigrating to the United States. Namely—women. It outlawed the importation of Chinese women to America against their wills. The law originally intended to limit trafficking of women for prostitution. In reality, it prevented single or unemployed women from entering the United States.

This hindered development of America's Chinese community. The community did not achieve equal numbers of men and women until after the repeal of the Chinese Exclusion Act in 1943.

12. Chinese Woman

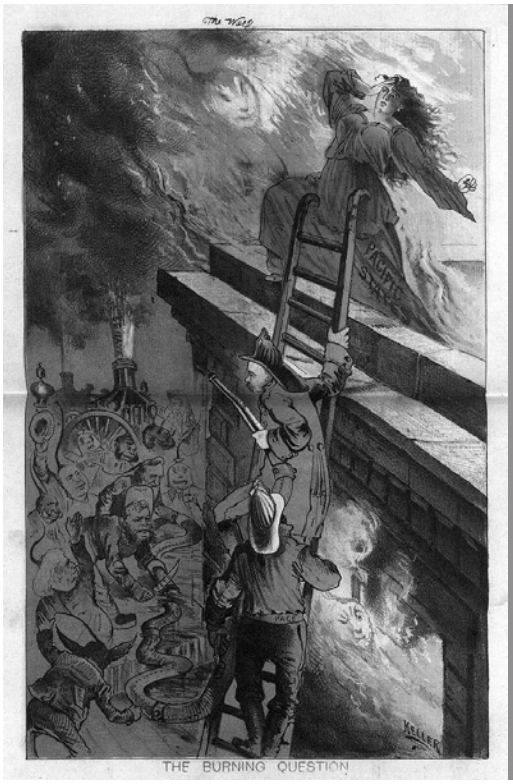
CHALLENGES IN AMERICA

The Chinese maintained their culture by living together in communities, or Chinatowns; they faced discrimination and racism from Americans who believed that the Chinese were too different to conform to American culture. They criticized the Chinese for following a different religion, playing different gambling games (fan tan), speaking a different language, wearing different clothing styles, eating different foods, and celebrating different holidays from them. Legislators passed laws against Chinese immigrants as early as the 1852 Foreign Miners' License Tax. In 1854, the California State Supreme Court denied Chinese, African Americans and Native Americans the right to testify against white men in courts of law. The Chinese fought for their rights. They wanted to become American citizens. They wanted to own property, marry, and testify in court. They wanted their children to attend public schools.

The completion of the Transcontinental Railroad left the thousands of Chinese laborers with choices about where to go next. Some returned to China. Many remained in California. They worked in agriculture, mining, or manufacturing. Some worked for other railroads, as well as the Central and Union Pacific Railroads.

The Chinese worked for lower wages which made white workers in California angry. Racist labor union leaders blamed the Chinese for depressed wages and lack of jobs. Anti-Chinese sentiment grew. Media images portrayed the Chinese in a menacing way. "Nativism," or the fear of foreigners, spread as new immigrants arrived. In the 1870s, a man named Denis Kearney, head of the Workingmen's Party of California, led the battle against Chinese immigration.

In 1882, Congress passed the Chinese Exclusion Act. It was the first federal legislation in American history to restrict immigration based on race. The act prohibited Chinese immigration for 10 years. Only officials, teachers, students, merchants, and travelers were allowed to enter the United States. Congress renewed the law several times until its repeal in 1943.



In April 1882, a San Francisco publication called The Wasp printed this cartoon. Cartoons like this used symbols to represent the artist's ideas. The title of this cartoon is "The Burning Question." It was printed before the May 6th passage of the 1882 Chinese Exclusion Act. Look at the symbols in this cartoon. What do you think the artist is trying to say?

"The Burning Question" shows a woman on top of a burning building in danger of encroaching flames. The woman represents the Pacific states. The fire endangering the woman contains a caricature of a Chinese person. Firefighters are trying to put out the fire with a hose labeled "anti-Chinese bill." A man wearing a firefighter's helmet labeled "Chief" is holding a knife to the hose. This man looks like Chester A. Arthur, the President of the United States in 1882. His knife is labeled "veto." The question: Will the federal government help save the Pacific states in distress over the Chinese situation?

13. The Burning Question Cartoon.

CHINESE RAILROAD WORKERS & ORAL HISTORY & STUDENT ACTIVITY

Stories written by the workers do not exist today. Historians have searched for letters, diaries, newspaper interviews, and (to date) none have been found. We know some things about the workers from the stories passed down from their families. These oral histories are important to families and help us understand what life was like for the men and women who lived it.

The Chinese Railroad Workers in North America Project conducted a series of interviews of descendants of workers on the Central Pacific Railroad. The following are short excerpts taken from their oral histories. Read full interviews at: https://fsi-live.s3.us-west-1.amazonaws.com/s3fs-public/crwnap_3_-_human-environment_interaction.pdf

The following section will provide you with Chinese Railroad Workers' Descendants oral histories pages that can be given to students that include comprehension questions. Answers to the comprehension questions can be found at the end of the oral history section. Below are some critical thinking questions you can use to engage your students through discussion.

CRITICAL THINKING QUESTIONS

1. These are only three stories of the many thousands who came to California to work on the railroad. Everybody's story is different, but did you notice any similarities in these workers' stories?

A: They were poor when they lived in China, they were teenagers when they came to California, they had different jobs on the railroad.

2. Did you notice any differences in their stories?

A: They had different jobs on the railroad: One was an herbalist and another worked building snow sheds; They held different jobs after the railroad was completed.

3. Why do you think they remained in California after they completed the work on the railroad?

A: There was a lot of work and they needed to make money to send back to their village.

4. Do you think there was opportunity for women in California? Why do you think this?

A: Men came alone and left their wives in China. The story of one woman, Tom Ying, shows that women who came here, came against their will.

5. Do you think it was easy to come to California and work?

A.No. These stories show how hard they worked at very young ages [hauling boulders, working laundry, building a railroad and working with explosives].

6. Do you think it was easy to leave their families, their customs, their friends to come to a foreign land?

A: Answers vary because it is opinion.

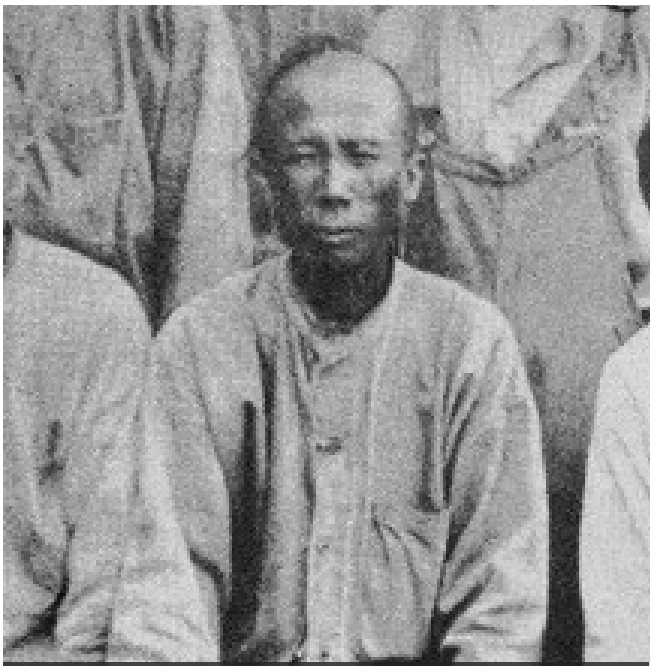
LIM LIP HONG

Interviewee: Andrea Yee, Great-granddaughter of Lim Lip Hong
Interviewer: Connie Young Yu and Barre Fong
Date: March 26, 2013
Location: San Francisco, California

My name is Andrea Yee. I'm a fourth generation, direct descendant of Lim Lip Hong. Lim Lip Hong was born in a village called Lai Ji Cun, in this province of Guangdong. He was born of a poor farmer. And according to the diary of my uncle, his family was very poor and they worked in the fields. If they didn't work, they didn't eat. So when his uncles left for America in the 1850s, he was only 12 years old when he finally arrived in California. He was so young that he could not haul the boulders out of the mines. So they sent him to work in the laundries. He worked in the laundries until he was old enough to haul boulders, at which time he helped his uncles to do the mining.

Then, in 1865, he joined the railroad crew. Until 1869, he worked all throughout building the railroad going up through the Sierra Nevada and then after the railroad was finished, he went on to continue building railroads through the desert into Salt Lake City. He ended up in Virginia City, where there are silver mines.

The Chinese were not allowed to work in the mines because of the Irish Union, but when miners had to go very, very deep underground, they would hire the Chinese because that was dangerous work.



14. Lim Lip Hong.

The temperature would go high as almost 200 degrees (Fahrenheit). They would have to bring them up after few minutes and just flood them with cold water and then send them back down again. Oh! This is what they had to endure in order to work in those mines.

https://web.stanford.edu/group/chineserailroad/cgi-bin/website/andrea-yee-interview/

Comprehension Questions

1. How old was Lim Lip Hong when he left China?

2. Why did he and his uncles come to America?

3. When did he join the railroad?

4. Did he return to China after finishing the work building the railroad?

5. What did he do?

FONG SEE

Interviewee: Lisa See (Great-great-granddaughter of Fong See)
Interviewer: Connie Young Yu, Barre Fong
Interview Date: May 12, 2015

My name is Lisa See and I'm a writer; I write about the Chinese American experience. My great-great grandfather was an herbalist in South China. They were very, very poor. He came over to work on the building of the Transcontinental Railroad. He was hired as an herbalist. There were Western doctors here who were treating the white laborers, but the Chinese laborers had no interest in Western medicine. So it was really helpful to the railroad company to have people who could treat their Chinese laborers with traditional herbs. It was probably a lot cheaper for them as well. So he was there working on the railroad. The Chinese laborers tended to stay more healthy than the white laborers because for one thing they boiled their water to make tea. And so they didn't get things like typhus or water-born diseases. So he really helped with that I believe.

Then when the railroad was completed the Chinese workers went their separate ways. Some worked on new railroad spurs that went through the southwest, the south, and north towards Canada. People went in different directions to follow different kinds of labor. They went into agriculture and fishing. Think of the Sacramento Delta and the building of the levees. All of that was done by Chinese labor in the same way the railroad had been. Because Sacramento was the closest city to the railroad camps, this was a place where my great-great-grandfather did go. He opened a small herbal shop.

https://web.stanford.edu/group/chineserailroad/cgi-bin/website/lisa-see-interview/

Comprehension Questions

1. What work did Fong See do for the railroad?

2. Did Chinese workers have doctors?

3. Why were Chinese workers more healthy than white workers?

4. Where did the Chinese workers go when the Transcontinental Railroad was finished?

5. What kind of work did they do?

HONG LAI WO

Interviewee: Russell Low, Great-grandson
Interviewer: Connie Young Yu and Barre Fong
Interview Date: September 18, 2013
Location: Stockton, California

Hi, my name is Russell Low. Hong Lai Wo was born in the Dailong Village in 1850, we believe, or right about that time. He came to the United States, we think, in the mid 1860s. The date isn't really clearly known. He came to work in the Transcontinental Railroad. He came with one of his brothers and they worked on the Transcontinental Railroad. At some point the brother lost an eye during a blasting accident.

After he worked on the Transcontinental Railroad, we believe he came back to San Francisco. He worked at factories making cigars. Later on, he owned a cigar factory, became a merchant.

Hong Lai Wo's wife: Tom Ying, and her story is quite interesting. Tom Ying was brought over (in 1880) from China by missionaries. She was probably brought over to be a slave or a servant as a young girl, six or eight years of age. She was rescued and lived at a home for Chinese Girls. She lived there for several years. In 1888 she married Hong Lai Wo, and over the next several years, they had a number of children.

https://web.stanford.edu/group/chineserailroad/cgi-bin/website/russell-low-interview/

16. Hong Lai Wo.

Comprehension Questions

1. Why do you think the exact dates that Hung Lai Wo is unclear?

2. Why did Hung Lai Wo and his brother come to the United States?

3. How did Hung Lai Wo's brother lose an eye?

4. What work did he do after finishing the railroad?

5. What was Hung Lai Wo's wife's name?

6. Did she freely choose to come to the United States?

7. How old was she?

8. What year did she marry Hung Lai Wo?

CHINESE RAILROAD WORKERS & ORAL HISTORY - ANSWER KEY

Lim Lip Hong

1. How old was Lim Lip Hong when he left China?
A: 12 years old.
2. Why did he and his uncles come to America?
A: Mining, probably gold mining.
3. When did he join the railroad?
A: 1865.
4. Did he return to China after finishing the work building the railroad?
A: No.
5. What did he do?
A: Worked in silver mines in Nevada.

Fong See

1. What work did Fong See do for the railroad?
A: He was an herbalist.
2. Did Chinese workers have doctors?
A: No, they preferred their own type of medicine supplied by an herbalist.
3. Why were Chinese workers more healthy than white workers?
A: They drank tea with boiled water. Boiling the water killed germs that caused disease.
4. Where did the Chinese workers go when the Transcontinental Railroad was finished?
A: They traveled north to Canada, southern California and the southwest United States.
5. What kind of work did they do?
A: Agriculture, fishing and building levees.

Hong Lai Wo

1. Why do you think the exact dates that Hung Lai Wo is unclear?
A: Chinese immigrants did not leave written records.
2. Why did Hung Lai Wo and his brother come to the United States?
A: To work on the Transcontinental Railroad.
3. How did Hung Lai Wo's brother lose an eye?
A: A blasting accident, probably building the tunnels in the Sierra.
4. What work did he do after finishing the railroad?
A: He made cigars at a factory and then owned his own factory.
5. What was Hung Lai Wo's wife's name?
A: Tom Ying.
6. Did she freely choose to come to the United States?
A: No, missionaries brought her to be their servant.
7. How old was she?
A: 6 or 8 years old.
8. What year did she marry Hung Lai Wo?
A: 1888.

WHAT IS YOUR STORY? STUDENT ORAL HISTORY DISCUSSION AND ACTIVITY

Sometimes written documents, journals, letters, and written records do not survive. Like the Chinese railroad workers written documents, student's family memories shared by oral tradition are sometimes the only "records" that students may have to remember their ancestory. Oral histories are important to families and help them understand what life was like for the men and women who lived it. There are a following activities will engage students in a conversation aout oral histories and their own family histories.

ORAL HISTORY DISCUSSION QUESTIONS

Questions provided by Stanford Chinese Railroad Workers Project teaching resoureces, find the link in Resource section of this guide.

1. What information does your family have about your ancestors?
2. How did your family obtain the information?
3. Does your family have oral histories that have been passed down from generations, telling the stories and experiences of your ancestors?
4. How reliable do you think oral histories are?
5. Could some of the information shared in oral histories be family legend, misunderstood, forgotten, or inaccurately retold?
6. Does your family have first-hand sources or records from your ancestors?
7. If so, what kinds of records (official documents, photographs, journals, memorabilia, etc.)?
How do these records help your family understand its history and share it with later generations?

FAMILY HISTORY SHOW & TELL

One of the best ways to find out more about family history is to find a photograph
1. Find an old family photograph.
2. Identify someone in your family who may know the people in the photograph.
3. Ask them a series of questions to find use a phone to reout more about what happened before and after the photograph, about the people in the photograph. A great way to record this conversation is to record a zoom call, or record the conversation on a voice recording device or app.
4. Have students bring their photo to class, or screen share their photograph, and share their oral history.

Here are a few questions to get your students started:
Who is in the photo?
When was the photograph taken?
What is happening in the photo?
What was happening before the photo was taken?
What happened after?
You can share a written story, a photo, a video to show and tell your families story.

The videos below talk about taking a closer look at photographs.
"What this photo dosen't show."
https://youtu.be/3AVNhTi9pzM
"Whose Migrant Mother was this?"
https://youtu.be/h9AiJWk5QdU

CHINESE RAILROAD WORKERS ARCHAEOLOGY ACTIVITY

Historians and scholars rely on primary sources when researching historical persons or eras. These include original records such as diaries, letters, journals, interviews that offer first-hand accounts of the time period in which the subjects lived. Unfortunately, no one has found this type of documentation from Chinese railroad workers. Archaeologists, however, have unearthed evidence that provides important evidence about the workers' daily lives. From these items, we can learn about where they worked, what they did for entertainment, and their medicinal treatments. This archaeological evidence and research have played an important role in reconstructing the lives of the men who built the railroads.

After examining a fully intact brown-glazed stoneware jug excavated by archaeologists at Monument Rock, Utah, Stanford Professor Gordon Chang discussed its importance. "It had no written message inside," he writes, "unlike those corded bottles that float for years in the ocean, waiting to wash ashore to tell a story. This bottle, though mute, had something to say. We just need to heed our imaginations and listen."

The following story is based on a passage written by Gordon Chang in *Ghosts of Gold Mountain: The Epic Story of the Chinese Who Built the Transcontinental Railroad*. Boston: Houghton Mifflin, 2019, p. 200.

Story of the Brown Jug

On April 28, 1869, The Central Pacific Railroad set a record for laying the most track in one day. The teams consisted of some Irish, but mostly Chinese workers. They laid 10 miles of track in just 12 hours. In 150 years, the record has never been broken.

After completing such an amazing feat, some of the Chinese workers decided to take a break from the worksite on their next day off. One of the men, Hung Wah, knew of a bluff near Monument Rock, Utah with a beautiful view of the valley. Sitting atop this bluff, he and the others could see the rail line they had helped complete and, beyond it, the Great Salt Lake. It was a perfect place to enjoy the brown-glazed stoneware jug of Chinese rice wine they had brought along. It had come to them all the way from the Pearl River delta in China, where their families still lived.

The men wanted to celebrate their great accomplishment. They had beaten the odds and were proud of what they had done. They also knew the Central Pacific Railroad would soon meet the Union Pacific line, and their work on the railroad would be finished. What would they do next, they wondered. Some thought about returning home to their loved ones in China. Others thought about celebrating with good food and entertainment in a nearby Chinatown when it was all done. They told jokes and stories that made them laugh until they could laugh no more. Finally, the men finished the wine, left the empty jug, and returned to camp. There was still work to do in the days ahead.

17. Brown Jug.

Almost 150 years later, archaeologists studying the ground along the Transcontinental line stumbled upon the undamaged brown-glazed stoneware jug. Unlike the message in a bottle that floats for years in the ocean, the brown-glazed stoneware jug had no written message inside. This bottle, though mute, had something to say. We just need to use our imaginations and listen.[11]

CHINESE RAILROAD WORKERS ARCHAEOLOGY DIG ACTIVITIES & CREATIVE WRITING

Print-out artifacts found at the end of this document, and cut into random pieces, jumble and have students find their objects pieces and put the objects back together.

Student Activy Instructions

Based on the item you excavated at the campsite, how might you imagine a Chinese railroad worker using it? Think about where they were and what were they were doing. In Professor Chang's paragraph above, he imagined a group of friends gathering to celebrate their hard work. What else do you think workers thought about when they finished a hard day of work? Put yourself in their place. Maybe you would miss your family, or maybe you would be tired after working so hard all day. Use your imagination and write a paragraph describing how a worker or workers might have used a teacup, wok, or jug found at an archaeological excavation site.

ARCHAEOLOGY AT HOME

Follow up the Brown Jug Activity by asking students to think about their own family history.

1. Look around your house. Do you have any objects that tell the story of your family? Can you find objects that tell the story of who you are?
2. Does your family have information about your grandparents, great-grandparents or other family members who came before you?
3. Does your family tell stories that have been passed down from generations that tell about the lives they lived? What are those stories?
4. Do you think the stories are reliable? Could some of the facts have changed over numerous tellings?
5. Does your family have any first-hand records from your ancestors? (Letters, journals, videos, photographs, etc.)

CREATIVE WRITING ACTIVITY

Objects tell stories about who we are and how we live. Like the items left behind by Chinese railroad workers 150 years ago, the objects in your trash and recycling bin tell a story about you: your health, age, interests, and what you eat.

Find an object in your house and write about how it describes you, your life or your family's life. Pretend historians 150 years from now have found your object and description. What do you want them to know about you and your life in the twenty-first century? If you would like, send us your description and a picture of your item and we may post it on our website.

TIME CAPSULE ACTIVITY

Sometimes, archaeologists find time capsules. A time capsule is a collection of objects put together to preserve the memory of a place or experience at one point in time. A time capsule is meant to be a message for future historians.

Ask students to Imagine they were going to put 5 objects in a time capsule. What 5 objects would they put in their time capsure? Explain how each object decribes their life and what stories do these objects tell historians of the future? You could even use this activity to create a class time capsule.

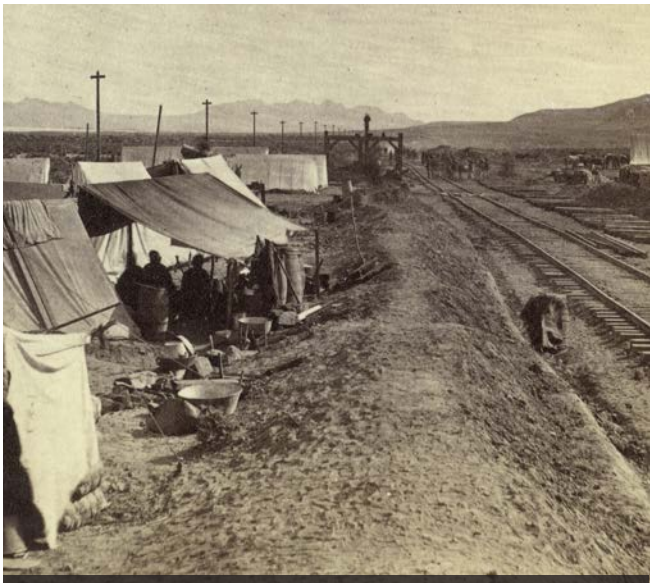
BUILDING THE TRANSCONTINENTIAL RAILROAD

The Chinese performed the backbreaking work of building the railroad. They graded roads, bored tunnels through solid rock, and laid track. They had to cut down trees and clear dense brush, cut away land, fill in land and build bridges. They did it by hand because there were no steam shovels, power drills or tunneling machines. They used picks, shovels, wheelbarrows, carts and horses. The men worked 10 hours per day, six days per week.

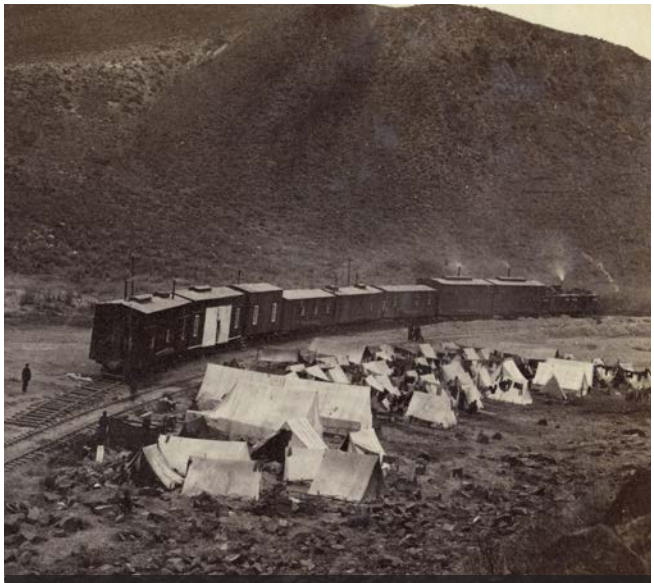
Chinese laborers worked longer hours for less pay than their white peers. The railroad provided meals of beef, potatoes, bread to white workers at no additional cost, while Chinese workers paid for their own meals. Chinese cooks purchased food from local merchants. They ate a healthier diet consisting of fruits, vegetables, dried oysters, abalone and cuttlefish, pork, poultry, rice, and local game. They drank tea. Water boiled for the tea saved them from water-borne illnesses suffered by white workers who did not boil water before drinking it. White workers received wages at least 2/3 higher than Chinese workers, even if they performed the same work. White workers filled supervisory or skilled positions such as carpenters and blacksmiths.

When Chinese were first hired in 1864, the company paid $26 a month for a six-day workweek, with the Chinese paying for their own food. Rates varied depending on how skilled or dangerous the work was. For example, those who worked in the tunnels were paid an extra $1 per month. In the spring of 1867, the company raised their wages from $31 to $35 a month.[3]

The Chinese lived in sites separate from white workers. From the freezing cold Sierra to the hot, dry Nevada desert, they lived in brutal conditions. They worked sunrise to sunset, 6 days per week. Laborers lived and worked in crews of 12-20 men. Each crew had a foreman and a cook. The foreman kept records and collected the pay. He deducted money for food and labor contractors.



18. Chinese Camp Browns Station. No. 313.



19. Chinese Camp at End of Track. No. 327.

20. Winter in the Sierra, Anderson Valley and Devil's Peak. No.

21. Construction of Snow Sheds. No. 246.

22. Constructed Snow Shed. No. 252.

WINTER ON THE TRANSCONTINENTIAL LINE

Forty-four storms struck the Sierra during the terrible winter of 1866-1867. For economic reasons, the Central Pacific Railroad refused to halt work for the winter months, despite the human cost.

Blizzards created 30-foot snowdrifts. The snow was so deep, Chinese workers dug tunnels to connect camps to work sites. Thousands of Chinese laborers shoveled snow to keep the tracks clear. Avalanches swept through camps, killing many. There are no known accurate records of Chinese deaths. The total number of Chinese deaths likely ranges from several hundred to nearly one thousand.

The experience of the winter convinced CPRR officials to build wood snow sheds to protect the tracks. Beginning in the spring of 1868, carpenters and laborers built more than 30 miles of snow sheds at the staggering cost of $2 million.

TUNNEL NO. 6: THE SUMMIT TUNNEL

Chinese laborers built 15 tunnels in the mountains of the Sierra. Seven were through solid granite. At 1,658 feet in length, the Summit Tunnel was the longest and the toughest.[4] How did they do it? Two crews worked toward each other from both ends. At the same time, workers dug a shaft from the top down to the middle of the tunnel. Then they dug outward from the middle.

Working with black powder (not dynamite), crews averaged only 1 foot per day.[5] To speed up the process, the CPRR experimented with a powerful explosive, nitroglycerine. Because of its volatile nature, the railroad manufactured it onsite as needed. Progress nearly doubled with by blasting up to 22 inches per day. Crocker did not allow the use of nitroglycerin after the completion of the Summit Tunnel in November 1867.[6]

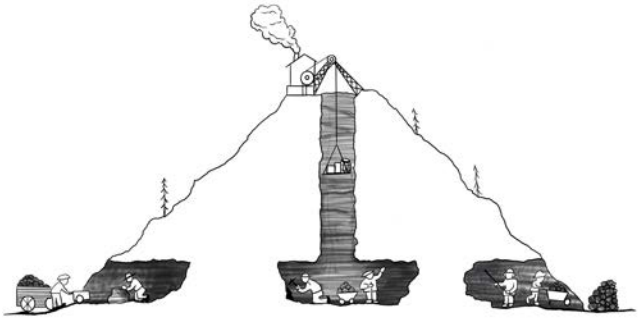
HOW DID THEY DRILL TRHOUGH SOLID GRANITE?

The Chinese worked in teams of 2 or 3 men. Hand drilling involved placing a steel bar with a sharp, hard point into a crack in the granite. One person held and turned the drill while one or two men pounded the other end with an 8-pound sledgehammer. "BANG, BANG," went the sledgehammer. The first man would rotate the drill a quarter turn to go deeper into the stone. "BANG, BANG," went the hammer. The first man turned his drill a quarter turn, and so it went. Hammer, turn, hammer, turn for the entire 8-hour shift. At the end of the shift, the team would have drilled 3 holes, 2 ¼ inches in diameter and 2 ½ feet deep.

Workers filled 1/3 of the drilled hole with black blasting powder, a length of fuse, and a packing component such as clay, sand or hay. They set off simultaneous discharges for maximum effect. Tunnel work never stopped. The railroad ran three 8-hour shifts, 24-hours per day, 7 days a week during the summer, fall and winter of 1866-1867.[7]

Find the Summit Tunnel Activity Handout and Answer Key in the appendix.

23. East Portal of Summit tunnel. No. 198.

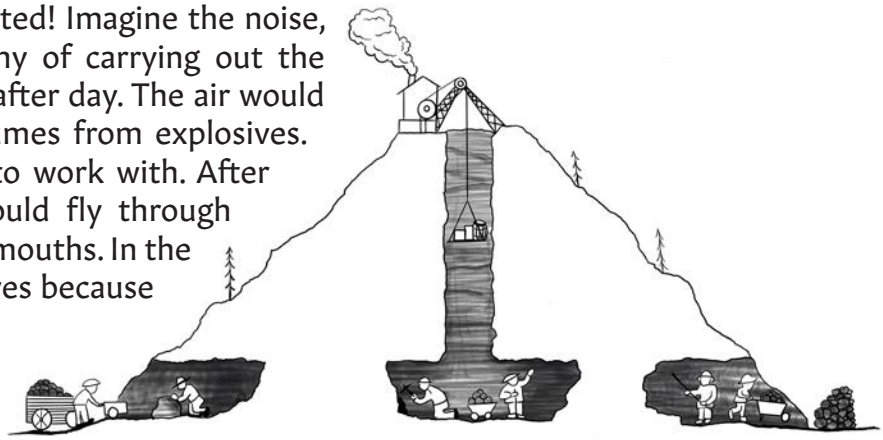


24. Tunnel

25. Inside the Summit Tunnel. No. 197.

CHINESE RAILROAD WORKERS SUMMIT TUNNEL MATH ACTIVITY

Pay attention! Don't get distracted! Imagine the noise, vibration, fatigue and monotony of carrying out the above job hour after hour, day after day. The air would be thick with rock dust and fumes from explosives. Workers had only candlelight to work with. After explosions, rock fragments would fly through the air and into men's eyes and mouths. In the winter, icicles formed in the caves because it was so cold.[8]



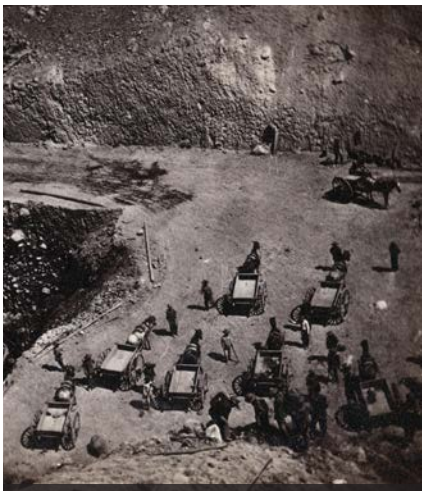
1. If workers can drill away 1.18 feet of a tunnel in one day, how many feet can they drill away in one week?

2. How many days would it take to drill the Summit Tunnel Number Six, which is 1,658 feet long by hand?[9]

3. Nitroglycerine explosive was able to speed up this process. Nitro explosions allowed them to drill 1.82 feet per day. How many feet of tunnel could they drill with nitroglycerine in one week?

4. How many days would it take to blast away 1,659 feet using nitroglycerine?

5. How many days faster could you drill through a tunnel using nitroglycerine instead of black powder?[10]



26. Prospect Hill work site. No. 82.

STRIKE!

Chinese workers performed the most dangerous work on the line but were paid less than white workers. On June 24, 1867, 3,000 Chinese workers went on strike. It was a highly coordinated and well-planned effort. They demanded a raise to $40 per month and a reduced workday. Charles Crocker refused to negotiate with the workers. Instead, he cut off their food supplies. After a week, the Chinese called off the strike.

Crocker did not meet the strikers' demands, but he learned he could not take the Chinese workers for granted. In later months, the CPRR raised wages for skilled workers to $35 a month. Crocker also issued bonuses to all workers for working in the extreme heat of the Nevada desert.

27. End of Track on Humboldt Plains. No. 317

28. Ten Miles of Track Laid in One Day, April 26, 1869.

TEN MILES IN ONE DAY

Competition between the Central and Union Pacific railroads intensified as they approached Promontory Summit. Each railroad tried to top the other by laying more miles of track than their competitor. Charles Crocker was determined to set an unbeatable record. He claimed his crew could build 10 miles of track in one day. This had never been done.

The UP's leaders did not believe Crocker's crew could accomplish such a feat. They may have wagered against the Central Pacific Railroad (CPRR) crew. Even Leland Stanford (CPRR President) bet against his own railroad. He bet his head tracklayer, Horace Minkler, $500 that they could not do it. Minkler took the bet seriously.

On April 28, 1869, eight Irish rail handlers and thousands of Chinese workers went to work.

With precision and planning, they laid 10 miles of track in 12 hours, including a lunch break. Minkler won his bet. It took almost 4.5 million pounds of ties, rails, spikes, and bolts to accomplish this goal. The record still stands today.

Note: The railroad recorded the names of the eight Irish workers, and they were hailed in a parade in Sacramento. None of the Chinese workers' names were recorded. (**https://web.stanford.edu/group/chineserailroad/cgi-bin/website/faqs/**)

29. Driving of The Last Spike, Thomas Hill, 1881.

PROMONTORY SUMMIT UTAH MAY 10, 1869

The ceremony to celebrate the completion of the nation's first transcontinental railroad took place on May 10, 1869 at Promontory Summit, Utah. Originally scheduled for May 8, the ceremony was postponed until Thomas Durant of the Union Pacific (UP) Railroad arrived. On May 6, about 300 workers claiming UP had not paid them, uncoupled Durant's private rail car at a stop in Wyoming. They demanded $200,000 in back pay. Durant arranged to have $50,000 wired to the site as a down payment against the men's demands. They released the car.[11]

Leland Stanford was the only one of the Big 4 to attend the Promontory ceremony. He represented the Central Pacific (CP) Railroad. Thomas Durant represented the Union Pacific (UP) Railroad. An hour before the official ceremony began, workers laid the final 2 rails that would join the two railroads into one. Irish workers represented the Union Pacific and Chinese workers represented the Central Pacific. UP photographer A.J. Russell captured the moment in this photograph titled "Laying the Last Rail."

At 12:00 noon, the ceremony began. James Strobridge (CP) and Samuel B. Reed (UP) laid the ceremonial final tie made of polished California laurel wood with four pre-drilled holes for the final spikes. These spikes were also ceremonial: Nevada donated a silver spike; Arizona donated a plated silver and gold spike; San Francisco newspaper, the Newsletter, donated a gold spike and California businessman, David Hewes, donated a gold spike. (David Hewes made a duplicate souvenir spike for himself. He offered a spike to Leland Stanford to take to the ceremony and kept the second one. The spikes are identical except the Hewes spike contains the correct date of the ceremony. This is the spike on display at the California State Railroad Museum.)

There was no stage, no music, no way of addressing the crowd of several hundred onlookers. The speeches did not acknowledge the workers who built the railroad. Noise and crowding prevented most of those attending from witnessing the great occasion, so there are varying reports of the actual sequence of events.

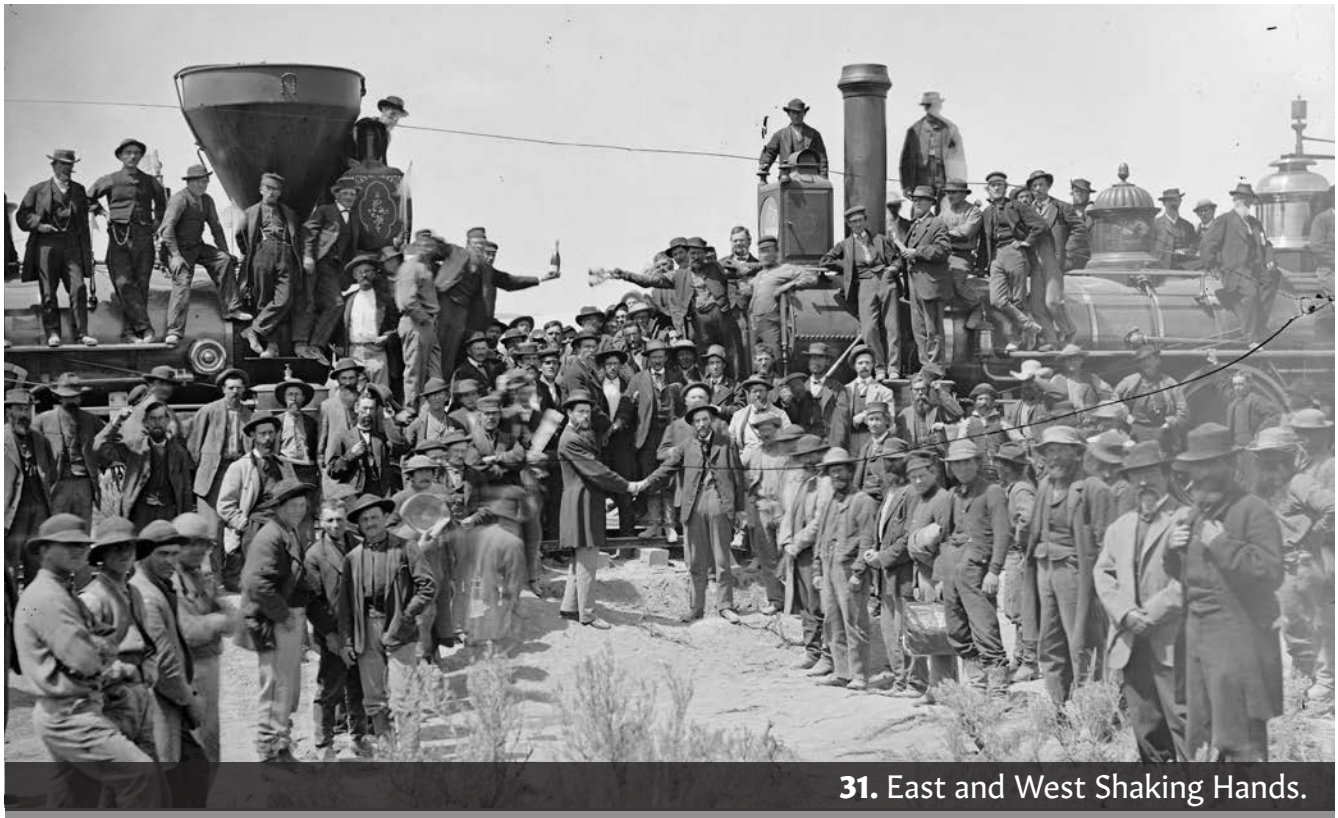
At 12:47 Promontory time, Stanford tapped the golden spike with the silver maul. Both were wired to the telegraph, so the country could simultaneously experience this momentous event. It was an unparalleled feat. The telegrapher sent the message "DONE." The railroad was complete. This act signified another transcontinental first: the completion of the transcontinental telegraph. The country could finally enjoy coast-to-coast transportation and communication.

WHERE WERE THE CHINESE WORKERS?

With the main work of the railroad completed by the time of the ceremony, workers finished the work along the line. Most of the Chinese workers had moved on to other railroad projects, or reballasting work along the line, so they were not in Promontory for the celebration.

After the ceremony, James Strobridge held a reception for reporters and military officers. He invited his Chinese foreman and some other Chinese workers to sit at the head of his table. He publicly thanked them for their work and the people in attendance applauded the Chinese workers. Newspapers recorded this event.

30. Laying The Last Rail.



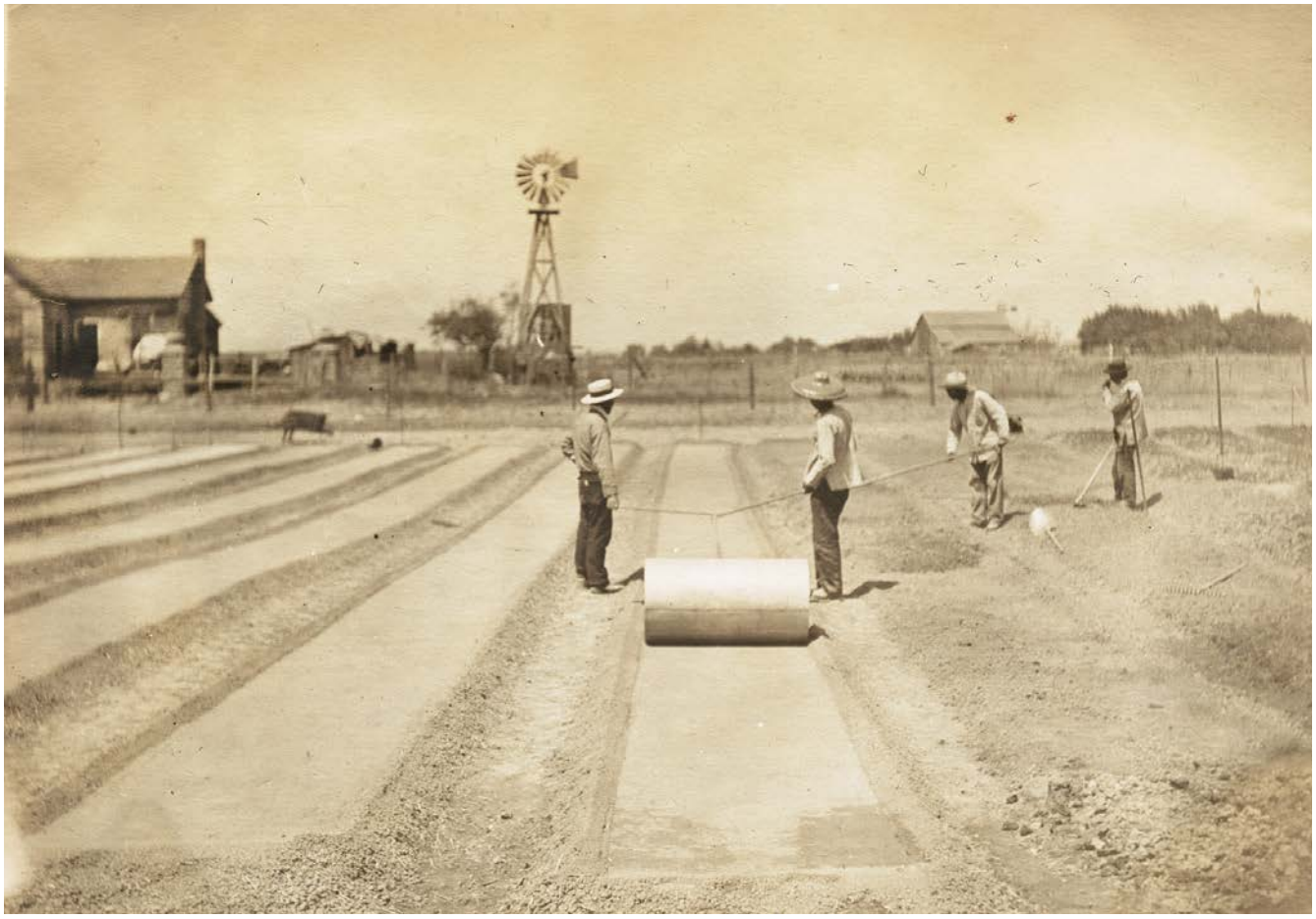
31. East and West Shaking Hands.

This image, "East and West Shaking Hands" by photographer A.J. Russell shows the two locomotives meeting at the point of connection. The chief engineers for the CP and UP railroads shake hands in the center of the photo. It is an iconic photo recognized by millions as the symbol of the railroad's completion.

This was an unplanned photo taken well after Stanford, Durant, and other dignitaries had retired to their private receptions. With no Chinese workers evident in the photo, many have viewed this as a deliberate omission. While some view the image as a symbol of Chinese exclusion, there is no evidence that this absence was planned. In fact, Chinese workers appear in photographs taken by the day's two other photographers.

WHERE DID THE CHINESE WORKERS DO AFTER THE TRANSCONTINENTIAL RAILROAD WAS FINISHED?

After the completion of the railroad, some workers went back to China. Others worked in agriculture, mining, logging, and building levees along the rivers. Some entered domestic service or manufacturing of cigars and other items. As skilled railroad workers, some continued to work for the Central Pacific and the Union Pacific Railroads, while other railroads recruited them for work throughout the West and Canada.[13]



Top: 32. Reclimation of the Delta.
Left to Right: 33. Wilson's Grocery store front, 1936.
34. California Market store front, 1925.

WHERE WERE THE CHINESE WORKERS?

News paper clipping from Daily Alta California Vol. 21, No. 6993, 12 May 1869, recounts the role of the Chinese railroad workers.

ommanding: Lieut. Col. O'Brien, Capt. Franklin, Capt. Burnett, Capt. Putnam, Capt. Currier, Lieut. Benton and Adjutant Johnson.

The ladies accompanying them were Mrs. Currier, Mrs. Putnam, Mrs. Clewley and Mrs. Ross White. Champagne and toasts were the order in the Union Pacific cars. J. H. Strowbridge, Superintendent of Construction of the Central Pacific, to whom with James Campbell, Superintendent of the rolling stock, the ALTA is indebted for numerous courtesies, entertained the Press and the officers of the Twenty-first regiment, and others most sumptuously.

When the other guests arose from the table, Mr. Strowbridge introduced his Chinese foreman and leader who had been with him so long, and took the head of the table. This manly and honorable proceeding was hailed with three rousing cheers by the Caucasian guests, military and civilians, who crowded around Strowbridge to congratulate and assure him of their sympathy.

A special train, with the guests of Governor Stanford and party, leaves for Sacramento at four P. M. Six beautiful first class passenger cars from New York have just arrived for the Central Pacific. Two of them form part of the special train, being the first cars ever drawn over the entire track from the Atlantic to the Pacific. They will be drawn by the engine "Jupiter," George E. Booth, engineer, and R. A. Murphy, fireman.

The following notable persons were on the ground at the concluding ceremony:

President F. D. Richards, one of the Twelve Apostles, from Ogden; Bishop C. W. West; Bishop Lorrin Farr, Mayor of Ogden; T. B. H. Stenhouse

TRANSCONTINENTIAL RAILROAD TIMELINE

Excerpted from: "Timeline." Chinese Railroad Workers in North America Project. Https://web.stanford.edu/group/chineserailroad/cgi-bin/website/timeline-2/ Accessed 30 November 2018.

November 1860	Sacramento merchant Collis P. Huntington agrees to invest in engineer Theodore Judah's railroad project and brings in four other investors: Mark Hopkins, James Bailey, Charles Crocker, and Leland Stanford. Together, they formed the first board of directors for the Central Pacific Railroad Company.
July 1, 1862	Congress passes the Pacific Railroad Bill, approving the Central Pacific project building the line from California as well as chartering the Union Pacific Railroad Company to build westward from the Missouri River.
January 8, 1863	In the groundbreaking ceremony in Sacramento, California Governor Leland Stanford shovels the first load of dirt.
October 26, 1863	The Central Pacific Railroad begins work.
December 2, 1863	The Union Pacific Railroad breaks ground in Omaha, Nebraska.
January 1864	The first-known Chinese workers for the Central Pacific Railroad Company arrive. Foreman Ah Toy and headman, Hung Wah, lead a crew of 21 men to work on clearing the Dutch Flat Donner Lake Wagon Road.
Spring 1865	Tracking of Bloomer Cut is essentially finished, likely in either late March or early April. The Sacramento Union reports that at the time of May 1, the company employed 2,000 men, two-thirds of whom were Chinese. However, payroll records indicate that the total Chinese employment for March, April, and May 1865 was 3,306. The labor contractor, hung Wah, had the largest labor gang with 388 men in April. Headman, Ah Wu, was paid for a crew of three.
July 1865	The Central Pacific Railroad imports the first major group of Chinese from China.
July 10, 1865	The Union Pacific finally begins work.
Fall 1865	Work begins building 13 tunnels through the Sierra Nevada Mountains. Chinese laborers working in three shifts around the clock undertake Summit Tunnel Number 6. This tunnel would be the longest at 1,659 feet and 124 feet below the surface.
November 21, 1865	The Sacramento Union reports that approximately 4,000 men, "mostly Chinese," are at work at work on the Central Pacific Railroad.
August 27, 1866	Workers begin clearing the shaft along the projected tunnel line of tunnel 6. They make progress for 30 days until removing rubble becomes too difficult. To solve this problem, engineers drive the abandoned locomotive Sacramento to Gold Run, which at that point is as far as the Central Pacific extended. Its 12-ton steam engine is hauled up to Donner Pass and let down into Tunnel 6. The job takes 6 weeks.

TRANSCONTINENTIAL RAILROAD TIMELINE CONTINUTED

Winter 1866-1867	One of the harshest winters in history, featuring 44 storms and averaging 18 feet of snow at the summit. Despite this, the Chinese continued work on the tunnels. The Tunnel 6 labor force by this time is almost completely made up of Chinese. Avalanches pose particular danger, as demonstrated at Strong's Canyon (Tunnels 11 and 12) known as Camp 4, which included 2 gangs of Chinese and a gang of culver men.
February 1867	The Chinese workforce was made up of approximately 8,000 men on the tunnels and 3,000 laying track east of Cisco, 92 miles of Sacramento.
June 1867	STRIKE! Several thousand Chinese go on strike to for an increase in pay from $35 to $40 per month and a reduced workday of 8 hours. On June 30, Daily Alta California reports of the strike beginning the previous Tuesday (June 25). The Chinese strikers' demands are reported in the San Francisco Dispatch, July 1, 1867, and the Boston Daily Evening Voice, August 5, 1867. The strike lasts about a week, during which management, headed by Crocker and Strobridge, cut off food trains to starve the workers out. In the end, the strike is not successful. On July 3, the Daily Alta relays Charles Crocker's report that with the exception of 1 or 2 gangs, all Chinese have resumed working with no change in pay.
August 1867	A year after the vertical shaft for the Summit Tunnel had been drilled, workers break through to complete the project. Tunnel 6 measures 1,659 feet in length, and 124 feet deep into the rock.
May 1868	The rail line from Truckee to Reno is completed.
February 22, 1869	The Salt Lake Telegraph reports (and is re-published by the Sacramento Union) that the Sierra are facing a great snow storm that has caused a blockade for the railroads. The storm is the worst of the winter, but the Union Pacific and Central Pacific crews continue to move closer toward each other. Union Pacific Irish workers allegedly "shake the bland persistence of the Chinese by jeering and tossing frozen clods at them. When those tactics had no restraining effect, they staged sudden raids with pick handles." When the Chinese "fought back with unexpected vigor and accuracy," the Irish also set off heavy powder charges "when the closest part of the CP grade was swarming with Chinese. As a result, several Chinese were critically hurt." After the Central Pacific complains, the Union Pacific orders its men to stop.
April 1869	Grenville Dodge and Collis Huntington finally decide on a meeting point for the Union Pacific and Central Pacific lines after much debate—Promontory Summit, Utah.
April 28, 1869	The Central Pacific's Irish and Chinese workers set a record for laying 10 miles and 56-feet of track in 12 hours at Rozel, Utah. The effort sparked from a competitive bet with the Union Pacific, whose men had once laid 7 miles of track in one stretch (but they had reportedly worked from four in the morning until midnight, beyond a regular day's work). The San Francisco Bulletin called the feat "the greatest work in tracklaying ever accomplished or conceived by railroad men." A top-ranking Army commander, who was watching the worker's progress with his soldiers, said, "Mr. Crocker, I never saw such organization as that. It was just like an army marching over the ground and leaving the track built behind them."

TRANSCONTINENTIAL RAILROAD TIMELINE CONTINUTED

May 8, 1869	The Daily Alta California reports on violence erupting in the Chinese Camp in Victory, between "rebels" and "Imperialists," possibly a continuation of tensions of the Taiping Rebellion. The conflict was eventually resolved by Strobridge.
May 10, 1869	The word "Done" is telegraphed to Washington, D.C., and the Transcontinental Railroad is officially completed. Some Chinese workmen reportedly have to finish putting in the iron spikes that would pin the rails to the tie; promptly afterward the tie "was attacked by hundreds of jack-knives, and soon reduced to a mere stick." Several Chinese from Victory, including the foreman Hung Wah, are invited by Superintendent Strobridge to a reception held in his private car, with press and officers of the 21st Regiment, where they "were his honored guests and were cheered as they entered." Despite these singularities, the Chinese are largely kept absent from the publicized event, although Harper's Monthly Magazine's history of the transcontinental railroad claims that "coolies from San Francisco" were present. The workers move on to other projects, including other railroads in California, along the West Coast, and in the South, agriculture, and farming all over the country.

Glossary of terms

Transcontinental Railroad President Abraham Lincoln signed the Pacific Railway Act of 1862 and authorized two railroad companies to build the nation's first transcontinental railroad: the Central Pacific would build east from Sacramento, California, and the Union Pacific would build west from Omaha, Nebraska. The two met in Promontory Summit, Utah on May 10, 1869.

Theodore Judah (1826-1863) Theodore Dehone Judah was a brilliant civil engineer who was instrumental in planning the first transcontinental railroad. In 1860, Judah lined up investors to finance the future Central Pacific Railroad after finding the perfect route for the railway to cross the Sierra. A member of the Central Pacific's Board of Directors, he contracted yellow fever in the Isthmus of Panama and died in 1863.

Big Four In 1861, several Sacramento business leaders met with Theodore Judah to discuss the transcontinental railroad project. History remembers four of these merchants as "The Big Four." Leland Stanford, Collis P. Huntington, Mark Hopkins and Charles Crocker were investors who helped finance the railroad and manage the Central Pacific Railroad.

Central Pacific Railroad On June 28, 1861, the "Big Four" (Leland Stanford, Collis P. Huntington, Mark Hopkins and Charles Crocker) and other Sacramento merchants organized the Central Pacific Railroad. The Central Pacific built the western, and most difficult, portion of the transcontinental railroad, starting in Sacramento, California. Laborers battled harsh conditions through mountains, across ravines and through blizzards.

Union Pacific Railroad The Union Pacific Railroad did not exist before the Pacific Railway Act of 1862, which chartered the railroad to build the eastern portion of the first transcontinental railroad, starting in Omaha, Nebraska. The workforce consisted of Civil War veterans, Irish and African American laborers.

Sojourner (Chinese workers were not sojourners) The term, sojourner, refers to temporary migrants who came to America only to accumulate enough wealth to return to their native land. Calling the Chinese "sojourners" relegates them to the "margins of American immigration history," as historian Sucheng Chan writes. The Chinese fought for their rights when they arrived here: the right to testify in court, earn a living without harassment, become U.S. citizens, vote, attend integrated schools, and marry individuals of a different race. (Chan, "Ethnic Diversity, Nativism and Racism," in Rooted in Barbarous Soil, Kevin Star and Richard J. Orsi, eds., 72).

Promontory Summit On May 10, 1869, the Central Pacific and the Union Pacific Railroads met at Promontory Summit, Utah. The Central Pacific's president, Leland Stanford, and the Union Pacific's Thomas Durant tapped four ceremonial spikes (two gold, one gold and silver and one silver) in place to mark the official completion of the nation's first transcontinental railroad.

The Gold Spike On May 10, 1869, Leland Stanford ceremoniously tapped a gold spike into a polished laurel crosstie, marking the completion of the nation's first transcontinental railroad. The 17.6-carat gold spike is over five inches long, weighs 14.03 ounces and is engraved on all four sides. It resides at the Cantor Arts Center at Stanford University.

Glossary of terms

Foreign Miners Tax (1852) In 1852, California passed a Foreign Miners' Tax that targeted Chinese immigrants. It required any person not born in the United States or intending to become a citizen (Chinese were not allowed to become U.S. citizens) to pay $3 per month for a license to mine.

The Page Act (1875) This was the first federal law to control immigration. The law forbade the immigration of women "for the purposes of prostitution," but served as a barrier for any Chinese woman who tried to immigrate to the United States.

The Chinese Exclusion Act (1882) The first significant law restricting immigration into the United States. Congress passed the act in the spring of 1882. President Chester A. Arthur signed the act into law.

View the Chinese Exclusion Act (1882):
https://www.ourdocuments.gov/doc.php?flash=false&doc=47

Resources & Reccomended Reading

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From: *Central Pacific Railroad. Statement made to the President of the United States, and Secretary of the Interior of the Progress of the Work*. Leland Stanford, Pres't C. P. R. R. Co. October 10th, 1865. Sacramento: H.S. Crocker & Co., Printers, 92 J Street.

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35. Last Rail Laid, May 10, 1869.

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1. Laborers and rocks near opening of summit tunnel. No. 119, Photograph, Alfred A. Hart. https://exhibits.stanford.edu/rr/catalog/dw135rb7259

2. Heading Of East Portal Tunnel No 8 From Donner Lake Railroad. No. 204, Photograph. Alfred A. Hart. https://exhibits.stanford.edu/rr/catalog/gv106fk5547

3. Canton, China 1850s, https://commons.wikimedia.org/wiki/File:Canton_in_the_1850-60s.jpg

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14. Lim Lip Hong. Personal Photograph Collection of Andrea Yee.

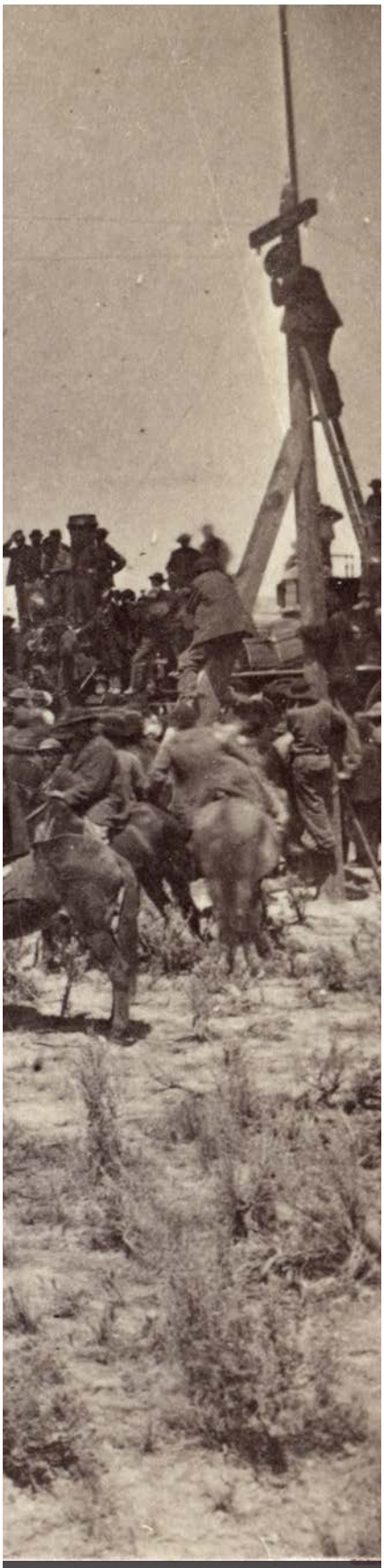
15. TBD Fong See

16. Hong Lai Wo, Personal Photograph Collection of Dr. Russell N. Low.

17. Brown Jug. California State Railroad Museum Collections.

18. Chinese Camp Browns Station. No. 313, Photograph. Alfred A. Hart. https://exhibits.stanford.edu/rr/catalog/tg027sp0209

19. Chinese Camp At End Of Track. No. 327, Photograph. Alfred A. Hart. https://exhibits.stanford.edu/rr/catalog/nz617px7637



36.Fixing Telegraph, 1869.

Photographs

20. Anderson Valley And Devils Peak From Emigrant Mountain Western Summit. No. 192, Photograph. Alfred A. Hart. https://exhibits.stanford.edu/rr/catalog/xm375nt5151

22. Constructed Snow Shed. Snow Gallery Around Crested Peak Timbers 12 X 14 In 20 In Apart. # 252, Photograph. Alfred A. Hart. https://exhibits.stanford.edu/rr/catalog/hg650cc6954

23. East Portal Of Summit Tunnel Western Summit Length 1660 Feet. No. 198, Photograph. Alfred A. Hart. https://exhibits.stanford.edu/rr/catalog/cp902yb3319

24. CPRR Tunnel Digging Method. Redrawn by California State Railroad Museum. Original source: http://www.uprrmuseum.org/uprrm/exhibits/curators-corner/summit-tunnel/index.htm

25. Summit Tunnel Before Completion Western Summit Altitude 7042 Feet. # 197, Photograph. Alfred A. Hart. https://exhibits.stanford.edu/rr/catalog/jz190tg6649

26. Prospect Hill Cut Upper Slope 170 Feet. No. 82, Photograph. Alfred A. Hart. https://exhibits.stanford.edu/rr/catalog/yb433kj3107

27. End Of Track On Humboldt Plains. # 317, Photograph. Alfred A. Hart. https://exhibits.stanford.edu/rr/catalog/nc812bv0419

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29. Driving of the Last Spike. Thomas Hill, 1881. https://csrm.andornot.com/en/permalink/ia_cscrm_000294

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31. East and West Shaking Hands at Laying Last Rail, photograph. Andrew J. Russell. https://exhibits.stanford.edu/rr/catalog/hx407zx8552

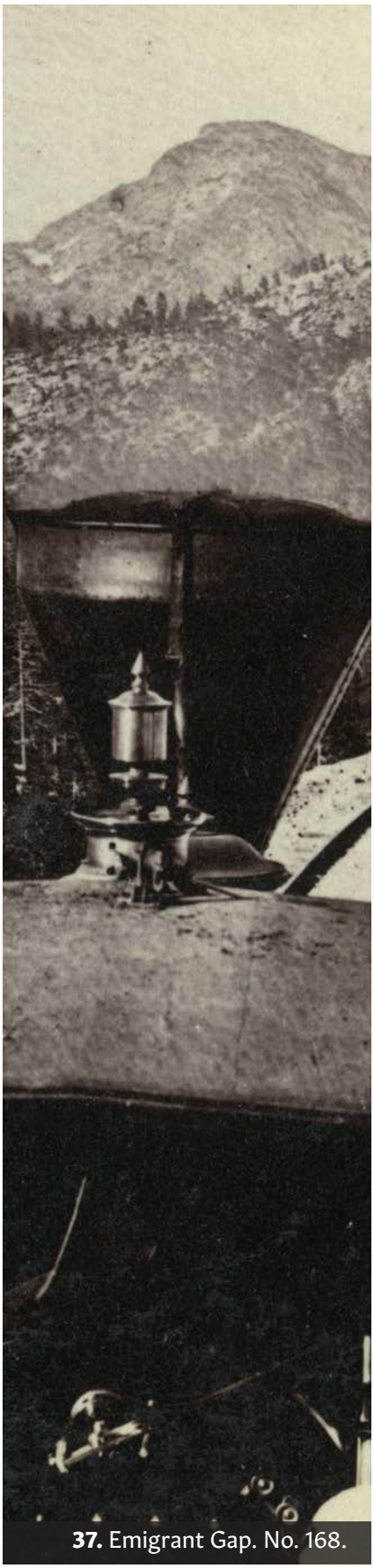
32. Reclimation of the Delta. Images courtesy Center for Sacramento History.

33. Wilson's Grocery store front, 1936. Images courtesy Center for Sacramento History.

34. California Market store front, 1925. Images courtesy Center for Sacramento History.

35. The Last Rail Is Laid Scene At Promontory Point May 10 1869. No. 356, Photograph. Alfred A. Hart. https://exhibits.stanford.edu/rr/catalog/rf200sq2539

36. The Last Rail The Invocation Fixing The Wire May 10Th 1869. # 355, Photograph. Alfred A. Hart. https://exhibits.stanford.edu/rr/catalog/ng651vx1215



37. Emigrant Gap. No. 168.

37. Valley North Fork Of Yuba Above Emigrant Gap Old Man Mountains. No. 169, Photograph. Alfred A. Hart. https://exhibits.stanford.edu/rr/catalog/nf351zs8698

38. Bowl. California State Railroad Museum Collections.

39. Pot with lid. California State Railroad Museum Collections.

40. Ink Well. California State Railroad Museum Collections.

41. Tea Pot. California State Railroad Museum Collections.

End Notes

1. Nick Bolin, "America Forgot the Chinese Workers Who Built the Railroad." *High Country News*, May 10, 1869. https://www.hcn.org/articles/interview-america-forgot-the-chinese-workers-who-built-the-railroad Accessed: 1 May 2020.

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4. Bain, 315.

5. Bain, 315; Kibbey states 14 inches, 28; Kraus states 1.18 feet, 151.

6. Kibbey, The Railroad Photographs of Alfred A. Hart, Artist, 29.

7. Chang, *Ghosts of Gold Mountain*, 127, Kibbey, 27.

8. Chang, *Ghosts of Gold Mountain*, 127.

9. Kraus, George. *High Road to Promontory: Building the Central Pacific Across the High Sierra*. (Palo Alto: American West Publishing Company, 1969), 151.

10. Kraus, 151.

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12 Chang, Ghosts of Gold Mountain, 200.

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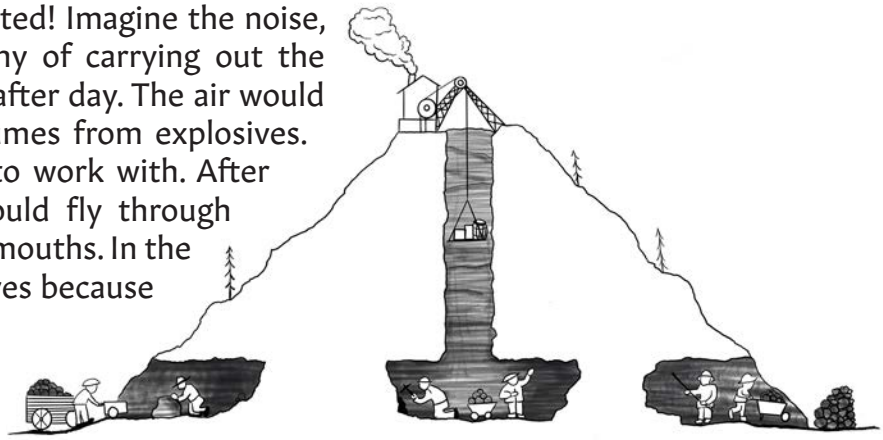
Name:_____

Summit Tunnel No. 6 Math Problem

Pay attention! Don't get distracted! Imagine the noise, vibration, fatigue and monotony of carrying out the above job hour after hour, day after day. The air would be thick with rock dust and fumes from explosives. Workers had only candlelight to work with. After explosions, rock fragments would fly through the air and into men's eyes and mouths. In the winter, icicles formed in the caves because it was so cold.



1. If workers can drill away 1.18 feet of a tunnel in one day, how many feet can they drill away in one week?

2. How many days would it take to drill the Summit Tunnel Number Six, which is 1,658 feet long by hand?

3. Nitroglycerine explosive was able to speed up this process. Nitro explosions allowed them to drill 1.82 feet per day. How many feet of tunnel could they drill with nitroglycerine in one week?

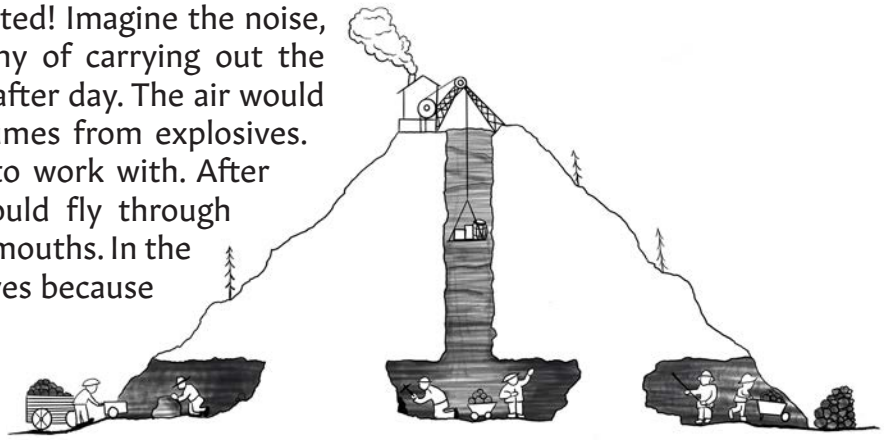
4. How many days would it take to blast away 1,659 feet using nitroglycerine?

5. How many days faster could you drill through a tunnel using nitroglycerine instead of black powder?

CHINESE RAILROAD WORKERS SUMMIT TUNNEL MATH ACTIVITY

Summit Tunnel No. 6 Math Problem Answer Key

Pay attention! Don't get distracted! Imagine the noise, vibration, fatigue and monotony of carrying out the above job hour after hour, day after day. The air would be thick with rock dust and fumes from explosives. Workers had only candlelight to work with. After explosions, rock fragments would fly through the air and into men's eyes and mouths. In the winter, icicles formed in the caves because it was so cold.



1. If workers can drill away 1.18 feet of a tunnel in one day, how many feet can they drill away in one week?

1.18 feet per day X 7 days = 8.26 feet per week

2. How many days would it take to drill the Summit Tunnel Number Six, which is 1,658 feet long by hand?

1658 feet / 1.18 feet per day = 1405.08 days

3. Nitroglycerine explosive was able to speed up this process. Nitro explosions allowed them to drill 1.82 feet per day. How many feet of tunnel could they drill with nitroglycerine in one week?

1.82 feet per day X 7 days = 12.74 feet per week

4. How many days would it take to blast away 1,659 feet using nitroglycerine?

1658 feet / 1.82 feet per day = 910.98 days

5. How many days faster could you drill through a tunnel using nitroglycerine instead of black powder?

1405.08 drilling days - 910.98 nitro days = 494.1 days faster

PRIMARY RESOURCE READING ACTIVITY

Primary sources provide direct or first hand evidence about an event, object, person, or work of art. They include newspapers, legal documents, letters, journals, statistical data, audio and video recordings, speeches, and objects. These document provide one perspective on historical events. The following articles provide some insights into the Chinese imigrants and laborers in California.

Greenbacks—The Chinese Movement a Copperhead One—A Chinese Victim Dead—Indictments—The Rain—Sales of Stocks—The Wine Case.

San Francisco, February 21st.

Greenbacks dull and unchanged.

The anti-Chinese movement has taken a particularly strong political direction. The leading spirits and principal speakers at the meeting last night were the notorious Zach. Montgomery and J. T. Dameron, a lawyer of pro-slavery Democratic antecedents. Montgomery thought that the laborers were imposed on by capital, and it was high time that the interests of white labor in California were protected. He said the Chinese had never fought for our country [Has Zach. Montgomery?—Eds. Union.] It was the sentiment of the meeting that every candidate for office in the State should be compelled to place himself in opposition to Chinese labor in every shape. The resolutions adopted were as follows:

Resolved, That it is the expression of this meeting that the encouragement of Chinese immigration is inimical to the welfare of the white laborer, and that we frown down all attempts to introduce Asiatic laborers.

Resolved, That we will not patronize any person who will in any way encourage or employ Chinese labor.

The meeting adjourned subject to the call of the President, and the Committee are to meet to-morrow evening at Zach. Montgomery's office.

The first victim of last week's mob, a Chinaman who had been an invalid and unable to work for months, died in the See Yup Asylum from the effects of the beating given him by the rioters when they met him on the Potrero.

The Grand Jury to-day returned indictments against two Chinamen, Joseph Johnson, Chas. Alorrch, John Williams, Joseph Harris, John Vincourt, William Berger and William Watson, alias Watts, for burglary; John Duffy, for grand larceny; Patricio Garcia, assault to murder; Michael McEwan, assault with deadly weapon.

The rain has been pouring down incessantly and in torrents to-day. The southwest gale is subsiding, but the rain continues unabated.

Arrived, ship Ocean Express, 148 days from New York, with merchandise to DeWitt, Kittle & Co.

Sacramento Daily Union, Volume 32, Number 4962, 22 February 1867.

Comprehension & Discussion Questions:

1. What was the purpose of this meeting?

2. What did the people who attended this anti-Chinese meeting resolve to do?

3. What do you think of these resolutions?

PRIMARY RESOURCE READING ACTIVITY

Primary sources provide direct or first hand evidence about an event, object, person, or work of art. They include newspapers, legal documents, letters, journals, statistical data, audio and video recordings, speeches, and objects. These document provide one perspective on historical events. The following articles provide some insights into the Chinese imigrants and laborers in California.

CITY INTELLIGENCE.

Anti-Chinese Meeting.—A handbill was distributed through the city yesterday calling a meeting of the opponents of Chinese labor, to be held in the evening at Turn Verein Hall. In the early part of the evening a bellman perambulated the city proclaiming the call for the meeting. After an organization was effected in the hall, addresses were delivered by ex-Governor Bigler, Dr. Clapp and Deputy Sheriff Sherman. A series of resolutions was also adopted, taking ground against the employment of Chinese in any department of labor.

Sacramento Daily Union, Volume 32, Number 4966, 27 February 1867

Comprehension & Discussion Questions

Turn Verein Hall: A gathering place for the celebration of German culture founded in 1854 in Sacramento. The building also served as a public gathering place.
Perambulated: To walk or travel around a place or area.

1. What was the purpose of this meeting?

2. Do you think the anti-Chinese meetings were popular?

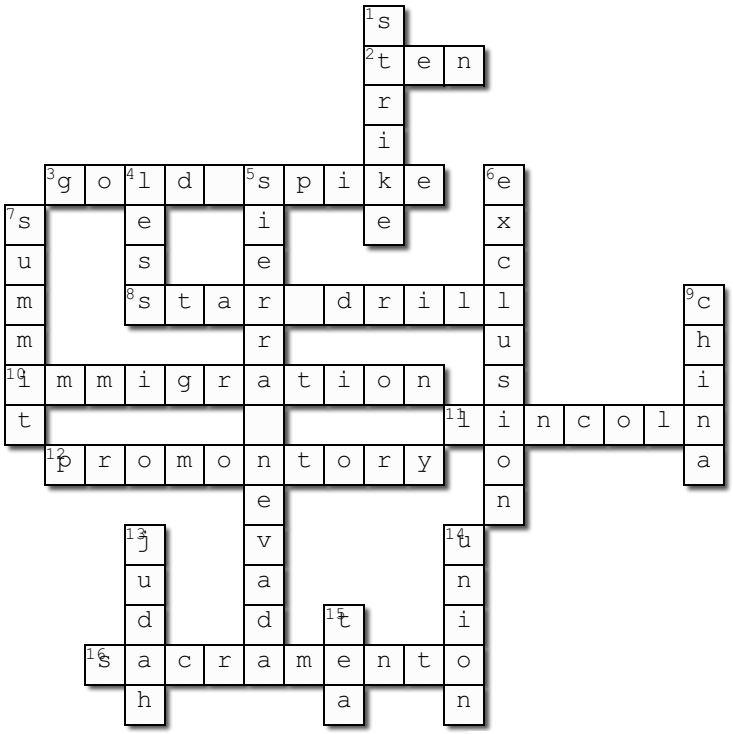
3. What do you think of this article?

ADDITIONAL ACTIVITIES

Name:_____

Chinese Railroad Workers & The Transcontinental Railroad

Complete the crossword puzzle below



Created using the Crossword Maker on TheTeachersCorner.net

Across

2. Chinese railroad workers and 8 Irish tracklayers set a record for building the most tracks in one day. They laid _ _ _ miles (**ten**)
3. Leland Stanford tapped a _ _ _ _ _ _ _ _ _ in place to symbolically finish building the nation's first transcontinental railr (**gold spike**)
8. Chinese railroad workers dug 15 tunnels through solid rock using a hammer and this tool. (**star drill**)
10. The act of moving and settling in another country. (**immigration**)
11. President _ _ _ _ _ _ _ signed the Pacific Railway Act in 1862. (**lincoln**)
12. On May 10, 1869, the Union and Central Pacific railroads met at _ _ _ _ _ _ _ _ _ _ , Utah. (**promontory**)
16. The Central Pacific Railroad started building the western portion of the railroad from what California city? (**sacramento**)

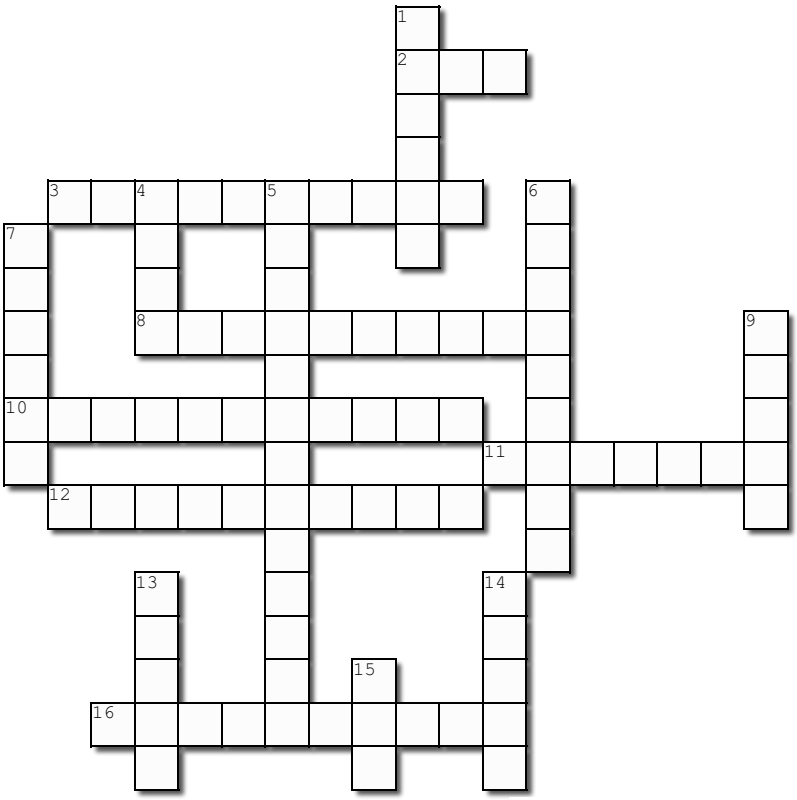
Down

1. More than 3,000 Chinese workers went on _ _ _ _ _ _ because they demanded to be paid more money. (**strike**)
4. Chinese railroad workers made _ _ _ _ money than white railroad workers. (**less**)
5. This mountain range made it very difficult for Chinese workers to build the railroad. (**sierra nevada**)
6. The 1882 Chinese _ _ _ _ _ _ _ _ _ Act prevented people from China immigrating to the United States. (**exclusion**)
7. The longest tunnel was 1,658 feet long. This was called the _ _ _ _ _ _ tunnel. (**summit**)
9. The Central Pacific Railroad hired 90% of its workforce from this country. (**china**)
13. This man dreamed of building a transcontinental railroad. He created the Central Pacific Railroad. (**judah**)
14. The Central and _ _ _ _ _ Pacific Railroads built the nation's first transcontinental railroad. (**union**)
15. Because Chinese railroad workers drank _ _ _, they did not get sick from water-borne illnesses. (**tea**)

Name:_____

Chinese Railroad Workers & The Transcontinental Railroad

Complete the crossword puzzle below



Created using the Crossword Maker on TheTeachersCorner.net

Across

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CALIFORNIA STATE
RAILROAD
MUSEUM

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