

The Transcontinental Railroad: Creating Context and Opening Spaces for Creating Original Artwork Across Disciplines that Supports Curriculum Integration

Preface

The following sketch of curricular notions is intended to move forward ideas that could inform the design and subsequent implementation of a thematic unit presenting expansive content, integrated curriculum structures, research possibilities, innovative pedagogy, and authentic student tasks—with arts-rich components.

Utah Core Standards

Using the Utah Core Standards validates the placement of a thematic unit that explores myriad aspects of the Transcontinental Railway and what was happening in America after the Civil War.

From the Social Studies Core Standards for fifth grade, we read the following:

In the fifth grade, students will enlarge the study of history, government, economics, and geography as they study the United States. There is neither an intention nor a possibility of successful “coverage” of all of United States history and geography or all of the social, economic, and political movements that have helped create the story of America. Rather, students should “discover” and “uncover” this story, with attention to the overarching concepts of global interconnectedness, the processes of continuity and change over time, the rights and responsibilities we all share, and the systems of power, authority, and governance we create. Primary source documents and literature that recounts the stories of exemplary character and life skills will help students understand their own place in the continuing saga of America.

The fifth-grade core is presented in a chronological framework, separated into eras similar to the organizing framework of the National Standards for History. Under the rubric of these interconnected eras, students will be able to explore each era’s essential ideas and events. The eras are: Exploration and Colonization, Beginnings of Self-Government, the Constitution and Bill of Rights, the Expansive 19th Century, and The United States on the World Stage. By framing the history of the

United States within comprehensible sections, students will be supported in their own cognitive development.

The eras selected underscore that while there is much more content in studying the United States than can be covered in a year, there are essential aspects students should learn. As students develop a basic understanding of key events and the basic chronology of United States history, the nation’s geography, and its economic history, they will be building a foundation that will serve them well in the years to come.

Thematic Frame

The unit focuses on the *creation of the Transcontinental Railroad* with contextual information that touches the social, political, economic, and cultural realities of mid-19th-century America.

Guiding Questions

1. What “facts” buttress our notions of the development of the Transcontinental Railroad?
2. What do these facts tell us about our history—and ourselves?

Initial Activity

Students are asked to study the following photograph and then write three or four questions that the photograph raises for them. Another activity could be to ask students to list three or four details that they can point to in the photograph (i.e., their perceptions, which will be revisited later in the unit).

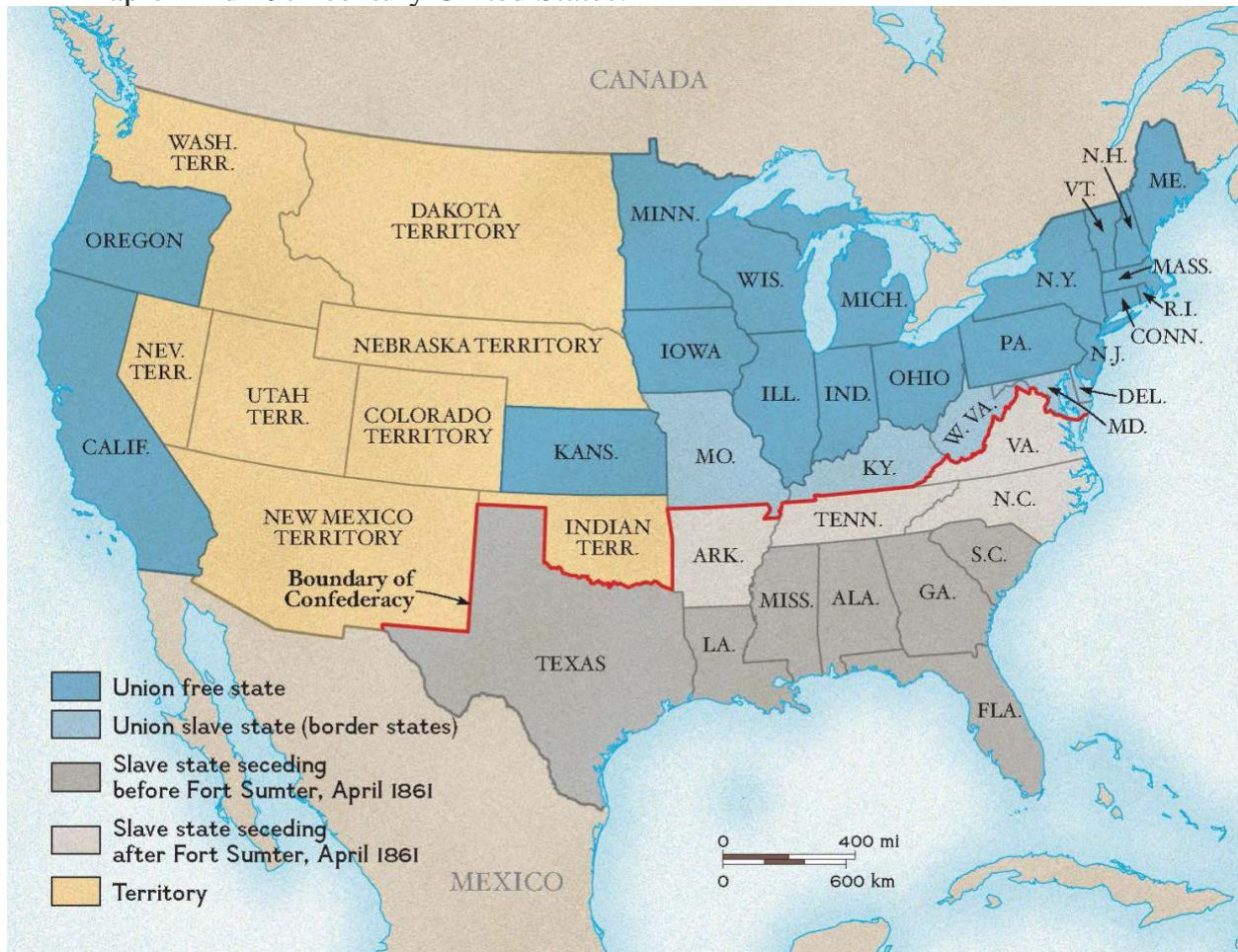


Additional photographs of the Golden Spike Ceremony can be found at <https://www.nps.gov/media/photo/gallery.htm?id=7BCBFDAA-EAB3-49E9-95CD-5EE93DE24796> and <https://www.gilderlehrman.org/content/official-photograph-golden-spike-ceremony-1869>.

A number of websites and films are available to provide visual material to complement and supplement text information:

- BBC's *Seven Wonders of the Industrial World*, episode four, "Transcontinental Railway" available through Amazon Prime ImDB for c. \$50
- PBS's episode five of *New Perspectives on the American West*, and Ken Burns's *The West*, available for c. \$60
- Central Pacific Railroad Photographic History (Museum <http://cpr.org/Museum/FAQs.html>)
- "Internet resources on the American West" (compiled by PBS)
- The National Park Service for original source material: nps.gov

Map of mid-19th-century United States:



Additional interactive maps can be found at <https://utah.pbslearningmedia.org/subjects/3026/4489/4760>.

Choosing the Route

Federally funded surveys were conducted in the 1850s, but their usefulness was sketchy at best. However, the rationale for building the railway was clear: gold and other precious metals had been discovered in California, Nevada, Utah, and Wyoming. There was also an abundance of land. Additionally, it took five to six months to travel from America's east coast to west coast and cost over \$1,000.

Task: Explore the ways in which land became a commodity that destroyed the livelihood of Native Americans.

Task: Research the current value of \$1,000 in 1860s currency.

Three proposals for the railway surfaced in the late 1850s:

- A northern route roughly along the Missouri River through present-day northern Montana to the Oregon Territory: This was considered impractical due to the rough terrain and extensive winter snows.
- A central route following the Platte River in Nebraska through to the South Pass in Wyoming, following most of the Oregon Trail: Snow on this route remained a concern.
- A southern route across Texas, New Mexico Territory, and the Sonora Desert, ultimately connecting to Los Angeles: Surveyors found that the best route lay south of the border between the United States and Mexico.

Task: Research the final decision regarding route selection, as well as the economic rationale for the decision. This could include material on the role of the Civil War in selecting the middle route (e.g., slave states clearly wanted a southern route).

The Final Route

The decision was to situate the route from Sacramento, California, to Council Bluffs, Nebraska (near Omaha), with the final link at Promontory Summit, near Ogden, Utah, emerging as the interchange point between the Central Pacific and Union Pacific Railroads.

The Central Pacific crew had the formidable task of laying the track across California's Sierra Nevada mountain range, blasting 15 tunnels to cover 1,776 miles—ultimately 690 track miles—with 4,814 feet of new track. The Union Pacific crew needed to lay track—c. 1,086 track miles from Omaha to the meeting point somewhere in Utah Territory.

Economic Considerations

In 1862, during some of the bloodiest battles of the Civil War, Congress hastily passed the Pacific Railroad Act. This act led to the creation of the Union Pacific, which would lay rails west from Omaha, and the Central Pacific, which would start in Sacramento and build east. Since congressmen wanted the road built quickly, they made two key decisions. First, they gave each line 20 alternate sections of land for each mile of track completed. Second, they gave loans: \$16,000 for each mile of track of flat prairie land, \$32,000 per mile of hilly terrain, and \$48,000 per mile in the mountains.

The UP and CP, then, would compete for government generosity, and the line that built the most miles would get the most cash and land. The railroad would be financed by selling this land. Consequentially, since building quickly brought in more cash than building efficiently did, the two lines spent little time choosing routes; they just laid track and cashed in. Burton Folsom, in *The Myth of the Robber Barons*, separates entrepreneurs of this period into two groups: the political entrepreneurs and the market entrepreneurs. The former tried to be successful in business through federal aid, pools, vote buying, and stock speculation. The latter tried to create and market a superior product at a low cost.

The political entrepreneurs usually were the classic robber barons, as in the case of the Union Pacific and Central Pacific Railroads.

The subsidies affected the UP builders' strategy in the following ways. They moved west from Omaha in 1865 along the Platte River. Because they were being paid by the mile, they sometimes built winding roads to collect for more mileage. For construction they used cheap and lightweight iron rails. Vice-president and manager Thomas Durant stressed speed, not workmanship. Also, since trees were scarce on the plains, Durant and his chief engineer, Grenville Dodge, had barely enough wood to make railroad ties, 2,300 of which were needed to finish each mile of track. Sometimes they shipped in wood; other times they used the fragile cottonwood found in the Platte River Valley. Often, though, they solved their problem by passing it on to others. The UP simply paid good wages to tie-cutters and daily bonuses for ties received. Thus, crowds of tie-cutters invaded Nebraska to cut trees wherever they could find them and deliver freshly cut ties right up to the UP line. The UP leaders conveniently argued that, since most of Nebraska was "unsurveyed," farmers in the way were therefore squatters and held no right to any trees on this "public land." Some farmers used rifles to defend their land. Following this violence, even Durant discovered "that it was not good policy to take all the timber."

In the Utah Territory, the railroad once again diverted from the main emigrant trails to cross the Wasatch Mountains via the rugged Echo Canyon (in Summit County, Utah) and the Weber River Canyon. To speed up construction as much as possible, both the Union Pacific and Central Pacific, orchestrated by Brigham Young, contracted with several thousand Mormon workers to cut beds for the tracks, fill low areas, build trestle bridges, and blast and tunnel in advance of the railroad construction crews.

The fact that coal deposits had been discovered in Utah Territory played a significant role in determining the final route.

Task: Direct students to the histories of Coalville, Utah, and Kemmerer, Wyoming. A group task could engage students in trying to find current residents of Coalville whose ancestors may have played a role in the origins of the city, and craft an oral history based on their family memories.

Building the Workforce

An article in Baltimore's *Niles' Weekly Register* dated July 22, 1822, entitled "Irish Immigrants Wanted," portrayed the attitude of the Americans towards the Irish. The Americans felt that they were saving the Irish from the horrible living conditions in Ireland at the time. By immigrating to the United States, the Irish would be able to obtain permanent relief, via their labor on the prairies and in the West, constructing the expanding railroads. Although unspecified, it is thought that around 6,000 emigrants would be required each year.

Task: Engage students in gathering stories on immigration (e.g., newspapers, magazines, and digital platforms) and developing theses regarding the differences in how immigration was treated across centuries.

An article from the NJ AOH Division 1 website says the following:

The labor required was extensive. Besides the main laborers who laid the track, an entire network of support, including cooks, medical staff, and supply managers, [was] needed. Irish immigrants were the primary early builders of the Central Pacific Railroad, which ran west to east from Sacramento, California. Irish workers were paid \$35 a month, and [were provided with] a living space (a tent). They also received company-provided boiled beef and potatoes and drink of both water and alcohol. Dysentery was a major concern, and [there was] the threat of avalanches in the mountains [which] would kill workers living in tents instantly. Many workers found this unsuitable and simply walked off the job. This resulted in the Central Pacific hiring Chinese workers to replace them.

In the east, the Union Pacific Railroad began construction in Omaha, Nebraska, and headed west. By 1866, the Union Pacific had managed to import Irishmen from among the thousands of demobilized soldiers living in the teeming cities on the east coast and eager for work. The men were paid according to responsibility. Teamsters and graders were paid the least and ironworkers the most. Like their counterparts [in] the Central Pacific, they received a staple diet of beef, bread, and coffee.

Personal hygiene was all but unheard of, and waterborne illness such as dysentery was often a serious concern. Conditions were squalid. One member of the crews remembered, “To tell the truth, we all had the cooties.” Another major concern [was] raids by Native Americans who were not pleased with the railroad’s construction, and would often attack and scalp the workers.



In the early days, there was little to keep the men entertained but liquor. As the railroad progressed westward the phenomenon called “hell on wheels” followed. Small towns rose up along the line, where purveyors of vice found a captive audience. (NJ AOH Division 1, 2016)

For more information about the Irish workers, visit <http://njaohdiv1.org/irish-history/irish-railroad-workers/>.

Irish ironworkers:



The Chinese laborers proved to be tireless workers, and some 14,000 were toiling under brutal working conditions in the Sierra Nevada by early 1867. The workforce of the Union Pacific was originally comprised mainly of Irish immigrants

and Civil War veterans who needed work. To blast through the mountains, the Central Pacific built huge wooden trestles on the western slopes and used gunpowder and nitroglycerine to blast tunnels through the granite.

Contemporaneous reports indicate that few of the Chinese workers learned English. Thus, a translator was necessary. Chinese were paid less than white workers and were relegated to laborer roles. The following entry suggests the prevalent racism the Chinese workers faced:

Can you get me a good boy? He wants \$8 a month? He ought to be satisfied with \$6. . . . Come at 7 every morning. Go home at 8 every night. Light the fire. Sweep the rooms. Wash the clothes. Wash the windows. Sweep the stairs. Trim the lamps. I want to cut his wages.



When the Chinese threatened to strike for higher wages, supervisors withheld their food, effectively breaking the strike.

Interestingly, in 1868, the United States Senate approved a treaty permitting unrestricted immigration from China.

Native Americans

The Union Pacific company suffered bloody attacks on its workers by Native Americans—including members of the Sioux, Arapaho, and Cheyenne tribes—who were

understandably threatened by the progress of the white man and his “iron horse” across their native lands. Still, the Union Pacific moved relatively quickly across the plains, compared to the slow progress of their rival company through the Sierra Nevada. Ramshackle settlements popped up wherever the railroad went, turning into hotbeds of drinking, gambling, prostitution, and violence, and producing the enduring mythology of the “wild west.”

Many of the railroad's builders viewed the Plains Indians as obstacles to be removed. General William Tecumseh Sherman wrote in 1867, “The more we can kill this year, the less will have to be killed the next year, for the more I see of these Indians, the more convinced I am that they all have to be killed or be maintained as a species of paupers.” Sherman also saw another avenue: “Kill the buffalo and you kill the Indian.”

Sherman knew that as long as the Sioux hunted buffalo, they’d never surrender to life with a plow. In a letter to Sheridan, dated May 10, 1868, Sherman wrote that as long as buffalo roamed those parts of Nebraska, “Indians will go there. I think it would be wise to invite all the sportsmen of England and America there this fall for a grand buffalo hunt and make one grand sweep of them all.”

Task: Explore the question of land ownership—by whites and by tribes. And, although technically established a decade after the completion of the Transcontinental Railroad, the role of the Carlisle Schools and the subsequent passage of the Dawes Act are critically important in helping define the institutionalized racism in America.

Task: Exploring current policies that separate children from their parents would make for a powerful extension of this unit.

The following oral history account about the Shoshone and the railroad was related by Patty Timbimboo-Madsen, Northwestern Shoshone cultural and education specialist, and passed on to us by BYU’s Brenda Beyal:

After the Bear River Massacre in 1863, the Shoshone were wary of the white man, especially his intentions. The Shoshone observed from a distance the building of the railroad. They were fascinated by the little men with long single braids working feverishly like ants. The workers moved fast and quick and rarely stopped to rest. The Shoshone knew the men were not white; they called them “yellow.” A story is told about one of these Chinese men who was hurt while working and was “released” because of his injury. He didn’t get paid because he could no longer work. The Shoshone took him in and helped him heal. He stayed with the Shoshone for a bit and then left. The man said he had been working to make money to return back to his home and family. Home, they assumed, was across the waters. The Northwestern Shoshone were herbalists. They were hunters and gatherers who knew the land well. They knew the seasons of plants and were very familiar with the

medicinal value of them. When help was given to the railroad men, it was done discreetly to avoid any incidences. Maybe that's why you don't hear too much about the Indians during this time. 1863 changed a lot of things.

For more info about the Bear River Massacre, see <http://bearriverheritage.com/item/bear-river-massacre-site/>.

The Carlisle Schools

The Carlisle Indian Industrial School was founded in 1879 by US Army officer Richard Henry Pratt in Indiana. Pratt said in a speech in 1892, "A great general has said that the only good Indian is a dead one. In a sense, I agree with the sentiment, but only in this: that all the Indian there is in the race should be dead. Kill the Indian in him and save the man." Pratt professed "assimilation through total immersion."

Carlisle and its curriculum became the model for the [Bureau of Indian Affairs](#); by 1902, there were 25 federally funded non-reservation schools in 15 states and territories, with a total enrollment of over 6,000 students. Federal legislation required Native American children to be educated according to Anglo-American settler-colonial standards. Parents had to authorize their children's attendance at boarding schools, and if they refused, officials could use coercion to gain a quota of students from any given reservation.

As the model of boarding schools was adopted more widely by the US government, many Native American children were separated from their families and tribes when they were sent—or sometimes taken—to boarding schools far from their home reservations. These schools ranged from those similar to the federal [Carlisle Indian Industrial School](#), which became a model for [BIA](#)-run schools, to the many schools sponsored by religious denominations.



Students at [Carlisle Indian Industrial School](#), Pennsylvania (c. 1900).

Dawes Act of 1887

The Dawes Act was approved on February 8, 1887. The act represented a shift in federal Native American policy from ethnic cleansing to force adherence to European constructions of citizenship and land-ownership.

Interesting Historical Figures

Task: Abraham Lincoln—Students research background information on the similarities between Lincoln’s role in supporting the Transcontinental Railway and his commitment to end slavery.

Task: Brigham Young—Students research Young’s role in supporting the railway and the role of the Mormon Trail in the path of the railway. Their task is to conduct a panel discussion on the ways in which Brigham Young and Mormons contributed to the railway.

The Mythic Challenge

One day the Union Pacific broke all records by laying six miles of track. The Central Pacific’s Charles Crocker and his Chinese "pets" were invited to match that. They beat it by a mile. Then the Union Pacific came back with seven and a half miles, working from three in the morning until almost midnight. But the Central Pacific was not to be beaten.

On May 10, 1869, the golden spike (also known as “The Last Spike”), a ceremonial 17.6-karat gold final spike was set in by Leland Stanford, cofounder of the Central Pacific Railroad. (Note the resonance to Stanford University?) The spike joined the tracks of the First Transcontinental Railroad across the United States at Promontory Summit, Utah Territory.

Task: The golden spike was quickly removed after the ceremony. Where is it currently on display? And why is it there?

Using the Above Content and Context across Arts Disciplines

Music

Engage students in learning, contextualizing, and performing a selection of train songs.

Source material and recordings are available from Folkways and the Smithsonian:

<https://folkways.si.edu/classic-railroad-songs-from-folkways/american-folk/music/album/smithsonian>

CD: \$11.98

Download: \$9.99

One of the iconic songs in the American canon is “I’ve Been Workin’ on the Railroad.” The “Someone’s in the kitchen with Dinah” section, with its noticeably different melody, is actually an older song that has been absorbed by “I’ve Been Working on the Railroad.” It was published as “Old Joe, or Somebody in the House with Dinah” in London in the 1830s or ‘40s, with music credited to J.H. Cave. “Dinah” was a generic name for an enslaved African woman. The melody for this section of the song may have been adapted from “Goodnight Ladies,” written as “Farewell Ladies” in 1847 by E. P. Christy.

Task: Create and perform a musical showcase of American train songs that includes contextual information on the songs for audiences—as narration or as projections, or both.

Task: Why, when, and by whom the two songs of “I’ve Been Workin’ on the Railroad” were merged is a question that could be researched and subsequently inform the material presented at the performance.

Visual Arts

Engage students in studying the work of the Hudson River School/ Rocky Mountain School of Painting (artists, oeuvre, etc.).

Supplemental resources can be found at
<https://learninglab.si.edu/collections/rocky-mountain-school-of-art/hynU2Gd7ky3X4NHp>

https://ids.si.edu/ids/deliveryService?id=CHSDM-21731_02-000004&max_w=1600

Task: Engage students in studying “romantic nationalism,” which could carry them in many provocative political directions.



Albert Bierstadt's *Storm in the Rocky Mountains*, 1866.

Task: Using pencil, charcoal, or pastels, create two to three sketches of the Transcontinental Railroad using archival photographs of tracks and telegraph poles that often ran alongside railroad ties. Emphasis can be on creating sketches that use different horizon lines and approaches to vanishing points.

Supplemental material on perspective can be found at
<https://www.youtube.com/watch?v=bjhkxFDvD78>.

Film

Using the model of documentary filmmaking popularized by Ken Burns, engage students in developing original documentaries.

For an extensive archive of photos to launch this project, see <http://cpr.org/Museum/index.html>cpr.org, particularly the “Photographic History Museum.”

Task: Develop an original documentary that tells a piece of the story of the Transcontinental Railroad—researching, selecting which story to tell, organizing materials, storyboarding, filming, adding sound, editing, and designing a venue to present the documentary.

Creative Writing

Engage students in crafting an authentic first-person narrative.

Task: Research historical figures who played roles in the Transcontinental Railroad, and create a first-person narrative—based on fact, but ultimately an original creation—which tells a human piece of story of the Transcontinental Railroad.

Theatre

Engage students as playwrights using classic play structure.

Task: Knit several of the above first-person narratives together; develop an inciting incident, rising action, climax, and denouement.

Dance

Engage students in developing a performance that illustrates the changing landscape in America’s evolution away from British cultural influence.

Task: Develop a performance piece based on the theme of “From Waltz to Two-Step,” using both ballroom dance forms and contemporary dance ideas that use information above to evoke—metaphorically—a changing America.