



Coal Oil Johnny: Oil Resources in Northwest Pennsylvania: Then and Now Economics Lesson Plan



Lesson Focus:

In 1859, in search of a cheaper, more efficient fuel for generating light, Colonel Edwin Drake drilled the first successful oil well and by the end of that year, oil wells popped up throughout the Oil Region. These early wells produced almost 5,000 barrels in 1859. In 1860, oil wells in northwestern Pennsylvania increased production to several hundred thousand barrels, and by 1862 production skyrocketed, reaching three million barrels. The Oil boom had begun, and fortunes would soon be made.

With Drake's success, Titusville, Pennsylvania boomed. The year Drake drilled his first oil well, Titusville only had approximately 250 residents. However, by 1865 the population had increased to close to 10,000. Nearby Pithole City, now a ghost town, had over fifty hotels during the oil boom's peak in the mid-1860s. The Titusville Herald even proclaimed Pithole as having "probably the most productive wells in the oil region of Pennsylvania." Unfortunately, the oil boom was short-lived as competition between drilling companies and excess production lowered oil prices and depleted the field. Companies went elsewhere almost as quickly as they had appeared. While Titusville and Pithole City boomed and busted, the oil industry itself continued to grow due to the demand for oil as a lubricant for engines and other machines, a source for heat, and as a refined fuel for motorized vehicles.

John Washington Steele, more commonly known as "Coal Oil Johnny", inherited the 200-acre Culbertson McClintock farm along Oil Creek in 1864 at the age of 20. The farm had twenty oil wells that yielded almost \$3,000 in royalties daily at the time. In addition to the farm, Steele also inherited \$24,500 in cash. Coal Oil Johnny was a moniker coined by journalists and referred to his custom carriage painted with black oil derricks sprouting dollar symbols that Steele rode through the streets of Philadelphia. According to the New York Times, "In his day, Steele was the greatest spender the world had ever known. He threw away \$3,000,000 in less than a year." Steele wrote in his autobiography, "I spent my money foolishly, recklessly, wickedly, gave it away without excuse; threw dollars to street urchins to see them scramble; tipped waiters with five and ten dollar bills; was intoxicated most of the time, and kept the crowd surrounding me usually in the same condition." The life of extravagance and loss of a fortune in such a short amount of time made the story of Coal Oil Johnny a cautionary tale of the oil era and has kept people interested in his rags to riches to rags story for more than a century.

This lesson focuses on the economic impact of the oil industry in Pennsylvania in the late 19th century and how it compares to its impact in the 21st century,

Lesson Synopsis:

Pennsylvania's rich history in the oil industry began with the world's first commercial oil well, Drake's Well, drilled in Titusville, Pennsylvania in 1859. Following the success of Drake's Well, Western Pennsylvania became the site of the world's first oil boom. The oil industry began here and has remained continuously active in the state for more than 150 years. In recent years, growing energy demand has resulted in increased oil and gas prices, which in turn, has reinvigorated the search for production around the world, including in Pennsylvania. While an oversupply between 2015

- 2020 led to a decline in prices, in 2021 prices have again begun to rise. Pennsylvania ranks twenty-first in the amount of oil reserves in the United States. Therefore, oil production is concentrated in this part of the state.

In this lesson, students will travel back in time to the Pennsylvania Oil Boom in the late 1800s. Here they will investigate John Washington Steele's connection to the oil industry and how he came to be known as Coal Oil Johnny. In addition, students will use primary source documents such as photographs and maps to gain an understanding of what Titusville was like during the oil boom, specifically the economic impact of the oil industry on the region. Students will then investigate the present-day oil and gas industry, again with a focus on the economic impact the contemporary oil and gas industry has on Northwest Pennsylvania.

Grade Level:

Grades 7 - 12

Time Requirement:

Two 80 minute class periods

Essential Understandings:

- In 1859, Edwin Drake drilled the first successful oil well in Titusville, Pennsylvania.
- After Col. Edwin Drake's success, an influx of oil prospectors, business tycoons, and laborers swarmed the area.
- Coal Oil Johnny's name has become synonymous with lucking into a tremendous fortune and then frittering it all away.
- The successful oil wells in Northwest Pennsylvania made many common people rich beyond their wildest dreams, at least for a short period of time.
- After only a few decades, the boom ended and while the first U.S. oil region continued to play a part in the oil industry, it was at a much smaller scale.
- Coal Oil Johnny became a larger-than-life character, with journalists often embellishing the details of his life for decades after Steele had squandered most of his fortune.
- Former Pennsylvania-based companies such as Quaker State and Pennzoil earned reputations as powerhouse companies for the high paraffin content found in their Appalachian-based crude oil.
- Pennsylvania is currently the second largest producer of dry natural gas and the fifteenth largest for oil production.
- Businesses ranging from small family operations to multinational corporations drill for and produce crude oil and natural gas in about half of Pennsylvania's counties, with most coming from McKean, Warren, Forest, and Venango counties in northwest Pennsylvania.

Objectives:

Students will:

- Observe and identify relevant details within visual images, allowing for an interpretation of past events.
 - View and discuss photographs/images of the Pennsylvania Oil Boom in the Titusville, PA region.
 - Compare/contrast historical topics/periods using visual images and text.
 - Establish a purpose for reading.
 - Collect, analyze, and interpret data
 - Conduct research based on focused questions, demonstrating understanding of the subject under investigation.
 - Gather relevant information from multiple primary and secondary sources.
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Anticipated Outcomes:

Students will be able to:

- Demonstrate the ability to interpret historical events/time periods by identifying details/evidence in visual images and text.
 - Critically read and summarize historical texts.
 - Use evidence from the text to show understanding of historical events/time periods.
 - Appropriately integrate information from multiple primary and secondary sources into a visual presentation of information and data.
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Content Standards:

PA History Standards

- 8.1A** Evaluate patterns of continuity and rates of change over time, applying context to events.
- 8.1B** Evaluate the interpretation of historical events and sources, considering the use of fact versus opinion, multiple perspectives, and cause and effect relationships.
- 8.1C** Analyze, synthesize, and integrate historical data, creating a product that supports and appropriately illustrates inferences and conclusions drawn from research.
- 8.3A** Evaluate the role groups and individuals from the U.S. play in the social, political, cultural, and economic development of the world.
- 8.3B** Evaluate the impact of historical documents, artifacts, and places in U.S. history that are critical to world history.
- 8.3C** Evaluate how continuity and change in U.S. history are interrelated with the world.

PA Geography Standards

- 7.1A** Use geographic tools to analyze information about the interaction between people, places, and the environment.
- 7.1B** Assess how physical changes to a region may have a global impact.
- 7.2A** Analyze the physical characteristics of places and regions including the interrelationships among the components of Earth's physical systems.

PA Economics Standards:

- 6.1B** Evaluate the economic reasoning behind a choice. In addition, evaluate the effective allocation of resources for the production of goods and services.
- 6.1D** Predict how changes in incentives may affect the choices made by individuals, businesses, communities, and nations.
- 6.2A** Evaluate the flow of goods and services in an international economy.
- 6.2B** Analyze the effect of changes in the level of competition in different markets.
- 6.5B** Evaluate how changes in education, incentives, technology, and capital investment alter productivity.

PA Civics and Government Standards:

- 5.2B** Examine the causes of conflicts in society and evaluate techniques to address these conflicts.

Pennsylvania Core Reading Standards for History:

Reading Informational Texts

- 8.5A** Cite specific textual evidence to support analysis of primary and secondary sources, connecting insights gained from specific details to an understanding of the text as a whole.
- 8.5B** Determine the central ideas or information of a primary or secondary source; provide an accurate summary that makes clear the relationships among the key details and ideas.

- 8.5G** Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, as well as in words) in order to address a question or solve a problem.
- 8.5I** Integrate information from diverse sources, both primary and secondary, into a coherent understanding of an idea or event, noting discrepancies among sources.

Writing in the Social Studies

- 8.6C** Produce clear and coherent writing in which the development, organization, and style are appropriate to the task, purpose, and audience.
- 8.6E** Use technology, including the Internet, to produce, publish and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
- 8.6 F** Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.

Lesson Activities:

Introductory Activity:

- Option one: Inquiry
 - Think, Pair, Share - Working with the March 2020 Pennsylvania Capital Star article, “Where we are, where we’ve been: A look at Pennsylvania’s oil-rich history, by Cassie Miller, partner groups will use a graphic organizer to summarize Pennsylvania’s oil history.
<https://www.penncapital-star.com/paforward/where-we-are-where-weve-been-a-look-at-pennsylvanias-oil-rich-history/>
(See Appendix A for samples of graphic organizers)

- Option two: Visual images of the Pennsylvania Oil Boom
 - Examining and interpreting visual sources is a critical skill in history. It is not always an easy process as visual images are often difficult to understand due to unfamiliar people, events, and/or symbols. In addition, the meaning of things included in the image might have changed over time. It takes time and practice to become proficient in successfully analyzing visual images. The following video is a great reference for understanding what visual literacy is and why it is important. The first half of the video is a classroom demonstration of analyzing a photograph in a social studies classroom. <https://www.youtube.com/watch?v=xF2amnCwuHA>
 - According to a 2016 article by Joshua Sterling in The Titusville Herald, the history of Titusville’s oil boom is a well-documented one, with many surviving photographs from the 1860s - 1900s that show the rise and fall of Edwin Drake’s discovery of oil. Through historical photographs taken primarily by photographers John Mather and J.C. Macurdy, we can look back at the time where trees were replaced by oil derricks on the hillsides, men chasing wealth descended on the area, communities were erected virtually overnight, and fires and floods destroyed lives and livelihoods.
 - Thanks to a project by the New York Public Library’s Digital Collections Department, many of Mather’s and Macurdy’s photographs can be viewed free of charge at:
<https://digitalcollections.nypl.org/search/index?utf8=%E2%9C%93&keywords=titusville#>
 - Another excellent resource on John Mather’s photography and the Pennsylvania oil boom is Brian Black’s article, “Recasting the Unalterable Order of Nature: Photography and the First Oil Boom”. This article

also has several of Mather's photographs depicting the oil boom.

<https://journals.psu.edu/phj/article/view/25385/25154>

- To analyze John Mather's and J.C. Macurdy's photographs found in the NYC Public Library Digital Collection, partner groups will complete an E-S-P (Economic, Social, Political) Chart.
https://library.mtsu.edu/ld.php?content_id=43508530
 - Using John Mather's, J.C. Macurdy's, and possibly others' photographs found in the NYC Public Library Digital Collection, partner groups will complete a tour of the Pennsylvania Oil Boom Era by "jumping in" to the photos.
 - Ask students to carefully view one or several of the photographs and complete the following:
Questions to ask while looking at a photo:
 - What do you already know about the photo?
 - Photographer?
 - Location?
 - Date?
 - Look at the entire photograph
 - What is the subject matter? (Portrait, building, event, etc.)
 - What is happening in the photo?
 - Look at individual parts of the photograph:
 - What is in the foreground? The background?
 - Where is your eye drawn first? What less-obvious things do you notice?
 - Examine people, objects, signage, setting, time, etc...
 - Why was the photograph taken and who is the audience?
 - For a documentary or journalism purpose?
 - For sale (as a postcard, poster, etc.)?
 - To advertise something?
 - As an artistic expression?
 - What decisions did the photographer make when taking this picture?
 - Why did they take the photo at that exact moment? What happened right before the photo was taken? Right after?
 - Why did the photographer make the choices he/she did (perspective, focus, angles, etc.)?
 - Was the photo edited, cropped, or colorized? What did that change?
 - Give an inventory of what you see in the photograph.
 - What do you see in the photograph that is similar to what you would see today?
 - What do you see in the photograph that is different from what you would see today?
 - What questions do you have after viewing the photograph(s)?
 - In a whole-class discussion, discuss student responses.

Activity One: Oil Makes a Comeback

- Students will read the following articles/editorials:
 - 2015 New York Times article, "Oil Makes a Comeback in Pennsylvania" by Robert Strauss.
<https://www.nytimes.com/2015/04/23/business/energy-environment/oil-makes-a-comeback-in-pennsylvania.html>

- 2021 Philadelphia Inquirer editorial, “Fracking Puts PA at an Energy Crossroads. It’s Time to Make a Choice.”
<https://www.inquirer.com/opinion/editorials/fracking-pennsylvania-marcellus-shale-rggi-wolf-natural-gas-20210221.html>
- Using a t-chart or other similar graphic organizer, students will compare the Pennsylvania oil industry during Pennsylvania’s oil boom of the late 19th century and the oil industry in Pennsylvania today. To create their chart, students should use the information from the New York Times article and Philadelphia Inquirer editorial, as well as information gathered in the introductory activity.

Activity Two: Economic impact of the oil industry in Pennsylvania then and now

- Divide students into groups of 3 - 4.
- Provide student groups with some resources about the life of John Washington Steele, better known as Coal Oil Johnny, as well as Pennsylvania’s oil and gas industry in the 21st century.
 - John Washington Steele, *Coal Oil Johnny: His Book*
https://openlibrary.org/books/OL7205126M/Coal_oil_Johnny
 - The Jasper Weekly Courier, “Coal Oil Johnny, King of the Spendthrifts” (Article on Page 3)
<https://newspapers.library.in.gov/?a=d&d=JWC19060126.1.3&e=-----en-20--1--txt-txIN----->
 - The Butte Inter Mountain (newspaper), “Coal Oil Johnny - His Book”
https://chroniclingamerica.loc.gov/data/batches/mthi_goldeneye_ver01/data/sn83025294/00212476882/1902070501/0628.pdf
 - Brennen French, “Coal Oil Johnny”
<http://nwpaheritage.org/items/show/28>
 - Pennsylvania Independent Oil and Gas Association, “PA Oil and Gas”
<https://pioga.org/education/pa-oil-and-gas/>
 - The American Petroleum Institute, “New Analysis: Pennsylvania-Made Natural Gas and Oil Drives U.S. Economic Recovery, Strengthens All Industries”
<https://www.api.org/news-policy-and-issues/news/2021/07/21/pa-pwc-2021>
 - Econsult Solutions report, “The Local Economic Impact of the Conventional Oil and Gas Industry in Western Pennsylvania”
<http://www.senatorscotthutchinson.com/wp-content/uploads/sites/11/2017/05/Local-Economic-Impact-of-Conventional-Oil-and-Gas-Industry-in-Wester.pdf>
- Using a Cornell Notes template, student groups will read and take notes on the provided resources, as well as additional independently researched resources,
 - Cornell notes templates: https://templatelab.com/cornell-notes/#google_vignette

Activity Three: Creating Infographics

- Students, either working independently or in their small groups, will use the information they have gathered in this lesson, from photographs and texts, to create a series of infographics comparing the Pennsylvania oil industry at the time of the late 19th-century oil boom and the 21st-century oil and gas industry. A minimum of three infographics will be created: one on the 19th-century Pennsylvania oil boom, one on the 21st-century Pennsylvania oil and gas industry, and one comparing the two time periods.

- A sample infographic can be found at:
<https://www.api.org/-/media/Files/Policy/American-Energy/PwC/API-PWC-PA.pdf?la=en&hash=E4B76F75DBDB7BAA03A6C29C0B4C28BBA1CE3246>
- Canva (<https://www.canva.com/infographics/templates/>) and Picktochart (<https://piktochart.com/formats/infographics/>) both offer free infographic templates.

Lesson Extension: Students can research careers in the Pennsylvania oil and gas industry during the 19th and early-20th centuries and in the 21st-century. Using the information gathered, students can complete a Venn Diagram or Infographic showing career opportunities that existed in each time period, as well as those that are new careers due to advancements in technology and changes in the industry. In addition, students can choose one of the careers to investigate more in depth.

- Careers in Oil and Gas: https://pioga.org/publication_file/PIOGA_Employment_Opportunities_2019.pdf

Resources:

Lesson Resources

Black, Brian. "Recasting the Unalterable Order of Nature: Photography and the First Oil Boom." *Pennsylvania History*, vol. 64, no. 2, 1997, pp. 275–99, journals.psu.edu/phi/article/view/25385/25154.

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[.pioga.org/education/pa-oil-and-gas](http://pioga.org/education/pa-oil-and-gas).

Steele, John Washington. *Coal Oil Johnny: Story Of His Career As Told By Himself*. New York, Hill Publishing Company, 1902.

Sterling, Joshua. “Incredible historic photos of region included in massive online collection.” *Titusville Herald*. 18 Jan. 2016
https://www.titusvilleherald.com/arts_and_entertainment/article_88c6953a-bb43-11e5-ae0c-e7b9941d09c8.html

Strauss, Robert. “Oil Makes a Comeback in Pennsylvania.” *The New York Times*, 22 Apr. 2015,
www.nytimes.com/2015/04/23/business/energy-environment/oil-makes-a-comeback-in-pennsylvania.html.

“The Importance of Visual Literacy in Today’s Classrooms.” *YouTube*, uploaded by Tribe TV, 26 Aug. 2016,
www.youtube.com/watch?v=xF2amnCwuHA.

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<https://www.eia.gov/energyexplained/natural-gas/where-our-natural-gas-comes-from.php>

Note Taking Resources

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APPENDIX A

Source:		
People:		Setting:
	Conflict/Problem:	
Major Events:		Resolutions:

Evidence/Interpretation Chart

<p>Evidence I read in the article... (You must include at least 10 items on you about in the article)</p> <p>NOTE: This evidence will be part of your notes for this section.</p>	<p>Interpretation I wondered, I made a connection, I thought...</p> <p>** Ask at least three questions, make at least three connections, and include at least five insights.</p> <p>NOTE: An insight statement is a discovery of understanding that helps to explain why something is happening the way it is. It is being able to see and understand a situation clearly or gaining a new perspective. Think of it as an "aha" moment.</p>

- Additional examples of graphic organizers can be found on the Action Potential Learning website:
<https://www.aplearning.com/education-resources/item/reading-comprehension-graphic-organizer-tool-so-meone-then-character-summary.html>

Lesson plan developed for the Oil Region Alliance for Business, Industry, and Tourism by Sara Jones, Social Studies teacher at Titusville High School in Titusville, PA. 2021. sjones@gorockets.org

Oil Region Alliance for Business, Industry, and Tourism, 217 Elm Street, Oil City, PA 16301. <https://oilregion.org>



The mission of the Oil Region Alliance of Business, Industry & Tourism is to manage the Oil Region National Heritage Area and to increase the prosperity of the Oil Region by enticing all people to live, work, learn and play in “the Valley that Changed the World” through the preservation, promotion, development, and support of historical, educational, natural, recreational, residential, commercial and industrial destinations.

The Oil Region Alliance manages the Oil Region National Heritage Area, which is also a Pennsylvania Heritage Area. The Area encompasses Venango County and the City of Titusville, Borough of Hydetown, and Oil Creek Township of Crawford County. More information is available at OilRegion.org.

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