

## Fracking: Lesson Plan

Topic	
<p>Hydraulic fracturing, best known as fracking, is a technique where a liquid mixture of water, chemicals, and sand is injected at high pressure into rocks, such as shale. This causes cracks to form in the rocks, releasing gas and oil to the surface where they can then be collected. The process is known to have adverse effects on the water supply and quality, air quality, and more.</p>	
Possible subjects/classes	Time needed
Environmental Studies, Public Policy/Civics, Government, US History	30-45 min
Video link:	
<a href="https://academy4sc.org/video/the-fracking-debate-digging-up-trouble/">https://academy4sc.org/video/the-fracking-debate-digging-up-trouble/</a>	
Objective: <i>What will students know/be able to do at the end of class?</i>	
<p>Students will be able to...</p> <ul style="list-style-type: none"> <li>• Explain the general process of fracking.</li> <li>• List some of the growing concerns surrounding the practice.</li> </ul>	
Key Concepts & Vocabulary	
Fossil fuel industry, horizontal drilling	
Materials Needed	
Worksheet, Student Internet Access, Poster-making materials	
Before you watch	
<p><b>Turn &amp; Talk:</b> How are crude oil and natural gases collected? What do you think are the impacts of such collection methods on the environment?</p>	
While you watch	

Complete the *While You Watch* section of the Worksheet.

#### After you watch/discussion questions

1. Do you think fracking should be more heavily regulated or outlawed? Why?
2. Why do you think current fracking regulations are so lacking despite the harm fracking has helped cause?
3. What are some alternatives to fracking? How do you think they compare against fracking?

#### Activity Ideas

- **Research It!:** Have students get into groups of three or four and then research different fracking laws. Teachers can either have groups look into different fracking laws at the global or state levels depending on the instructor's preference. look into different fracking laws that exist. Some state examples are Pennsylvania, Texas, Oklahoma, Ohio, New York, and Maryland. Some nations with different fracking laws are Canada, the US, the UK, Ireland, Scotland, and Germany. Assign each group one state or nation and have them investigate its fracking regulations. Afterward, have groups share their research findings with the class.
- **Poster PSA:** Have students work with a partner to make a poster informing voters about the dangers of fracking. Posters should list three specific negative effects of fracking and one concrete action their audience can take to help remedy the situation.
- **Journal Entry:** What's one stricter regulation you think needs to be implemented if a government is to allow fracking to occur? Have students independently write a short one to two page reflection on the prompt. Students should provide strong reasoning and evidence to support their claim.

#### Sources/places to learn more

1. CNBC, "Should The U.S. Ban Fracking?" Jan 5, 2020, [www.youtube.com/watch?v=Y-OMydfBGvk](http://www.youtube.com/watch?v=Y-OMydfBGvk).
2. Denchak, Melissa. "Fracking 101." Natural Resources Defense Council (NRDC), April 19, 2019, [www.nrdc.org/stories/fracking-101](http://www.nrdc.org/stories/fracking-101).
3. Goldman, Matt and Mike Byhoff. "How Fracking Became America's Money Pit." Bloomberg Quicktake, Jul 2, 2020, [www.youtube.com/watch?v=jFWHxZpF9rc](http://www.youtube.com/watch?v=jFWHxZpF9rc).



4. PSAC, "All About Fracking." Petroleum Services Association of Canada (PSAC), [oilandgasinfo.ca](http://oilandgasinfo.ca).
5. USGS, "Hydraulic Fracturing." United States Geological Survey (USGS), [www.usgs.gov/mission-areas/water-resources/science/hydraulic-fracturing?qt-science\\_center\\_objects=0#qt-science\\_center\\_objects](http://www.usgs.gov/mission-areas/water-resources/science/hydraulic-fracturing?qt-science_center_objects=0#qt-science_center_objects).