



Boomland

The Oil and Gas Industry

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Grade Level	10th – 12th Grade	Time Frame	2-3 class period(s)
Subject	Social Studies	Duration	135 minutes
Course	Economics, Oklahoma History		

Essential Question

How are people, communities, and companies affected by the oil and gas industry? What is fracking, and is it beneficial, harmful, or both?

Summary

In conjunction with their peers and teacher, students will investigate the money trail associated with the "booms and busts" of the oil and gas industry. They will uncover evidence of how the "booms and busts" affect the typical person and the economy.

Snapshot

Engage

Students engage in a Think-Pair-Share activity to consider who benefits most from the oil and gas industry and then analyze a fact sheet about everyday uses of oil and gas products.

Explore

Students examine the costs associated with fracking, and they determine where the revenue goes and whether there are benefits for the town, the workers, and/or the company.

Explain

Students explain their findings to the class using Agreement Circles.

Extend

Students use the Jigsaw strategy to analyze an article about the oil and gas industry, and they develop research questions in order to further investigate the industry.

Evaluate

Students create an infographic showing a breakdown of the dispersal of money.

Standards

Oklahoma Academic Standards (Social Studies: Oklahoma History (9th through 12th grade))

OKH.6.2: Analyze the impact of economic growth in various sectors including:

OKH.6.2F: oil and gas boom and bust, including the discovery of new fossil fuel resources

Attachments

- [3-2-1-Boomland - Spanish.docx](#)
- [3-2-1-Boomland - Spanish.pdf](#)
- [3-2-1-Boomland.docx](#)
- [3-2-1-Boomland.pdf](#)
- [Lesson-Slides-Boomland.pptx](#)

Materials

- Lesson Slides (attached)
- 3-2-1 handout (attached, one per student)
- Oil and Gas Fact Sheets (linked in the Engage section)
- "Top 6 Oil-Producing States" article (linked in the Extend section)
- Calculators
- Pens and pencils
- Student devices with Internet access

20 minutes

Engage

Use the attached **Lesson Slides** to follow along with the lesson. Display **slides 2 and 3**. Introduce students to the essential questions and learning objectives.

Proceed to **slide 4**. Pose the following question to the class: *"Who do you think benefits most from the oil and gas industry?"*

Engage students in a [Think-Pair-Share](#) activity to respond to this question.

1. Ask students to THINK about the question for one minute.
2. Ask students to form a PAIR with their neighbor to discuss the question.
3. Ask several students to SHARE their thoughts with the whole class.

Teacher's Note: Fact Sheet Prep

Before the following activity, decide in advance whether you will ask students to use their own electronic devices to access the fact sheet or print a copy for each student.

Display **slide 5**. Pass out a copy of the attached **3-2-1** handout to each student, and introduce students to the [3-2-1](#) strategy. Have students read the following fact sheet about the everyday uses of oil and gas, using the 3-2-1 strategy to complete the handout: [COGA: Everyday Products and Uses](#).

45 minutes

Explore

Teacher's Note: Fracking—What's That?

If students are not familiar with hydraulic fracturing (fracking), display **slide 6**, and show the video "[What is Fracking?](#)" by How Stuff Works to prepare them for the next activity.

Embedded video

<https://www.youtube.com/watch?v=lo8o2nTXhb0>

After ensuring that students have a basic understanding of the fracking process, display the following questions on **slides 7 and 8**:

- What costs are associated with fracking? How much does the average well cost? What are some of the outside costs?
- How much revenue, on average, does a well produce? How does this compare to costs?
- How much oil or natural gas is produced using this process? How does this compare to the amount of water used in the fracking process?
- Where does the revenue go? What proportion goes to the company? CEO? The town? The lessee?
- Who is affected by the industry? Who benefits? Who is harmed?
- How much money goes to the company? How much does an average oil field worker make in comparison to the CEO of an oil company?

Arrange students into groups of 4-5. Give the groups time to use the internet or resources in your school's library to research the answers to these questions. Ask the groups to create a Google Doc where they can take notes about the answers they find as they research online. Google Docs can also be used to share findings and to pose more questions based on findings.

Teacher's Note: More Questions?

As students are researching the questions presented, they might inquire about other issues concerning the oil and gas industry. Jot down these questions, and have students research them if you feel they are worth exploring. In addition, feel free to extend this section if you feel students need more time to explore. This could take the remainder of a class period, and you could potentially have students continue their research the following day. Make sure to scaffold as needed for the class, as some students might need more guidance than others. You could also consider posing questions one or two at a time to ensure that all questions get equal time and attention.

25 minutes

Explain

After students have finished exploring, invite students to share what they have uncovered. Introduce students to the [Agreement Circles](#) strategy, which will enable them to share what they have found through their research with the next activity.

Display slides **9 and 10**.

1. Have students form one large circle.
2. Choose a student to share one thing they found during their research. Give the other students 5-10 seconds to decide whether they agree or disagree. For example, a student might share that no one is really harmed in the fracking process.
3. Ask students to move to the center of the circle if they agree with the statement or stay on the outside if they disagree.
4. Organize students into small groups. Maintain the proportion of agreement to disagreement as much as possible. For example, if 12 students agreed with the statement and 18 disagreed, organize groups of five that include two students who agreed and three who disagreed.
5. Give groups a few minutes to discuss and defend their opinions.
6. Call time, read the statement again, and have students reposition themselves in the Agreement Circle according to their current opinions.
7. Note any changes; then repeat the exercise by calling on another student to share a finding.

90 minutes

Extend

Display **slide 11**. Organize students into groups of 4-5. Introduce students to the jigsaw strategy, and have each group read and [jigsaw](#) the following article from Investopedia: "[Top 6 Oil-Producing States](#)." After group members have taken a few minutes to read the article, assign them to work together to generate questions about how the economies of these states have been affected both positively and negatively by the oil and gas industry.

Teacher's Note: Reading Through A Lens

Challenge students to read this article through the lens of a mathematician or an economist. Encourage them to look for numbers, quantities, estimations, indicators of growth or decline, and rates of change.

After groups have had sufficient time to read and analyze the article, solicit questions from the whole class. Write them on the board or add them to a class Google Doc.

Teacher's Note: So Many Questions

Students may have many questions that they want to ask. If this is the case, limit them to the top five or top ten (depending on the amount of time you want to allot). You could also consider using the [Airplane Landing](#) strategy so that groups present their questions in an orderly and democratic fashion. Use discretion to ensure that questions are relevant and on point.

Have the groups conduct another round of research to investigate these questions and collect answers. Again, ask groups to record their answers using Google Docs.

45 minutes

Evaluate

Teacher's Note: Activity Prep and Technology Integration

The next activity invites students to create infographics. Consider previewing [Piktochart](#) and other digital creation tools ahead of time. This way, you can give students digital options with which to create their infographics. You will also be able to answer questions students may have related to these tools.

Display **slide 12**. Have each group create an infographic to represent the questions they have explored and their answers visually. Ask them to create the graphic on paper or to use a digital tool you previewed (such as [Piktochart](#)). Ask the students to incorporate mathematics into their visual representations and use graphs to represent the proportional reasoning that they uncovered in the Explore and Extend activities.

Resources

- BrainStuff - HowStuffWorks. (2015, January 29). What is fracking? [Video]. YouTube.
<https://www.youtube.com/watch?v=lo8o2nTXhb0>
- Colorado Oil & Gas Association. (2019, June 13). COGA fact sheet: Everyday products & uses.
<https://www.coga.org/factsheets/everyday-products-uses>
- K20 Center. (2020, September 16). 3-2-1. Strategies. <https://learn.k20center.ou.edu/strategy/117>
- K20 Center. (2020, September 16). Agreement circles. Strategies.
<https://learn.k20center.ou.edu/strategy/157>
- K20 Center. (2020, September 16). Airplane landing. Strategies.
<https://learn.k20center.ou.edu/strategy/78>
- K20 Center. (2020, September 16). Jigsaw. Strategies. <https://learn.k20center.ou.edu/strategy/179>
- K20 Center. (2020, September 16). Think-pair-share. Strategies.
<https://learn.k20center.ou.edu/strategy/139>
- Williams, W. (2022, August 1). Top 6 oil-producing states. Investopedia.
<https://www.investopedia.com/financial-edge/0511/top-6-oil-producing-states.aspx>