



George P. Mitchell | Lesson Plan

How do innovations in energy production shape the economy, influence environmental sustainability, and impact society's future?

Students will understand how George P. Mitchell's innovations in hydraulic fracturing (fracking) revolutionized natural gas production, fostering energy independence in the United States, and how his business practices balanced innovation with environmental sustainability.

Learning Objectives:

- Identify key life events of George P. Mitchell.
- Explain how Mitchell pioneered the process of fracking and its impact on the natural gas industry.
- Analyze Mitchell's role in promoting energy independence and his contributions to environmental sustainability.
- Evaluate Mitchell's business practices and his efforts to use wealth for philanthropic purposes.

Key Vocabulary:

- **Fracking:** A process of extracting natural gas or oil by injecting liquid into the ground at high pressure.
- **Shale:** A type of sedimentary rock that can hold oil or natural gas, often extracted through fracking.
- **Natural Gas:** A fossil fuel used for heating, electricity, and as an energy source for appliances.
- **Entrepreneur:** A person who starts a business, often involving risk and innovation.
- **Sustainability:** Practices that support long-term ecological balance by avoiding depletion of natural resources.

Educational Standards: CCRA.R.7, CCRA.W.2, CCRA.W.9, CCRA.L.1, CCRA.L.2, CCRA.L.4, CCRA.SL.2

Academic Subject Areas: Biography, Investors, Historical Figures

What You'll Need

- Video: *Guess or Mess: George P. Mitchell* (Watch [Here](#))
- Worksheet: *Guess or Mess: George P. Mitchell* (Click [Here](#))
- PragerU Kids *Builders of America* biographical book: *George P. Mitchell* (Download [Here](#))
- Large paper or poster board for each group, along with markers



Lesson Plan: Read and Complete (60 minutes)

Introduction to George P. Mitchell (5 minutes):

1. Begin with a brief discussion about entrepreneurs who helped shape America's economy. Ask students if they can name any business leaders who changed how people traveled or conducted business.
2. Display the *George P. Mitchell* digital book using an electronic device. Briefly introduce Mitchell's role in developing the fracking technique and its impact on energy production. Show images from the digital book to provide a visual overview of his life and contributions.

Mitchell's Journey: Group Activity (25 minutes):

1. As a class, read the "Meet George P. Mitchell" section on page 1 of the digital book. The teacher should lead the reading to model fluent reading and set the tone for the lesson.
2. Divide the class into small groups and assign each group a different section of the digital book to explore:
 - Group 1: Young George, College Student (page 2)
 - Group 2: Early Career, Entering the Gas Industry (page 3)
 - Group 3: Mitchell the Boss, Gas Tycoon (page 4)
 - Group 4: Mitchell's Dilemma, Early Fracking (page 5)
 - Group 5: Mitchell's Solution, Facts About Fracking (page 6)
 - Group 6: A World Transformed, The Mitchell's Give Back (page 7)
 - Group 7: Later Life, Fascinating Facts (page 8)
3. Allow time for each group to take turns reading their section aloud and to discuss key points.
4. Provide large paper or poster boards and markers. Each group should write down key facts, ideas, and quotes they find.
5. Allow each group 1-2 minutes to present their findings to the class, followed by a brief discussion to ensure that the class understands the points covered.

Worksheet Workshop (15 minutes):

1. Distribute individual worksheets to students and explain how to complete them.
 - **Timeline:** Plot key dates and events from the digital book. Some suggestions:
 - 1919: Birth of George P. Mitchell
 - 1950s: Enters the natural gas industry
 - 1980s: Begins fracking experiments
 - 1998: Breakthrough in fracking technology
 - 2013: Death of George P. Mitchell
 - **Innovator's Gears:** In this section, students will identify a problem or need in their community, brainstorm solutions, and then draw an invention that could solve the problem based on one of their ideas. They could add labels or descriptions to explain how their invention works.

- **Vocabulary Builder:** Choose a word from the glossary on page 9 and use it in a sentence that clearly conveys its meaning.
- **Multiple Choice:** Allow students to complete the multiple-choice section of the worksheet individually. (Note: The multiple-choice section corresponds to the *Guess or Mess* episode about George P. Mitchell and can also be used to play along while watching the game show video. See “Extension Activity” below.)

Reflection Round-Up (10 minutes):

1. Briefly summarize key points about George P. Mitchell’s life, his entrepreneurial spirit, and how his innovations in fracking transformed energy production in the U.S.
2. **Think-Pair-Share:** Ask students to recall one fact about Mitchell and discuss its significance with a partner.
3. Ask students to answer one of these reflection questions on a sticky note or index card:
 - What did you find most interesting about George P. Mitchell?
 - How did Mitchell’s innovations change the energy industry and America’s energy independence?
4. **Bonus Activities:** If time allows, have students complete the “Word Scramble” on page 8.

Extension Activity (20 minutes):

Guess or Mess Trivia Show: After the lesson, students can participate in the *Guess or Mess* trivia show for George P. Mitchell, using the multiple-choice section of the worksheet to play along.

Don’t have time for a full lesson? Quick Activity (30 minutes)

Read the *George P. Mitchell* book together as a class, with students taking turns reading aloud. Then, watch the *Guess or Mess* video and play along with the trivia questions.