Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Period: \_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

***Instructions****: Use the following websites to answer the questions regarding hydraulic fracturing.*

<http://www.cnn.com/2010/US/09/13/fracking.explainer/index.html>

*Click through the frames to learn about the process.*

1. What is hydraulic fracturing?
2. Why is a concrete casing used while fracking?
3. About how deep are the wells?

How far might they extend horizontally?

1. What is the perforating gun used for and what must it overcome?
2. What materials are used to keep the fractures from closing?
3. Why is it important to keep the fractures propped open?
4. What happens to the fracturing fluids once they return to the surface?

*Watch the video*: <http://www.cnn.com/2012/06/15/us/fracking-earthquakes/index.html> *and check out the* *following website*: <http://www.what-is-fracking.com/> *to answer the following questions*

1. Why don’t we know the exact chemical combination used for hydraulic fracturing?
2. What are some pros with fracking?
3. What are some risks to consider when fracking?
4. From which shale basin are we in Ohio extracting natural gas?

*Use the following website to fill in the correct answers below* <http://www.dangersoffracking.com/>

1. There are more than\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ active natural gas wells in the US.
2. Each gas well requires an average of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to carry water and supplies to and from the site.
3. It takes \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to complete each fracturing job.
4. The water brought in is mixed with sand and chemicals to create fracking fluid. Approximately\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_are used per fracturing.
5. Up to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are used in fracking fluid, including known carcinogens and toxins such as…\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. How many times can a well be fracked? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
7. Methane concentrations are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in drinking-water wells near fracturing sites than in normal wells.
8. There have been over \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ documented cases of water contamination next to areas of gas drilling as well as cases of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ due to ingested contaminated water.
9. The waste fluid is left in openair pits to evaporate, releasing \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ into the atmosphere, creating contaminated air, acid rain, and ground level ozone.
10. In the end, hydraulic fracking produces approximately \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of natural gas a day, but at the price of\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\*\*Explain your opinion of hydraulic fracturing in three sentences below. Use the text to support your opinion.