

Open Up the Textbook (OUT)

Virginia City and the Comstock Lode

Enlarge

Complicate

Contest

Vivify

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8th Grade US History

In this OUT analysis, 8th grade students will study the Comstock Lode in order to better understand the challenges and difficulties involved in mining in Virginia City. This OUT analysis provides students with documents that are meant to deliberately vivify the textbook.

This strategy is implemented most effectively when students collaborate to analyze the texts in small, heterogeneous groups. The texts that accompany the textbook are complex and often include difficult vocabulary and syntax. (For a few words that are likely unknown to students and unidentifiable based upon context clues, helpful synonyms are provided in the footnotes.) Students should first annotate each text and then collaborate to answer the text dependent and specific questions that follow. Questions will highlight sourcing and perspective of the author, close reading of key details from the document that enlarge, complicate, contest, or vivify the textbook, as well as questions that help students corroborate (or not) the accuracy of individual documents. The writing task that follows is an independent activity wherein students will employ evidence from multiple sources to justify their analysis, synthesis, and evaluation.

Source A: The Textbook – *United States History*, William Deverell and Deborah Gray White, page 587.

“Most precious metals were located in western Nevada. In 1859 miner Henry Comstock discovered a huge deposit of gold and silver in Nevada that became called the Comstock Lode. The deposit was incredibly rich and deep. In just the first year after its discovery, the Comstock Lode lured thousands of California miners to Nevada. Over the next 20 years, the Comstock Lode produced more than \$500 million worth of gold and silver.”

Source A - Questions for Consideration

1. How is the deposit of metal ore described in the textbook account of the Comstock Lode?
2. According to the textbook account, who responded to the discovery? How did they respond?
3. The text explains that the deposit was “incredibly rich and deep.” Did this inhibit or motivate miners to move to Nevada. Use evidence from the text to support your answer.

Source B: – *Comstock Lode*, Jerome Edwards, 3 May 2011. Excerpted from Online Nevada Encyclopedia. www.Onlinenevada.org

The Comstock Lode is one of the most important discoveries in American history, in output and in significance. It was the first major silver discovery in United States history: of the ore taken out from the district, best estimates are that 57 percent was silver, yet it was a considerable gold camp, given that the remaining 42 percent was of that metal. Certainly it is the most dramatic event in Nevada's nineteenth century history, and, without it, Nevada could not have attained statehood when it did....

In total, we are told that the official amount taken out of the Comstock was \$305,779,612.48. But the vast majority of the companies did not prove profitable for the owners. Stockholders received dividends of \$115,871,100, but out of 103 mining companies reporting, only fourteen were responsible for this payout. Against that, 102 companies assessed \$61,715,535 from shareholders, leaving a net of only \$54,155,565 remaining to stockholders. Of the 103 companies, only six ever paid more dividends than they demanded in assessments, and ninety-seven never paid a dividend at all.

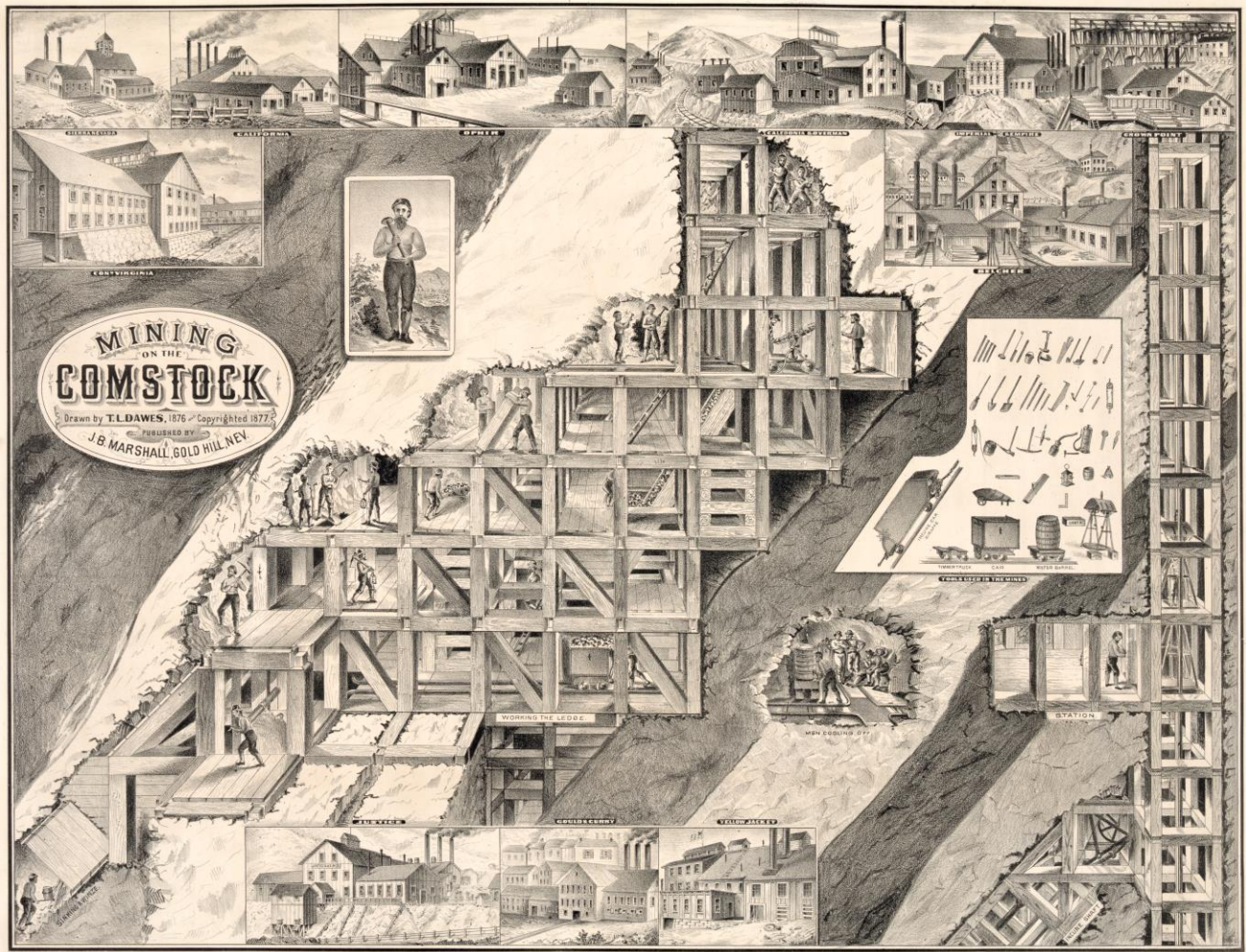
Against those overall statistics, the hugeness of the Big Bonanza stands out. From 1873 to 1882, two of the Bonanza Group's adjacent mines produced \$105,168,859 worth of ore, of which the four owners received \$74,250,000 in dividends. Simply put, only a small portion of the fabulous Virginia City mines was ever particularly profitable....

Another way individuals could become rich (or poor) from the Comstock was through the stock market, where the San Francisco exchange listed the leading stocks. The stocks, to put it mildly, were quite volatile. The Belcher mine illustrates the stock gyrations: a share of Belcher, which listed for \$430 in April 1868, had soared to \$1,525 in April 1872. By September 1878, the same share was a nearly worthless \$2. In 1876, the Comstock's total stock valuation was worth more than the total assessed value of the City of San Francisco, which had over a quarter million people. A few years later the stock was worthless. Certainly one of the Comstock's distinguishing characteristics is that it illustrates the spottiness of the American dream and the variations between rich and poor in nineteenth-century Nevada.

Source B - Questions for Consideration

1. What is the source of this text? What kind of source is it?
2. The author claims "The Comstock Lode is one of the most important discoveries in American history." Cite several pieces of evidence that support his claim.
3. Although the Comstock Lode was very lucrative, the second paragraph describes several examples of how it only benefitted a few groups. What is the difference between a dividend and an assessment?
4. Approximately what percentage of the mines paid more in dividends than they assessed?
5. What could have caused the Belcher mine stock to fluctuate so wildly?
6. If so many of the mines did not pay a dividend and stock prices fluctuated widely, why did so many people want to invest in mining stocks at the Comstock Lode?

Source C: – Lithograph showing various scenes of the Comstock Lode, T.L. Dawes, 1877.



Note – The bodies of silver ore in the Comstock Lode were larger than those seen in most underground mines. The mines developed “Square Set Timbering” to scaffold the large areas that were being excavated underground. These timbers were approximately 12 inches by 12 inches and about 6 feet long. They were then set up in a way that could be continually added to as the excavated space got bigger. The quantity of lumber needed was huge, much of it coming from the Lake Tahoe basin.

Source C - Questions for Consideration

1. List at least 10 details you notice in this lithograph.
2. Describe at least 5 different scenes that are depicted in the illustration.
3. How was square set timbering advantageous to underground mining in Virginia City?
4. Use evidence from the text to describe the environmental impact of square set timber mining.

Source D: *The Big Bonanza*, Dan De Quille, 1876, page 125

No premature explosion of blasts, crushing in of timbers, caving of earth and rock – no accident of any kind is so much feared or is more terrible than a great fire in a large mine. It is a hell, and often a hell that contains living, moving, breathing, and suffering human beings – not the ethereal and intangible souls of men. It is a region of fire and flame from which the modes of egress are few and perilous. A great fire on the surface of the earth is a grand and fearful spectacle, but a great fire hundreds of feet beneath the surface of the earth is terrible – terrible beyond measure or the power of words to express, when we know that far down underneath the ground, which lies so calmly on all sides, giving forth no sound, are scores of human beings pursued by flames and gases, scorched and panting, fleeing into all manner of nooks and corners, there to meet their death.

A large mine in which are employed from five hundred to one thousand men is of itself a considerable village, though it be a village far below the light of day. In it are more timbers, lumber, and other combustible matter than is found in a town of two thousand inhabitants. It contains millions on millions of square feet of timber; in it whole forests have found a tomb....

The mines of the Comstock have not escapes fires. They have not been many, but they have been fearful experiences and have cost many lives.

Source D - Questions for Consideration

1. Is this a primary or secondary source? How do you know?

2. What is the author's primary claim in this piece of text?
3. Besides fire, what other types of accidents happen in mines?
4. Why is fire the worst type of accident in a mine? Cite several phrases from the text that illustrate this claim.
5. When a fire occurs in a mine, what are the human and environment costs?

Source E: *Virginia City and the Silver Region of the Comstock Lode*, Douglas McDonald, 1982, page 104

Water was always a severe problem on the Comstock, for two completely different reasons. As soon as Virginia City and Gold Hill began to grow in 1859, it was found that there was never a sufficient supply of potable water for homes and businesses. However, it was also found that the deeper the mines were sunk, the more hot, highly mineralized water flooded into the lower levels. The Comstock had not enough water on the one hand, and entirely too much on the other....

There simply was not enough good water in the area of the Comstock to handle the increasing demand. A scheme to bring water from the Sierra Nevada Mountains west of Washoe Valley had been proposed as early as 1864, but it had been discarded by engineers as being impractical. However, after the Bonanza Firm of Mackay, Fair, Flood, and O'Brien bought control of the water company in 1869, they brought in Hermann Schussler to figure out a way to accomplish the task...

The water system, completed in 1873, began at Marlette Lake at an altitude of 7,838 feet, from where a wooden flume 4 ½ miles long carried water to the head of the pipe... The fall from the pipe's inlet to the lowest point of the line at the south end of Washoe Valley was 1,887 vertical feet... This pressure caused the water to be forced up the pipe to the east where it emptied into Five Mile Reservoir... Including the 5.6 miles of wooden flume from the reservoir to the water tank, the entire system was 21.3 miles long, with specially-built pipe covering seven of those miles.

It was an engineering wonder – another Comstock first...

The foul water in the mines presented an equally-difficult challenge. Huge quantities of hot water, recorded as high as 157°, had been encountered underground giving Comstock miners their nickname of “Hot Water Plugs.”...

Pumps were the only answer, but conventional equipment soon proved insufficient. The Cousin Jacks from Cornwall, who were the most expert in deep mining, had already experienced similar conditions in their deep copper mines and had devised a huge pump to combat this problem. By the early 1870’s these Cornish Pumps were in use on the Comstock, but in a size and capacity never seen in Cornwall.

An example of a typical pump is one used in the Yellow Jacket mine, which had a vertical shaft more than 3,000 feet deep. The pump had two fly wheels weighing 125 tons, a wooden pump rod 16 by 16 inches and 3,055 feet long, and when in operation raised more than a million gallons of water daily. Similar pumps were installed in other mines, with the Union shaft putting the last in operation in 1879.

Note – The fresh water system from Marlette Lake to Virginia City uses no pumps or power to transport the water.

Source E - Questions for Consideration

1. Is this a primary or secondary source? How do you know?
2. The author claims that, “The Comstock had not enough water on the one hand, and entirely too much on the other....” Using evidence from the text, explain what he means by this.
3. In the first paragraph, the author uses the phrase “potable water.” Reread the first paragraph and write a definition for the word potable.
4. The flume system engineered by Herman Schlusser was considered an engineering wonder. What information in the text supports this claim?
5. How is the water that collected in the bottom of the mines described in the text?
6. One could argue that the Cornish Pump system was also an engineering wonder. Find and list several pieces of evidence from the text that support this claim.

Writing Task

This is an informational writing task based on NVACS standards, CCSS Writing Standard W.8.2b. Students will demonstrate their understanding of the texts as well as the ways in which the textbook was vivified.

What were some of the dangers and difficulties of mining at the Comstock Lode, and how were they overcome?

- Answer the above question in approximately one page using evidence from at least four of the texts provided.
- Write a clear thesis for informational and provide 3 pieces of evidence to support your idea. After each piece of evidence cited in a direct quote or paraphrase (your own words), please add the source letter in parentheses, for example (Source B).
- For each piece of evidence, clearly reason (explain) why this piece of evidence helps support your thesis. Underline your reasoning. Reasoning can be in the same sentence or the evidence or come before or after the sentence that includes the evidence.
- Choose 3 of the important vocabulary terms from the box below to include in your writing. Add at least two context clues for each term to demonstrate your understanding. Circle your context clues for each term.

Dividend

Assessment

Ore

Square Set Timbering

Egress

Ethereal

Flume

Flywheel

Foul Water