Answer the following questions based on the article and other necessary research.

**The Science of Fracking Reading Questions:**

1. What is natural gas? How is it extracted from the earth?
2. Name three things that natural gas is used for.
3. How much of the United States’ energy comes from natural gas?
4. Name one “pro” of natural gas when compared with coal or oil.
5. What is fracking? Describe the process. How is it different from other forms of natural gas extraction?
6. Why is there controversy surrounding fracking? Describe the concerns that some people have about the gas extraction method.
7. What have scientists who study fracking found about its potential to pollute the air and contaminate drinking water?
8. Is fracking a new or an old process? Has its frequency increased or decreased in the past decade?
9. Describe shale and how it is formed.
10. Name two ways that gas companies can drill into rock.
11. What is the largest shale formation in the United States, and where is it located?
12. How deep in the earth is a typical natural gas reservoir?
13. How deep in the earth are groundwater reservoirs, typically?
14. What are some of the effects leaked methane can have on drinking water?
15. Does the U.S. government regulate fracking? Why or why not?
16. Why do fracking companies keep their chemical recipes secret?
17. Describe some of the effects fracking chemicals can have on human health.
18. What is the evidence for fracking causing earthquakes?

**After reading:**

18. After reading all the evidence for and against fracking, do you support the continued use of the process? Explain your answer.

**Discussion Questions (To be answered as a class):**

1. If there are still unknowns and concerns about fracking, why do you think gas companies continue to use the process?
2. Do you think the U.S. government should develop new regulations for fracking? Why or why not?
3. Gas companies often give large sums of money to communities in which the companies plan to build new wells and use fracking for the initial extraction. The money can be used for schools, parks and hospitals. If you learned one of these companies was looking to drill in your area, what would you advise your family and neighbors to do: Back it, oppose it, or do a lot more research? Explain why the drilling is — or is not — worth the advantages that all of that gas money can bring to a town.
4. How does this topic apply to Physics and the concept of Forces and Energy?