

LEVELED BOOK • Z<sup>2</sup>

# The Transcontinental Railroad



MULTI  
level  
X•Z<sup>1</sup>•Z<sup>2</sup>

Written by Katherine Follett

# # The Transcontinental Railroad



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## Focus Question

How did the Transcontinental Railroad connect the eastern and western United States?

## Words to Know

diligently  
discrimination  
engineers  
immigrants  
infamous  
laborers

portrayed  
pursuit  
settlers  
telegraph  
treacherous  
veterans

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LEVEL Z2	
Fountas & Pinnell	Y-Z
Reading Recovery	N/A
DRA	70+



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## Introduction

One hundred and fifty years ago, it could take six months to travel overland from New York City to San Francisco. That meant if you left New York in April, the beginning of spring, you would not arrive in California until October, during the chilly days of fall. Over the long months of traveling, you would have to transport all of your food or hunt and gather it from the wild. There were few maps, so it was easy to get lost. There were also few towns or forts along the way, so it was difficult to find someone to ask for help or directions. You would have to cross freezing, windswept prairies, roasting deserts, and **treacherous** mountains, all on foot or horseback, or in a creaky horse- or ox-drawn wagon that would often break down. Yet thousands of people were making this journey across the United States to California every year. The West Coast offered rich farmland, wonderful weather, and best of all, gold. Many people at the time also believed in Manifest Destiny—the idea that the United States should grow to include all the land from coast to coast. If only there were some way to get people and supplies to and from California more quickly and safely.

At the time, the fastest way to travel was by railroad. Railroads crisscrossed the eastern United States as far west as Chicago, Illinois, and Omaha, Nebraska, traveling at speeds averaging 25 miles (40 km) per hour. Building a railroad across the United States would allow **settlers** to get to California much faster. It would also allow the settlers in California and all across the West to reach the East Coast to order goods, send and receive mail, and visit loved ones they may not have seen for years. The booming state of California would have a link to the businesses and government of the East. The East would have a link to the gold in California to boost the economy. But how could anyone build something as big and expensive as a railroad across the immense, rugged American West?



A busy eastern railroad station

## **Who Will Build the Railroad?**

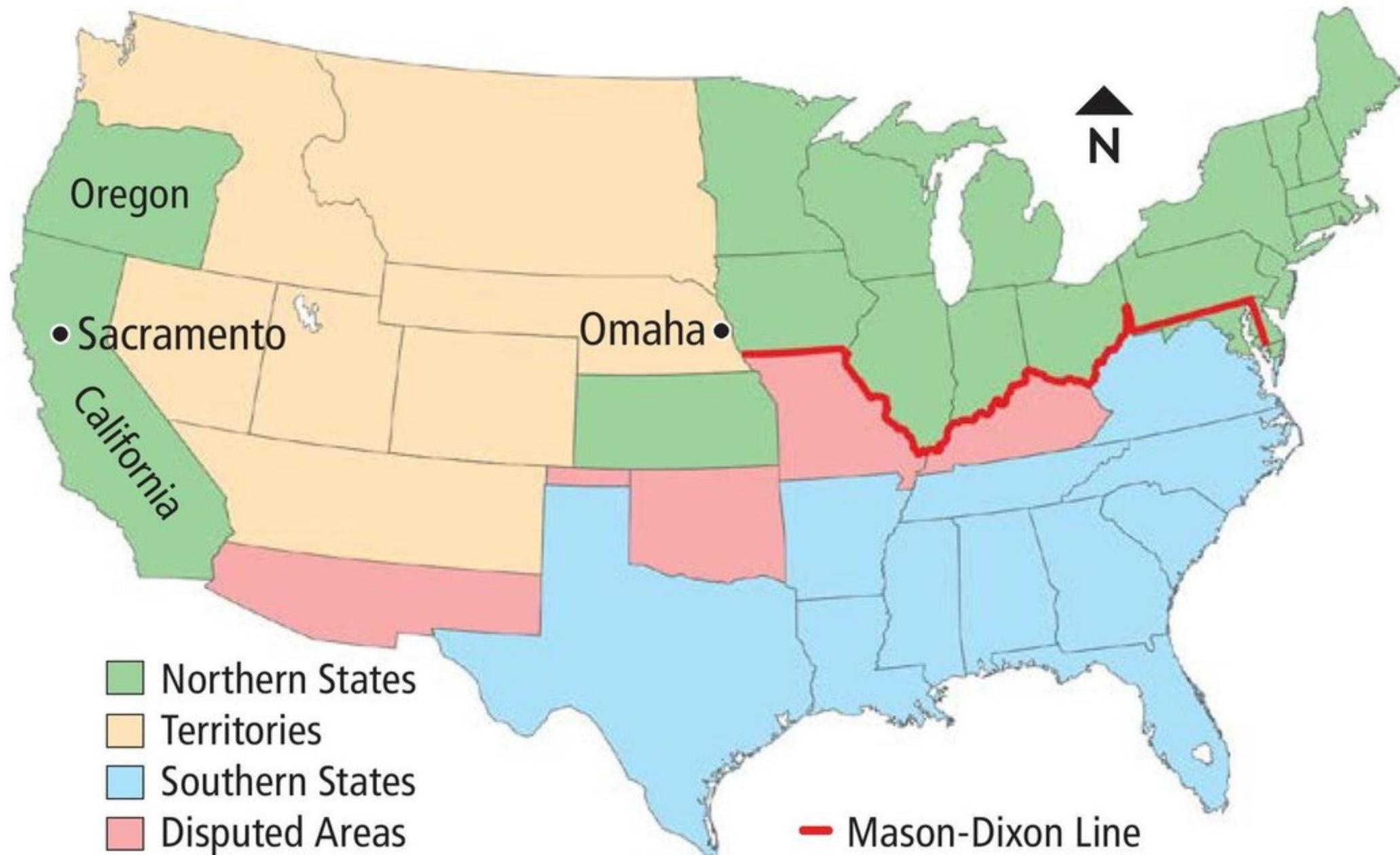
People had wanted a transcontinental railroad for years. But no one had built one for many reasons.

First, building a railroad of that size was far too expensive for any one person or company to pay for. Second, the technology of the time did not seem advanced enough for such a big job. **Engineers** had no calculators, no computers, and no airplanes to photograph and chart the land—in fact, there were hardly any maps of the areas the railroad would cross. Most important, the Northern and Southern states were fighting each other in the Civil War. Even prior to the start of the war, the states had disagreed about whether the railroad should cross the northern or southern half of the country. The final route, proposed by railroad engineer Theodore Judah, ran along the 41st parallel, north of the Mason-Dixon Line.



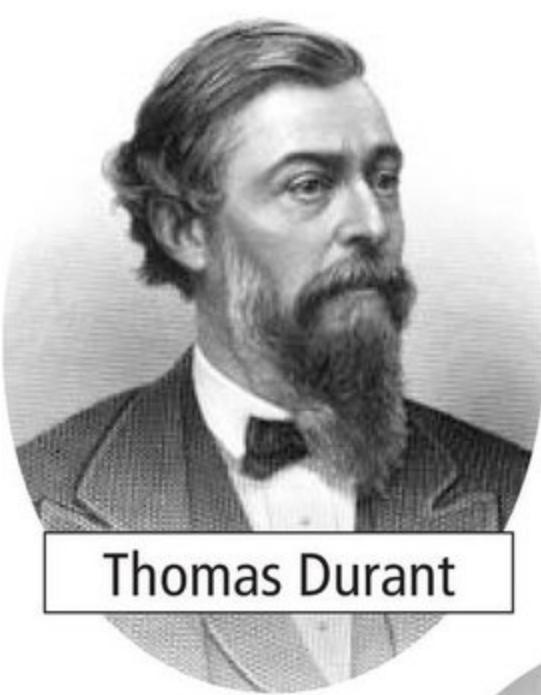
Civil War soldiers using railroad equipment

## The United States in 1862

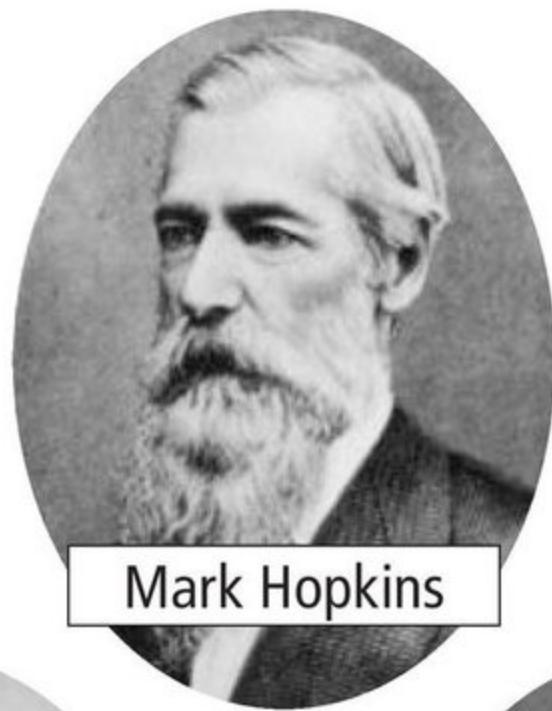


The vast area of non-state territory had no railroads, leaving California and Oregon unconnected to the rest of the United States.

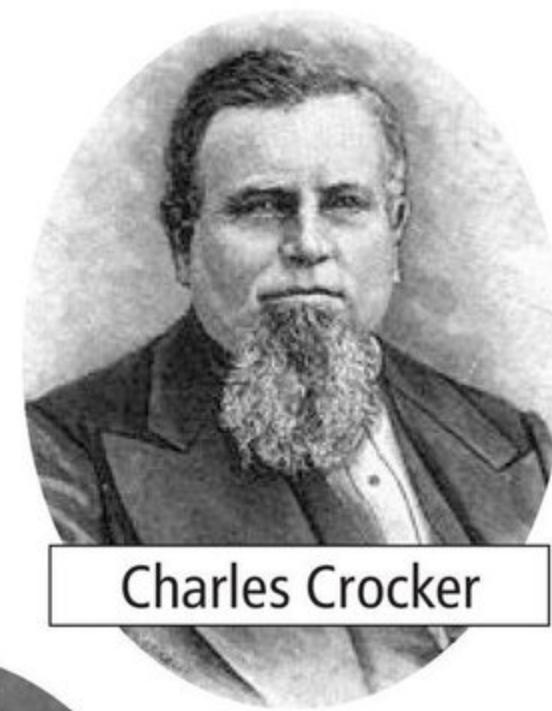
In July of 1862, Congress passed the Pacific Railroad Act, declaring that a transcontinental railroad and **telegraph** line must be built from the Missouri River to the Pacific Ocean. The act called for two companies to share the cost of building it. The Central Pacific Railroad would start laying track east from Sacramento, California, and the Union Pacific would work west from Omaha, Nebraska. The government would give both companies huge areas of land on either side of the track they built. They could sell this land to pay for the railroad. The act also called for the railroad and telegraph lines to be secured for government use for postal, military, and other uses as it deemed necessary.



Thomas Durant



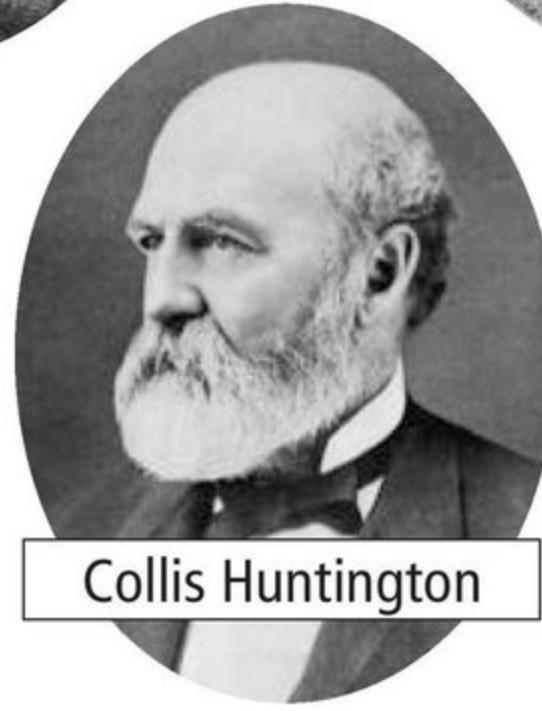
Mark Hopkins



Charles Crocker



Leland Stanford



Collis Huntington

The owners of the Union Pacific Railroad (Thomas Durant) and the Central Pacific Railroad (all others)

This two-company system cleverly ensured that the railroad would be built quickly because it set the two companies against each other in a race. The company that built the most track would get the most money. The Union Pacific was headed by Thomas Durant, a shrewd businessman who held a medical degree. The Central Pacific was owned by four gold-rush businessmen known as the “big four”: Mark Hopkins, Collis Huntington, Charles Crocker, and Leland Stanford, who was then the governor of California and later the founder of Stanford University. Immediately, these competitive men began the task. The Central Pacific started work in January 1863 just outside Sacramento, California.

## **Who Will Win the Race?**

The Civil War and financial trouble held back the Union Pacific Railroad for two years. The war was taking up all of the iron, gunpowder, and workers that the railroad needed for building track. But work got underway soon after the war ended in 1865. By 1866, it looked as though the Union Pacific would easily win the race. The crews of workers were quickly laying down the railroad across the Nebraska prairie west of Omaha.

First, surveying crews studied the land, making measurements and putting stakes in the ground to mark precisely where the track would go. Second, a crew of graders went out. They removed any trees and other vegetation, filled in any low spots, and dug away any high spots to make a flat, smooth track. In the level land of the plains, the graders often had little to do. Finally, the tracklayers came.



Surveyors carefully measure distance and elevation.



The men on the left are hauling a heavy iron rail.

Laying the track required several groups of workers. First, a team of men laid down wooden timbers called *ties* across the track. Next, other men dragged the heavy iron rails into place while gaugers ensured that the rails were the correct distance apart. Then, another group of men with heavy sledgehammers pounded in iron spikes and bolts that held the rails to the ties. Finally, a last group of men carried in wheelbarrows and wagonloads of sand and gravel, called *ballast*, to fill in around the new tracks. Using this system, the Union Pacific Railroad could lay 2 or 3 miles (3–5 km) of track in a single day.



A lunch break on the job

Right behind all of these crews, the very first train to cross the expanse rolled down the new track. This train was pulled by a steam-powered locomotive. The train carried all of the wood, rails, iron spikes, tools, and ballast the crews needed. It also had cars with sleeping areas, a kitchen and food, repair shops, and goods such as clothing. It was like a rolling town that built itself as it went.

The citizens of this working town were mostly **immigrants** from Ireland, Germany, and the Netherlands; Civil War **veterans**; and freed African American slaves. The newspapers **portrayed** the Union Pacific workers as tough, proud men who worked **diligently** all week and gambled on Sunday, their day off. They built the railroad across the plains with incredible speed, quickly reaching the Rocky Mountains.

But for another group of people, the advancing track was the beginning of the end of their way of life. The Native Americans of the Great Plains, including the Sioux, Arapaho, and Cheyenne, understandably did not like the railroad. The buffalo, which the Native Americans depended on for their entire existence, would not migrate across the tracks. Train passengers shot buffalo by the thousands just for sport, and within a few years the animals were almost totally gone. Without the buffalo, the Native Americans could not survive as they had.



Settlers slaughtered the buffalo and left them to rot.

The railroad also brought a flood of settlers to the plains. New and budding towns cropped up at every place the railroad crews rested. Some of the towns would fade away as soon as the railroad advanced along its path. Others would become important cities such as Reno, Nevada, and Albuquerque, New Mexico. Settlers began farming and building their homes on land that had always been occupied by Native Americans. They did not ask the Native Americans for permission or offer them payment. The trains also brought litter, noise, air pollution, and prairie fires caused by sparks from the wood- or coal-burning engines.

As the Union Pacific advanced across the West, Native Americans raided and looted the construction crews and then vanished before **pursuit** could be organized. They stole supplies and livestock, and even killed the workers. The Union Pacific demanded that the army protect the workers and the railroad. Soon, Generals Ulysses S. Grant and William Tecumseh Sherman ordered large numbers of soldiers to ride with surveyors, and they engaged in many skirmishes with the Native Americans. In time, the tribes of the plains, like the buffalo, had all but disappeared. The military could not guard all the miles of track, so railroad officials hired marksmen to protect some areas of track.



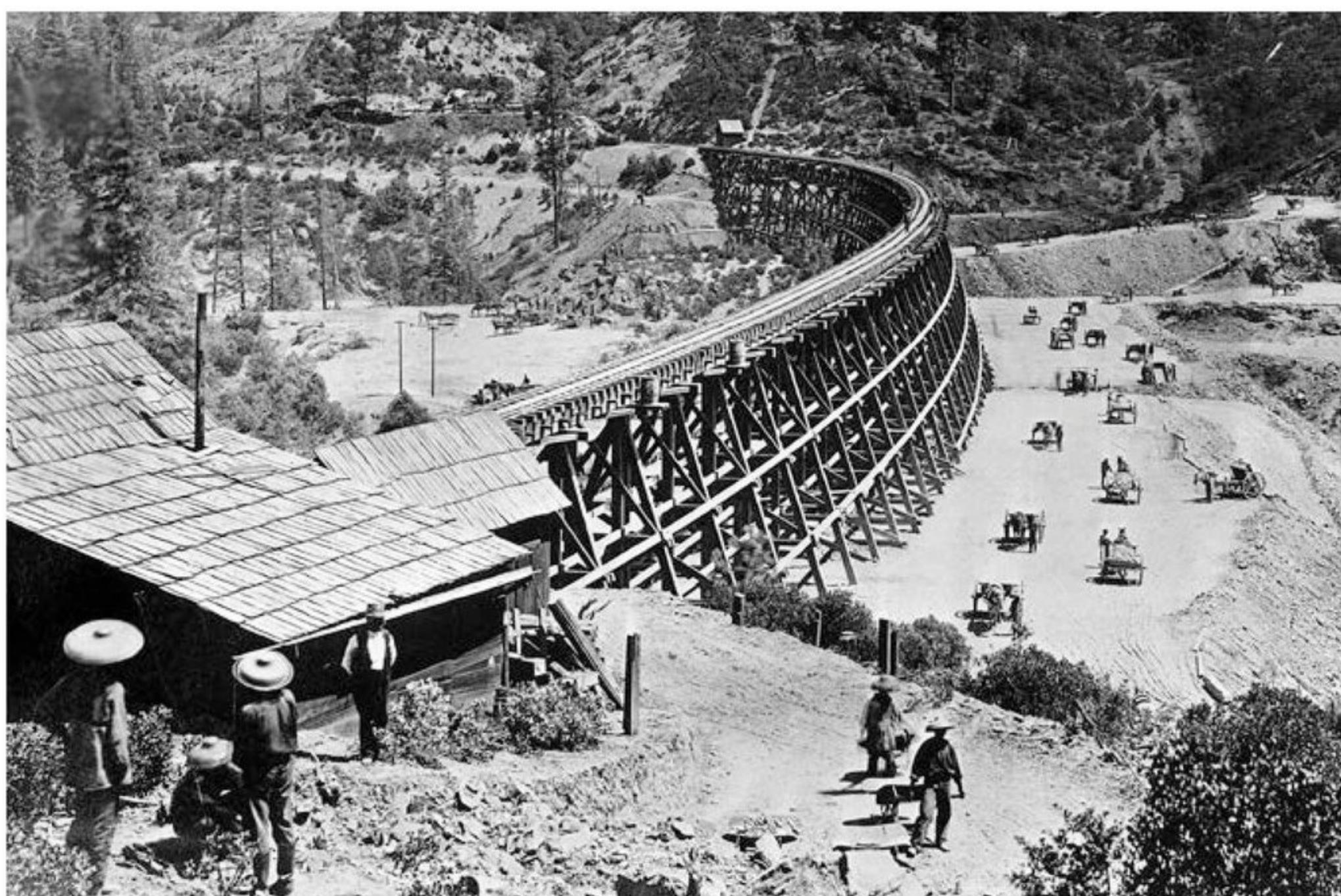
Workers had to build a railroad across these mountains.

## **Who Will Conquer the Mountains?**

Meanwhile, the Central Pacific was going agonizingly slowly. Right away, the company had to cut a track into the steep and snowy Sierra Nevada mountains. Their route went over the **infamous** Donner Pass, California, where a group of pioneers had starved horribly in 1846 when they were stranded in fierce winter snowstorms. Because trains at the time could not climb steep hills or go around sharp corners, the workers somehow had to make the jagged mountains into a smooth, gently rising trail.

The workers cut away the solid granite mountainsides and filled in gorges and ravines with rocks and soil, wheelbarrow by wheelbarrow. It was slow, painful work, and very few people wanted to do it. Most young men had come to California to try to strike gold. Almost all of the men hired by the Central Pacific Railroad quit within a week to seek their fortunes elsewhere.

Finally, the Central Pacific reluctantly hired a small group of Chinese workers. Many Chinese people had left their homeland due to poverty and overpopulation. Many were drawn to California in search of the *Jinshan* (jeen-shahn), or Mountain of Gold, just as the people



Chinese workers loading ballast to fill in under a track

of the Eastern United States were. There was an incredible amount of **discrimination** against Chinese people in California at the time. The railroad bosses thought that they were small and weak. The bosses were only convinced to hire them when someone pointed out that their ancestors had built the Great Wall of China. By 1868, Chinese workers would comprise at least 80 percent of the Central Pacific's workforce.

To get the railroad over the Sierra Nevada mountains, the Chinese workers had to cut fifteen tunnels through solid rock. They used only hand drills, sledgehammers, and loose gunpowder.



Loose gunpowder blasts away a section of mountain.



Chinese workers constructing a tunnel

Through the winter, a total of forty-four snowstorms buried the mountains. The workers built tunnels, sleeping areas, and workspaces under an average of 18 feet (5.5 m) of snow. Because these were only the grading crews, not the tracklayers, there was no track where trains could transport supplies to the work site. Everything had to be hauled up the side of the mountain by ox wagon or by hand.

The most famous accomplishment of the Chinese workers was to cut a track into the side of an enormous cliff they called Cape Horn.

Accounts of the feat say they used an old, but dangerous, technique that had been used in China. Workers wove reed baskets big enough to hold two men. They lowered workers in the baskets from the top of the cliff. The workers bored holes into the sides of the cliff, stuffed the holes with black powder, lit a fuse, and then shouted to the men above. The men at the top hauled up the baskets as fast as they could, hoping to pull everyone out of danger before the blast.

### **Do You Know?**

Why did the Chinese workers do so well? Part of the reason is that they stayed healthy while many other workers became sick. There were many things about Chinese culture that kept the workers in good health:

- They ate a low-fat, healthy diet with lots of fresh fruit and vegetables that they carried themselves. Many other workers ate a heavier, less healthy diet of meat, potatoes, cabbage, bread, and butter.
- They drank tea rather than water or beer. The hot tea kept them warm, and boiling the water killed harmful germs in the water supply.
- At the time, Chinese culture valued cleanliness and bathing much more than American culture did. The workers bathed often, which kept germs off their bodies.

But with these accomplishments came tragedy. Accidents crushed hands, feet, and even whole bodies. The cold weather froze many workers to death. Avalanches buried entire groups of men alive—some were not found until spring. One avalanche in Strong's Canyon wiped out an entire camp, including all the work crews and the buildings. Nobody at the Central Pacific Railroad kept track of how many Chinese **laborers** were killed while building the Transcontinental Railroad. It was probably hundreds.



The cold weather and snows were the cause of the most deaths.

Finally, in 1867, the track broke through the mountains, and the Central Pacific moved onto the deserts of Utah. On April 28, 1868, the Central Pacific crews set a record and built 10 miles (16 km) of track in one day. At the time, Charles Crocker said, ". . . it was like an army marching over the ground and leaving a track built behind them."

## **Where Will They Meet?**

The Union Pacific had a much easier time crossing the Rocky Mountains than the Central Pacific had crossing the Sierra Nevada. Following the old Oregon Trail route through Nebraska's Platte Valley, it took a gentle route called the South Pass and moved quickly onto the deserts of Utah. By 1869, the two companies were approaching each other. Their meeting place would be at Promontory Point, Utah, north of the Great Salt Lake—much to the dismay of the territory's former governor, Brigham Young, who wanted the route to go to the south through Salt Lake City.



The railroad near the Rocky Mountains

On May 10, 1869, workers, railroad owners, journalists, and politicians gathered at Promontory Point for the completion of the Transcontinental Railroad. The race was over—the Union Pacific had laid 1,086 miles (1,748 km) of track, and the Central Pacific had laid 689 miles (1,109 km), though the Central Pacific got extra money for building through the Sierra Nevada.



A special ceremony was held for the last spike.

To celebrate the completion of the first railroad to cross the United States, the heads of the two companies would drive the last four spikes into the track. Four spikes were made of gold and silver from mines in California, Nevada, and Arizona. These spikes had lengthy inscriptions and required a special hammer for a ceremonial “tapping” before the real spikes were driven into place. Workers from both companies dragged the last rails into place. Leland Stanford, head of the Central Pacific, and Thomas Durant, head of the Union Pacific, both took up sledgehammers. They carefully aimed—and missed! But the telegraph reporters sent out the signal anyway. The telegram was one word: “Done!” The Transcontinental Railroad was complete.

## The Route of the Transcontinental Railroad



## Conclusion

Suddenly, California was a few days of travel away from New York instead of months. Railroads soon stretched to Salt Lake City, Oregon Territory, and the Southwest. Towns sprang up along the track now that trains could bring passengers, supplies, and mail quickly and safely. The Union Pacific and the Central Pacific made millions of dollars because every railroad town had to purchase land from the railroad companies. The end of the Civil War had reunited the country from north to south. And for the first time, a transcontinental railroad united the country from east to west.

## **Glossary**

<b>diligently</b> ( <i>adv.</i> )	in a way that shows care, determination, or attention to detail (p. 11)
<b>discrimination</b> ( <i>n.</i> )	the unfair treatment of a person or group based on gender, race, age, religion, or other differences (p. 16)
<b>engineers</b> ( <i>n.</i> )	people who design, build, or repair machines, buildings, bridges, or other structures (p. 6)
<b>immigrants</b> ( <i>n.</i> )	people who come to live in a new country, especially for the purpose of settling there (p. 11)
<b>infamous</b> ( <i>adj.</i> )	famous for being evil, bad, or dangerous (p. 14)
<b>laborers</b> ( <i>n.</i> )	people who do physical work for payment (p. 19)
<b>portrayed</b> ( <i>v.</i> )	described or showed in a particular way (p. 11)
<b>pursuit</b> ( <i>n.</i> )	the act of following or seeking someone or something (p. 13)

<b>settlers</b> ( <i>n.</i> )	people who make a new, permanent home on a frontier (p. 5)
<b>telegraph</b> ( <i>n.</i> )	a communication system in which text messages are sent using simple electrical signals over wires (p. 7)
<b>treacherous</b> ( <i>adj.</i> )	dangerous or hazardous (p. 4)
<b>veterans</b> ( <i>n.</i> )	people who served in the armed forces (p. 11)

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# The Transcontinental Railroad

A *Reading A-Z Level Z2 Leveled Book*

Word Count: 2,403

## Connections

### Writing

Write a journal entry from the perspective of a Native American during the building of the Transcontinental Railroad. Discuss the impact of the railroad on your family and how you feel about it.

### Social Studies

Construct a timeline of the building of the Transcontinental Railroad. Include at least five events on your timeline.

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