Fossil Fuel Problems

Part 1 Fracking

A. Open Wikipedia - in search box type “fracking”. Read the introductory paragraph
1. The full name of the process known as “fracking” is ____________ ____________
2. Why has it been banned in some countries?

Read the introduction and study the figures
Study Figure 1 1. How deep is a typical well?
2. Where is the tainted wastewater stored?
Study Figure 2 3. Explain the 3 possible sources of groundwater contamination detailed in figure 2
a) b) c)

4. On the front page read the IN BRIEF box. What do you think about proposals to increase the scale of fracking operations in the USA?

C. Back to Wikipedia fracking. Go down to Environmental Concerns
1. Name 3 states where fracking has been blamed for water contamination.

Down to Chemicals....
2. A single well could use up to _________________ water
3. Are the additional chemicals all non-toxic?
4. What did the 2011 study recommend?

D. Youtube videos
1. Home video of water believed contaminated by “fracking”
http://www.youtube.com/watch?v=d6G6Ap-mF0k&feature=fvwrel
What happens?
2. “fracking song” http://www.youtube.com/watch?v=timfvNgrQ4
how does this compare with the scientific american and wikipedia details above
1. What was the EPA's conclusion?
2. Why was this significant?
3. What did the industry say?

Tar Sands
A. 12 min video  Apr 27 2011  http://www.youtube.com/watch?v=YkwoRivP17A
1. 120 b dollars has been invested in ______________
2. The project uses enough natural gas to heat ___________ and puts out as much GHG as ___________
3. The toxic lakes can be seen from __________
4. Arsenic and other chemicals combine to be ________________
5. The tailings volume is 1.8 billion L per ___________
6. The leakage rate of 1L out of ________ is not OK because of the ________ ________
7. The main habitat affected is Canada's ___________ ____________, home to _____________
8. A former Suncor employee is now a minister in charge of _______________________

B. Keystone Project  http://youtu.be/UJjnaYgt1mk
1. Name 4 of the toxic compounds released ______________________________________________________________________
2. People downstream are experiencing increased __________________________________________________________________
3. The Keystone project was planned to bring ___________ / day from Canada to _____________
4. The corrosive oil weakens __________________________________________________________________________
5. The route planned crosses the _______________ aquifer
6. Pollution will probably cause more __________________________________________________________________

C. Current Status - Read and answer
1. The Obama administration announced the ___________ until after _____________
2. The also ordered a review of possible ________________
3. Why is the Sand Hills area especially sensitive? __________________________________________________________________________
4. Does this article have any reference to environmental problems in Canada? ________

Alternatives
Explain three ways americans could avoid the need to fracking or Tar Sands Oil