CALIFORNIA STATE RAILROAD MUSEUM
HORSES TO HORSEPOWER

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Quick Tip

To gain the most from your visit at the California State Railroad Museum , we are enclosing some background information and activities you might like to cover with your class.

Visiting the California State Railroad Museum

A visit to the California State Railroad Museum is one of the most exciting and educationally rewarding field trips you can plan for your class. The museum provides you and your students with important historical insights into the significant role railroads have played and continue to play in the development of California and the Western United States through informational exhibits and rolling stock.

Directions and Parking

The California State Railroad Museum is located in Old Sacramento 111 "I" Street.

Parking

BUS- Parking is located directly behind the museum in the designated bus parking spots through the monitored gate. Follow the signs. Loading and unloading of passengers is conveniently located in front of the bus parking or in front of the museum.

CAR- City public parking garages with day rates are located at the north and south end of Old Sacramento. Metered street parking is also available. For more parking information please visit www.sacpark.com . We do not have a public parking lot.

Amtrak and Light rail, easy 5 min walk to the California State Railroad Museum from the Sacramento Valley Station.

*Assemble your group at the School Group Entrance on 2nd Street. Restrooms available.

Review Museum guidelines for Field trips found on our website at www.Californiarailroad.museum.

Horses to Horsepower Program

Our Conductor will meet your group and lead them on a 5-station tour through the museum galleries learning about the history, stories and contributions of people working on the Transcontinental Railroad.

Station #1 Transcontinental Gallery - Our Conductor introduces your students to the dreamers and schemers involved in building the transcontinental railroad.

Station #2 Help Wanted – Our crew chief speaks to the contribution and hard labor of the Chinese workers building on the western end of the Central Pacific Railroad through the Sierra and beyond.

Station #3 DONE –Our Master of Ceremonies reenacts the Gold Spike ceremony and telegraph message that took place on May 10 1869 as the Central Pacific and Union Pacific Railroads met at Promontory Utah.

Station #4 Travel to California- Our train traveler explains the immigration of people to California by rail beginning in the 1870's.

Station #5 Feeding a Growing Nation- Our farmer discusses how Agriculture became California's Second Gold Rush now known as Farm to Fork.

State Standards met:

4.4 Students explain how California became an agricultural and industrial power tracing the transformation of the California economy and its political and cultural development since the 1850's.

1. Understand the story and lasting influence of the Pony Express, Overland Mail Service, Western Union and the building of the transcontinental railroad including the contribution of the Chinese workers to its construction.

3. Discuss immigration and migration to California between 1850 and 1900 including the diverse composition of those who came: the countries of origin and their relative locations and conflicts and accords among those diverse groups.

6. Describe the development and locations of the new industries since the turn of the century such as the aerospace, electronics large scale commercial agriculture and irrigation projects, the oil and automobile industries, communication and defense industries and important trade links with the Pacific Basin.

Beginnings

Transcontinental Railroad fever struck the Eastern States long before California joined the Union in 1850. The first proposals to gain serious audience originated in 1845 with Asa Whitney, a New York Merchant who made a fortune in trade with China. Until the Gold Rush and the annexation of California , Congress considered most of these plans impractical. The Northern and Southern States disagreed about the route and delayed action. The Civil war sharpened Congressional fears of losing California through foreign intervention. The North needed the gold and silver from the West. A rail line from San Francisco to New York would reap great profits by cutting the time needed to ship goods between Asia and Europe. Meanwhile Californians had become more eager to end their isolation from the rest of the nation. The Pacific Railroad symbolized their hopes for a better life, new prosperity and for unlimited American power. The times were intensely nationalistic and the visions of what the Untied States might encompass recognized no boundaries or limits. A transcontinental railroad would be a great stride in the direction of manifest destiny.

Railroad Act

President Abraham Lincoln signed the Pacific Railroad Act on July1, 1862 mandating construction of a transcontinental railroad. The Union Pacific was created to build west from Omaha and the Central Pacific designated to built east from Sacramento. The two companies were subsidized by the federal government with land grants and loans of bonds all ultimately repaid by the railroad.

Central Pacific Railroad

The first ceremonial shovelful of dirt for the construction of the Central Pacific was turned at the foot of K street on Jan 8 1863. The first rail was laid at the foot of I street six months later. Supplies of rail, spikes and ties had to be shipped around the South American Cape Horn taking months to reach Sacramento. The Central Pacific had to overcome a huge obstacle in its path- The Sierra Nevada.

Sacramento Valley Railroad

From the early day of the gold rush bustling California towns were in support of plans for a railroad. Sacramento began plans of building the Sacramento Valley Railroad to Folsom , a distance of 22 miles. In need of an Engineer, Charles Wilson went to New York in 1854 where he was introduced to a brilliant young man named Theodore Judah. Soon after meeting Judah telegraphed his wife Anna. “We sail for California on April 2”. In Sacramento Chief Engineer Judah set up an office in the BF Hastings Building and began his preliminary surveys. Laborers started grading the road bed in February 1855 and the first locomotive named “Sacramento” arrived in June. On Feb 22 1856 the line was completed. The new railroad company soon met financial troubles. In 1865 the Central Pacific Railroad took over the Sacramento Valley Railroad.

Theodore Judah- 1826 -1863 Brilliant Civil Engineer
Theodore Dehone Judah worked as construction engineer on railroads in New York, Massachusetts, Vermont and Connecticut. He came to Sacramento by invitation in 1854 to begin building the Sacramento Valley Railroad between the towns of Folsom and Sacramento. When he heard about the possibility of building a transcontinental railroad he began pursuing the idea of connecting California with the rest of the United States. His passion was the railroad and spent several years surveying for a practical route over the Sierra Nevada. When the Pacific Railroad Convention met in San Francisco in 1859, Theodore Judah was the keynote speaker addressing the possibility of Sacramento becoming the Western terminus. There would be many obstacles such as mountain grades, rivers, bridges and tunnels that would be needed to cross the Sierra. When Theodore Judah failed to generate interest in the transcontinental railroad in San Francisco, he returned to Sacramento. Soon he was meeting with four business owners Leland Stanford, Charles Crocker, Mark Hopkins and Collis Huntington . The Central Pacific was founded in June 1861. Theodore Judah never saw the completion of the Central Pacific Railroad. On his way to Washington DC via the Isthmus of Panama, a trip he had made at least three times, he contracted yellow fever [some sources say typhoid fever] and died on Nov 2 1863. The first rails of the Central Pacific had just been laid in Sacramento on Oct 26 1863. Sadly, Theodore Judah took his last Railroad trip to his gravesite in Greenfield Massachusetts.

Collis P Huntington 1821-1900
Hardware and mining salesman, financier CPRR Vice President Founded Tuskeegee Institute
Vice *President Collis Huntington served as the Central Pacific chief fundraiser. He was an uncommon financier, shrewd in buying equipment during the Civil War. He was skillful at borrowing* and adept at making and keeping contacts with European Capitalists. Born in Connecticut Huntington was in business with his brother by age 22. When the news of the Gold Rush was confirmed, they shipped goods to California and by March 1849 followed the way of the Isthmus to get to California. Settled in Sacramento, Huntington sold hardware and mining supplies on K Street. Over 6 feet tall he wore a wide brimmed panama hat that drooped to his shoulders. Soon he formed an enduring partnership with Mark Hopkins.

Leland Stanford 1824-1893
Lawyer, grocer, President Central Pacific Railroad and Southern Pacific Railroad, Governor of California , Senator, Founder of Stanford University (founded in 1885)
A man of many interests Leland Stanford rose to power becoming both governor and president of the Central Pacific Railroad in less than a decade. Born in Watervliet New York, Stanford studied law in Albany and emigrated to Wisconsin when he was 24. After a fire destroyed his law office in 1852 Stanford followed his brothers to Sacramento to join the family grocery business. Before long, he had a thriving store of his own. In 1856 Stanford and his associates helped organize the Republican party in California. He was extremely interested in politics and won election as California 's 8th Governor in 1861. After a 2 year term He served as our California Senator for 8 years. He served as President of the Southern Pacific Railroad from 1885-1890. He died June 21 1893.

Charles Crocker 1818-1875
Dry Goods store owner, State Legislator in 1860 President of the construction company that built the Central Pacific Railroad.
When he was 23 this New York native operated a forge under the name of Charles Crocker and Company. When gold was discovered in California he came for the Gold Rush of 1849. Charles Crocker opened a dry goods store in Sacramento . He served on the Sacramento City Council in 1855 and later became a member of the State legislature . In 1870 he resigned from the Central Pacific Railroad and spent time touring Europe. In 1873 he rejoined his associates and supervised the construction of the expanding railroad empire.

Mark Hopkins 1813-1878
Wholesale grocer and hardware merchant, Huntington and Hopkins Hardware Store business partner, accountant treasurer and business manager of the Central Pacific Railroad

Overshadowed by his partners Mark Hopkins earned his respect as a man of excellence and hard work. He served as treasurer and business manager. Huntington said "he never thought anything finished until Hopkins looked at it." Hopkins matured into a tall thin man began his career in Niagara County New York. On learning about the gold rush he formed a company of 26 men who subscribed $500 each to sell goods in California. He-accompanied the consignment team west arriving in San Francisco in August 1849. In 1855 Hopkins joined Huntington in a Sacramento hardware business that proved enormously successful.

Chinese Railroad Workers

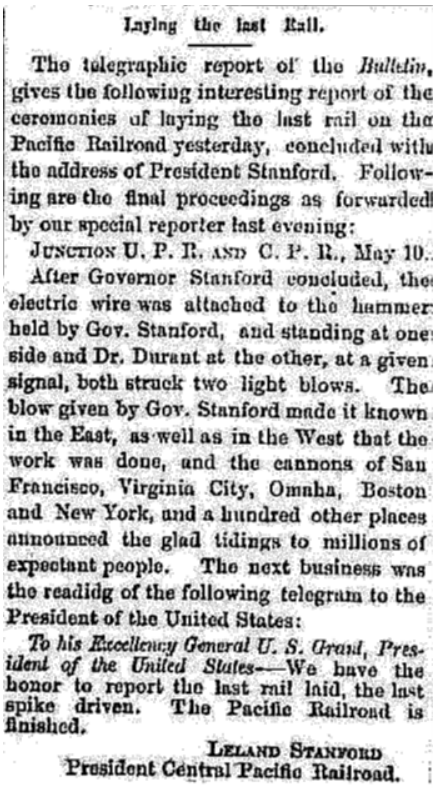
The **Chinese** labor force built the Central Pacific Railroad . The first laborers on the Central Pacific were miners out of work, many hired on merely as a convenient way to reach the Silver Mines in Nevada. Skilled labor commanded premium pay. Track workers would get $35 a month which is about $1:59/day. Labor was in short supply for the Central Pacific, prompting Charles Crocker to suggest hiring Chinese laborers. Many of these men had come to California to find gold, but racial prejudice and discriminatory laws at the time forced them out of the gold fields. The Central Pacific hired about 10,000 Chinese workers and recruited many from China. They worked largely as graders. These workers were highly skilled and motivated and comprised one of the most effective construction forces ever assembled.

Railroad construction work was hard dirty and often dangerous. Chinese Workers used hand tools and explosives to blast tunnels, cut through hillsides and remove hazardous rocks. The Chinese workers were experts in handling and using black powder. In order to blast the granite away to create the tunnels, one man held a steel drill and the another swung a maul to laboriously bore holes deep into solid granite rock. They would then pour in black powder, tamp it down with a wooden rod to avoid sparks. Long fuses would be inserted sealing the holes with clay and braiding the fuse ends into a single long fuse. Retreating to a safe distance they would light the fuse. Slow burning fuses ignited the powder, shattering the rock. After the dust had settled, workers with shovels and carts removed the debris by hand. The Chinese workers did most of the tunneling, drilling, and blasting as the Central Pacific cut a path through the hard granite of the Sierra Nevada The Summit tunnel (below) is an amazing tribute to their ingenuity and hard work.

Chinese laborers usually worked 12 hours a day and 6 days a week. After work they would return to camp to bathe, change clothes and eat an evening meal. The railroad fed the other workers beef, beans, potatoes and bread. The Chinese purchased their own food. They prepared traditional meals of rice, pork, chicken, seafood, noodles, salted cabbage, mushrooms dried fruits and vegetables. Besides eating a balanced diet the Chinese boiled water for tea instead of drinking directly from the contaminated streams. They avoided some dietary diseases common to other workers, but faced greater dangers on the job.

DONE

On May 10 1969 the Central Pacific Railroad and the Union Pacific Railroad joined tracks at Promontory Utah. Promontory is a plateau in the Promontory mountains sometimes called Promontory Summit but is different from Promontory Point , which is located on the Great Salt Lake. The day was sunny with a few clouds. About 10:30 The Chinese began the final grading of the area, laying of the ceremonial ties and rails. Around noon the two engines uncoupled from their coaches and were within a short distance of the end of their respected rails, the soldiers marched to the west side of the track and stood parade rest to observe the event. The telegraph operator was placed in an advantageous point in front and east of the joint. Visitors had collected on all sides of the track and on the engines. At noon the stage was set and the engines advanced closer to the rail end. At 12:27 the Western Union telegrapher indicated to the telegraph system that 3 short dots would be sent on the first blow. At 12:40 the operator wired “we are done praying and the spike is about to be presented”. Governor Stanford accepted the spikes and concluded his speech. “Now Gentlemen with your assistance we will proceed to lay the last tie , the last rail and drive the last spike.” At 12:45 the operator wired all ready now and after a short pause the 3 dots went over the wire. At 12:47 “DONE” went out over the wire. The Transcontinental railroad would link the West to the East.



Laying the last Rail.

The telegraphic report of the *Bulletin*, gives the following interesting report of the ceremonies of laying the last rail on the Pacific Railroad yesterday, concluded with the address of President Stanford. Following are the final proceedings as forwarded by our special reporter last evening:

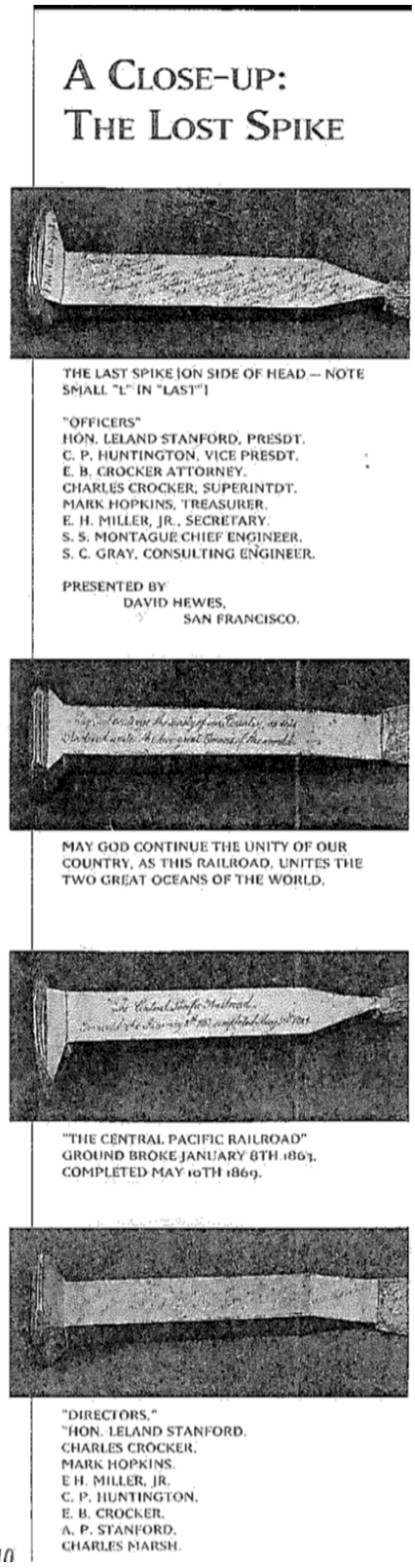
JUNCTION U. P. R. AND C. P. R., May 10.

After Governor Stanford concluded, the electric wire was attached to the hammer held by Gov. Stanford, and standing at one side and Dr. Durant at the other, at a given signal, both struck two light blows. The blow given by Gov. Stanford made it known in the East, as well as in the West that the work was done, and the cannons of San Francisco, Virginia City, Omaha, Boston and New York, and a hundred other places announced the glad tidings to millions of expectant people. The next business was the readidg of the following telegram to the President of the United States:

To his Excellency General U. S. Grant, President of the United States—We have the honor to report the last rail laid, the last spike driven. The Pacific Railroad is finished.

LELAND STANFORD
President Central Pacific Railroad.

The Thomas Hill painting (1881) The Last Spike hangs inside the California State Railroad Museum.



A CLOSE-UP:
THE LOST SPIKE

THE LAST SPIKE [ON SIDE OF HEAD — NOTE SMALL "L" IN "LAST"]

"OFFICERS"
HON. LELAND STANFORD, PRESDT.
C. P. HUNTINGTON, VICE PRESDT.
E. B. CROCKER ATTORNEY.
CHARLES CROCKER, SUPERINTDT.
MARK HOPKINS, TREASURER.
E. H. MILLER, JR., SECRETARY.
S. S. MONTAGUE CHIEF ENGINEER.
S. C. GRAY, CONSULTING ENGINEER.

PRESENTED BY
DAVID HEWES,
SAN FRANCISCO.

MAY GOD CONTINUE THE UNITY OF OUR COUNTRY, AS THIS RAILROAD, UNITES THE TWO GREAT OCEANS OF THE WORLD.

"THE CENTRAL PACIFIC RAILROAD"
GROUND BROKE JANUARY 8TH 1863.
COMPLETED MAY 10TH 1869.

"DIRECTORS."
"HON. LELAND STANFORD.
CHARLES CROCKER.
MARK HOPKINS.
E H. MILLER, JR.
C. P. HUNTINGTON.
E. B. CROCKER.
A. P. STANFORD.
CHARLES MARSH.

10

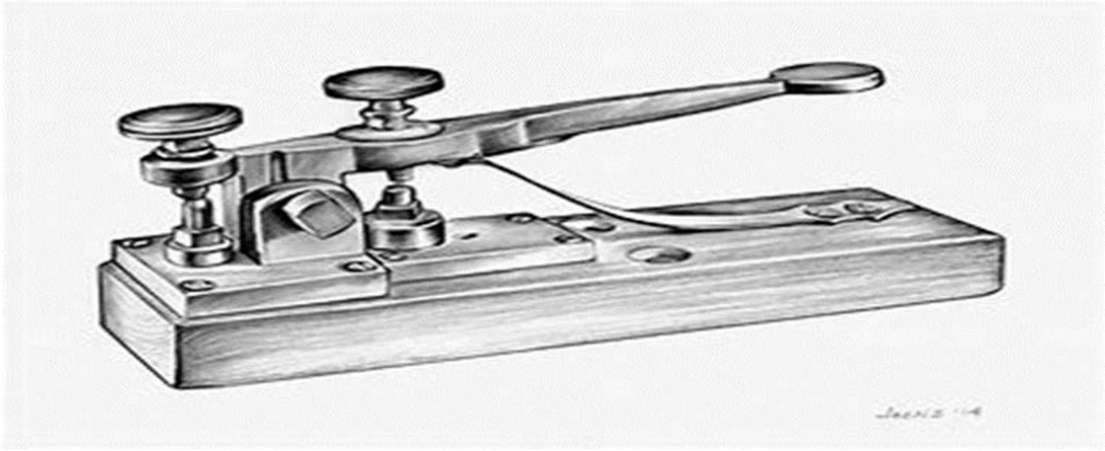
The Last Spike and the Lost Spike

The story of the two spikes began in April 1869 with a conversation in San Francisco, It was just days before the Central Pacific Railroad and the Union Pacific Railroad were set to meet in Promontory.

David Hewes a noted San Francisco businessperson had two gold spikes cast for the ceremony. The first one was quickly engraved with the date May 8 1869 and sent with Governor Leland Stanford to the ceremony at Promontory. After the ceremony, the spike traveled back to California aboard Governor Stanford's private railcar then returned to David Hewes. In 1892 his family donated the spike to the newly built Leland Stanford Junior University where it resides today.

The Lost Spike probably did not make it to promontory for the ceremony and was not engraved until after the ceremony. The engraved date reads May 10 1869. along with other engravings. The first clue there were two spikes cast for the ceremony came in 1930 when an original receipt was found with memorabilia, listed a charge for two finished gold spikes along with their photograph. This spike remained with the Hewes family until 2005 when the family decided to part with the spike. This spike is now on display at the California State Railroad Museum.

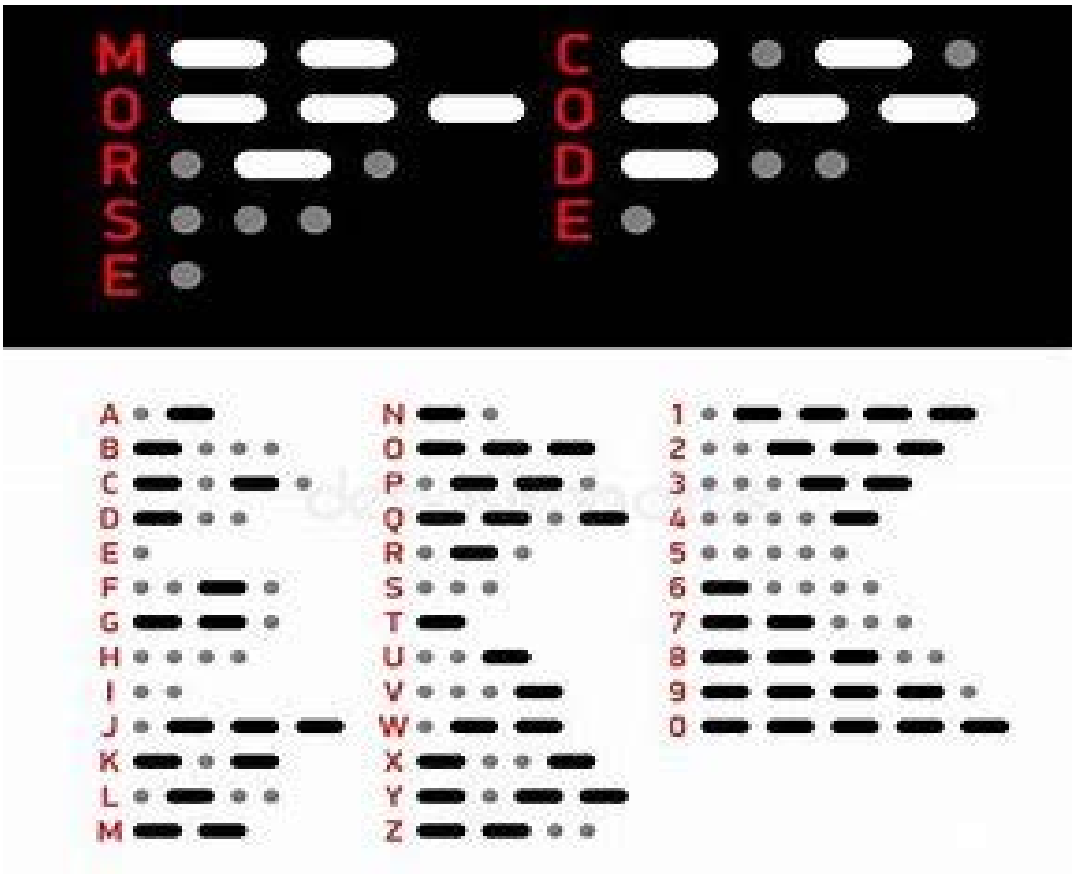
The Telegraph



Codes have been used throughout history to communicate, signal distress, and transmit secret information. One of the most recognizable codes is **Morse code**, developed by Samuel Morse in 1836 as a means of long-distance communication. It was soon in use by the military industry worldwide, and the universal distress signal derived from Morse code–SOS–is one of the most recognizable emergency codes in use. The first long-distance message was transmitted by Samuel Morse on May 24, 1844 on an experimental line from Washington, D.C. to Baltimore.

With the introduction of the telegraph, a more sophisticated system became possible because the telegraph provided a means to transmit messages faster than the trains moved. The telegraph could be used to communicate the arrival and departure of trains at stations along railroad lines. If a train was running behind schedule, and might meet other trains on the same track, it could be safely moved to other sidings, allowing the other trains to continue and avoid long delays, providing more efficient operation along the railroad line. The railroad telegrapher was the eyes and ears of the train dispatcher, who was usually many miles away, enabling him to know the location of trains directly and manage train movement. The telegrapher maintained communication between the train dispatcher and trains operating on the rail system. He copied train orders and messages for the train crews, and reported the passing of trains to the dispatcher.

Morse Code Messages



The Morse code was invented during the 1830s by Samuel Morse and Alfred Vail. The code associated every letter in the English alphabet with a series of dashes and dots on paper to decode.

Can you spell your name in Morse Code?

_____

Traveling by Rail

Prior to the Transcontinental Railroad there were three ways to travel to California:

1. Overland by wagon or stagecoach. This route hazardous and long, taking up to 6 months and walking most of the way. Stage coaches were expensive and broke down.

2. Sailing around South America. This route was also very long and dangerous navigating around the treacherous waters of Cape Horn and being stranded when the wind didn't blow.

3.The Panama Shortcut. This route was much shorter and sailing to Panama was easy, but traversing though the jungle with the diseases and dangerous creatures would make anyone rethink this route. After the trek, wait for a boat to bring you to California.

Traveling by Rail offered comfort and speed compared to other means of transportation after 1869 Sacramento was the western terminus for the **Pacific Express** that left daily from Omaha Nebraska. Passengers traveling Eastward boarded the **Atlantic Express** that left daily from Sacramento. The 2,000 mile journey took approximately 7 days and 7 nights across the mountains and deserts and plains. . First class tickets cost approximately $100 to travel from Omaha to Sacramento. First class passengers rode in heated luxurious cars with plush seats that converted into sleeping berths for over night comfort. Second Class tickets were $80.00 and the cars were not so lavish. Passengers would ride and sleep sitting in upholstered seats. Third class and lower class tickets sold for about $40.00. Typically Emigrants who planed to move west to settle the lands owned by the railroad and the government purchased these tickets. Third class were filled with rows of narrow wood benches and often coupled to freight cars. Most times their journey took longer than the 7 days as they were the first to be moved aside and sat waiting in stations in favor of higher paying passengers.

The Central Pacific Passenger station was the heart of Sacramento serving as the Western terminus of the Transcontinental Railroad. Family and friends greeted new arrivals and bade farewell to those departing from Sacramento. The station also served as a connecting point for other means of transport such as steam boat wagons and stagecoaches. The US mail was delivered and picked up along with the interchange of freight arriving or departing from Sacramento. Along the boardwalk and in the station local entrepreneurs shouted out names of hotels, restaurants drinking and gambling location and carriages for hire for arriving and departing passengers. In 1874 William Hahn painted " The Sacramento Passenger Station". The painting reveals a view of Front Street and the Central Pacific Passenger Station and its as it looked in the late 19th century.

Feeding A Growing Nation

The refrigerator car made it practical for the nation's farmers and ranchers to feed America's swiftly growing cities. As the nation's rail network expanded rapidly in the second half of the 19th century, farms and ranches throughout the country discovered a reliable method of delivering perishable foods to the marketplace. Long trains of refrigerator cars made it possible for regional specialties to be shared throughout the country. Almost immediately after the Transcontinental Railroad's completion,
ventilated fruit cars began traveling east, loaded with California's rich harvest. Able and willing to supply a marketplace eager for variety, agriculture in California and the West rapidly became a major industry.
Railroads first used wooden box cars outfitted with vents that allowed air to flow through the car while the train was moving. Soon, "ice bunkers" were added to each end of a ventilator car, these compartments were filled with large blocks of ice. Improvements to insulating material, icing methods and airflow patterns kept the "iced reefer" car in service on American railroads for over 100 years.

St Hyacinth

Sleeping cars offered passengers a new level of comfort along with a little privacy while traveling overnight by train. Pullman cars were an American institution for a century. During their heyday in the 1920s, Pullman's carried as many as 39 million passengers a year—nearly one-third the population of the United States. In essence, they were the nation's largest hotel chain. Service was the hallmark of the Pullman sleeping car experience for passengers. Pullman Porters delivered a high level of service even while they endured difficult working conditions and limited opportunities for advancement For decades, African Americans were the backbone of Pullman's porter service. In the 1920s, there were 9,000 Pullman porters in this country, nearly all of them African American.

The Pullman Porter's job was to assist passengers with their luggage, make up their berths, serve food and beverages, and be on-call 24 hours a day. The hours were long, the trips demanding, and the hard work could total six days at a time out on the road. Still, there was great pride among the employees.

Our Canadian National sleeper car, St. Hyacinth, the typical Pullman open-section car consisted of seats during the day which converted to curtained upper and lower berths at night. Separate washrooms for men and women were at each end of the car. Travelers awakened refreshed and, after dressing, were ready to head to the dining car for breakfast. Safe and comfortable overnight travel cross country had become a reality.

Once upon a time, **Dinner in the Diner** was the high point of travel by train. Railroads took great pride in offering first-class dining. Spotless interiors, custom chinaware, gleaming stemware and silver were signature elements of these rolling restaurants. The service was impeccable, the menus were expansive, and the food was first rate.

Dining cars were the most expensive to operate and maintain, and extremely labor intensive. But railroads were fiercely competitive and high-quality dining car service helped build business. There was prestige in offering first-class passenger service, and dining cars were considered part of the advertising. Exquisite dining car service lasted until the end of the classic passenger train era.

Cooking and serving meals aboard a dining car had its challenges. The space was cramped, the kitchen hot, the work hard, and the hours long. Being jostled into by a fellow chef, mistakenly grabbing a hot pan or enduring the occasional slip of a knife was inevitable. The dining car steward seated passengers and then waiters provided prompt, courteous service. A sharp crew on a busy run might serve over 300 meals per day.

Genoa- The Genoa is a classic example of the conventional 4-4-0 American type Steam locomotive, which was the standard of most engines for almost 30 years. The 4-4-0 wheel arrangement was designed for maximum traction, power and speed. The light weight and compact nature of this engine made it flexible for all types of track condition and train operations. Locomotives were once colorful painted and trimmed. Shop workers worked 10 hour days polishing brass and fittings to keep the locomotives sparkling. The Genoa was completed in January 1873, for nearly 30 years it hauled passengers between Carson City, Virginia City and Reno Nevada.

Railway Post Office Car-

It was only natural that along with passengers and freight, railroads offered an efficient and reliable method of delivering the mail. By the end of the Civil War, Railway Post Office cars, otherwise know as RPO's were moving mail between cities on the East Coast. And as the nation's railway network expanded so did the mail service offered by the U.S. Railway Mail Service with its Railway Post Office cars. Each car was a complete post office on wheels, staffed by armed clerks who sorted and delivered the mail to cities and towns along the routes. Trains pulling RPO's scheduled a stop at any large town or city that required many bags of mail be loaded and unloaded. At more isolated locations, a bag of mail was hung alongside the track. As the RPO rushed by, a bag of mail was kicked off, then a hook was extended, and a bag of mail was captured and the train continued along its way. Letters and packages were then sorted into the row upon row of slots, each identifying a different city, town or sometimes even a business along the route.

Cab Forward Cab Forward-

Hauling freight from California's Central Valley up 7,000 feet over Donner Summit was no easy task. By the turn of the century it was clear that a new type of locomotive was needed to meet the challenge of pulling long trains and heavy loads over the Sierra mountains. In 1910 the Southern Pacific took delivery of the first of several engines with the power necessary to do the job, but raw power alone had not solved the problem. With the crew located behind the engine's massive boiler and smoke stack, and having some 37 miles of snow sheds and 15 tunnels to run through, the crews were in danger of becoming asphyxiated. The first attempt to correct this problem was to use World War 1 tactics and issue the crew gas masks. In the end, all it took was a simple design change. By turning the engine around 180 degrees the cab and crew were now ahead of the engine and the smokestack. The Cab Forward was born. This type of locomotive, almost exclusive to Southern Pacific, was so successful that the company would eventually take delivery of 256 cab forwards. In recognition of this class of engine's unique design, and the fact that 4294 is the sole survivor, locomotive number 4294 earned designation as a National Civil Engineering Landmark.

While locomotive 4294, the cab forward, was one of the last steam locomotives purchased by Southern Pacific.

CP Huntington- Built in 1863 this was the third engine purchased by the Central Pacific and building the Transcontinental Railroad. In 1871 it was transferred to the newly formed Southern Pacific and re-numbered #1.

Questions

1. Name 3 ways to travel to California before the railroad in 1869.

_____

_____

2. What was the name of the Civil Engineer with a plan to cross the Sierra Nevada with the Central pacific Railroad?

_____

3. What group of people built most of the Central Pacific Railroad?

_____

4. What is the name of the two railroad companies who met at Promontory Utah in 1869:

_____

_____

5. What else could railroads do besides transporting passengers?

_____

6. How has the railroad changed California? _____

_____

_____

7. Our lives are made of Railroad Stories- do you have a story to share?_____

Program Evaluation

Date of Visit_____

School_____

Teacher_____

Program_____

For each section, please circle the appropriate number 1-5
1=POOR, 2=Needs Improvement, 3=Standard, 4=Good, 5=Excellent

Educational Content of Program Rate 1 2 3 4 5

Issues to consider: Was the program relevant to your studies? Were the ideas presented accurate, organized and connected to your curriculum?

_____
_____

Presentation to Student Rate 1 2 3 4 5

Issues to consider: Was the program appropriate to the age and ability of your group? Was this program thought provoking and engaging?

_____
_____

Presenters Rate1 2 3 4 5

Issues to consider: Were the presenters knowledgeable? Did they lead the group in active participation? Did they display a positive attitude, enthusiasm and appropriate humor?

_____
_____

Did this program meet your expectations? Yes No

_____
_____

How did you hear about this program? _____

When do you typically book your fieldtrips? _____

OTHER_____
_____

Thank you