

Instructional Lesson Plan EXCERPT
Advanced / Gifted and Talented (GT) English Language Arts

Grade: 5 GT	Unit Title: Earth - A Fine Balance	Length: 5 -10 days
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Lesson Overview

Through authentic research, students will analyze the issue of *fracking* from multiple perspectives in order to determine environmental, political, social, geographical, ethical, health, and economical impacts on the balance and harmony of nature.

Essential Question: When nature interacts, what happens to the harmony, or balance, among the species?

Lesson Procedure

1. Motivation

Some residents of Maryland have hidden treasure buried in their backyard. This treasure has the potential to make them overnight multi-millionaires, yet many landowners are choosing not to unearth these riches. Brainstorm some ideas about what this treasure might be and why some Marylanders would not want to disturb this cache.

2. Build Background

Students will view/read multiple sources providing background information on fracking. Some possible sources include:

- http://www.cbsnews.com/8301-3445_162-57561263/digging-into-the-practice-of-fracking/
- <http://www.nwf.org/What-We-Do/Energy-and-Climate/Drilling-and-Mining/Natural-Gas-Fracking.aspx>
- <http://www.sciencenewsforkids.org/2012/07/fracking-fuels-energy-debate-and-controversy/>
- http://www.huffingtonpost.com/lynn-r-goldman/fracking-health-effects_b_2008582.html
- <http://baltimore.cbslocal.com/2013/02/07/md-delegate-to-introduce-fracking-moratorium-bill/>
- <http://baltimore.cbslocal.com/2012/12/08/potential-fracking-in-maryland-sparks-controversy/>

3. Explore Multiple Perspectives

Students will identify stakeholder groups and their points of view, assumptions, and implications. Stakeholders may include:

- Politicians
- Land owners
- Farmers (effects on crops and livestock)
- Average citizens
- Energy Companies

Students will participate in the “Compass Points” strategy. This strategy is designed to engage students in thinking deeply about an issue in order to determine a researchable question of interest to them. Student groups will rotate through each of the 4 corners (N,E,S,W) of the room reflecting on the posted question. Groups will collaboratively record their ideas on chart paper.

- Needs** – What else do you need to know about this idea or proposition?
- Excitements** – What excites you about this idea or proposition? What’s the upside?
- Worries** –What do you find worrisome about this idea or proposition? What’s the downside?
- Stance, Steps, Suggestions** – What are you still wondering about?

Adapted from:
Ritchhart, R., Church, M., & Morrison, K. (2011). *Making thinking visible, how to promote engagement, understanding, and independence for all learners*. Jossey-Bass.

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4. Inquiry Groups

Students should reflect on the ideas generated from the Compass Point activity in order to determine a particular aspect of fracking that is of interest to them. Small groups of students can begin to form interest groups for inquiry. Possible questions are;

- Environmental
 - What is the impact on humans, plants, animals and habitats before, during and after the fracking process?
- Political
 - What is the “cost” of energy independence for the United States?
 - What are the stances of local politicians on fracking?
- Social
 - In what ways do communities change when landowners are “bought out”?
 - How are communities affected when some members support the fracking process and others do not?
- Geographic
 - Which areas are currently affected by fracking?
 - What impact do these areas have on Maryland?
- Ethical
 - Is silence being bought when landowners sign contracts? What are the implications of this?
 - What is “the cost” of farmers selling land for personal financial gain?
 - In what ways are community members who chose not to sell their land affected by those who do?
 - Are fracking companies preying on farmers’ naiveté?
 - Are drilling violations being properly reported?
- Health
 - What are the effects of fracking on living things?
- Economic
 - What is the “cost” of energy independence for the United States?
 - What is the economic impact of farmers turned overnight multi-millionaires?

Students will analyze the issue of fracking from multiple perspectives (energy companies, politicians, land owners, farmers, average citizens, and health care professionals) and determine environmental, political, social, geographical, ethical, health, and economic impacts. Interest groups will conduct short as well as more sustained research projects based on their chosen focus question with particular emphasis on; “In what ways does fracking impact the balance and harmony of nature”?

5. Original Products

Form, audience, and purpose of student products should be determined based on the researchable question and information supporting the topic of inquiry.

Possible products may include :Students design a website about the issue of fracking (*consider using Microsoft Publisher, Weebly, any wiki such as PBworks or Wikispaces, Edmodo, Google Site, VoiceThread, Prezi or Glogster*); student debate; Mock Town Hall Meeting; Series of Informative Public Service Announcements; Students draft proposals to state legislature; Student choice.

6. Writing Prompt Now that you have researched fracking, re-visit your thoughts from the opening motivation activity. Based on what you have learned, as a landowner, would you lease your land to an energy company for the purpose of fracking? Would you unearth the treasure in your backyard?