Footprints: Environment and the Way We Live  
Lesson Plan for *Worst Case Scenario*  
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**Overall Objective**  
Students will acquire and evaluate information about the environmental impact of oil and gas mining in Rocky Mountain House, Alberta. Students will reflect on the role of citizen participation in environmental controversy and the effect of events like these on their own lives.

**Grade level**  
Advanced 9–12 and beyond. This unit can be adapted to younger grades and different courses of study in various Canadian provinces and territories.

**Content Areas**  
Environmental Studies  
Citizenship  
Language Arts  
Media Literacy  
Social Action  
Economics

**Content Items**  
*Worst Case Scenario*, 2001 (43 m 54 s)  
Excerpt 1: Preparation for hearing in front of the Alberta Energy and Utilities Board (26 m 30 s – 30 m)  
Excerpt 2: Hearing in front of the Alberta Energy and Utilities Board (30 m 30 s – 42 m 04 s)

NB: Content items can be viewed online free of charge at <www.nfb.ca/footprints>

**Materials Required**  
Internet access  
Desktop publishing software  
Place to post a Web site or Wiki, according to the information and communications technology (ICT) access policy and acceptable use policy of your school  
Graphic organizer or flowchart software such as Inspiration or Visio  
Wiki creation software such as WIKIDOT.com (open source)  
Spreadsheet software such as Microsoft Excel  
Digital still camera  
Digital video camera

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Summary:
The environmental impact of oil and gas exploration is viewed through a film about hearings on Shell’s activities in Alberta. Through activities such as a class wiki, the creation of PSAs, and analysis of industry arguments, students deepen their understanding of the complexity of these events. They have an opportunity to assess the effect of energy exploration on their own lives and reconsider the impact of their own lifestyle.

Introduction Activity (30-40 minutes)
Objective: To provide background information.

Step 1: The students should explore the Web sites below to put the learning activities in context.
- Information about hydrogen sulphide (also spelled sulfide):
  - Alberta Employment Bulletin CH029
- Canadian Centre for Energy Glossary:
- Canadian Handbook on Health Impact Assessment - Volume 4 : Health Impacts by Industry Sector:

After exploring the Web sites, students should be able to answer the questions below. This can be done either as a class discussion, in writing or through school-based Wiki, where groups of students create the answers with imbedded links. Students should view film excerpts 1 & 2 of Worst Case Scenario.

1. Under what conditions does hydrogen sulphide present a danger to humans and animals?
2. What role does the Energy Resources Conservation Board play in relation to these groups?
   a. The Alberta general public
   b. The energy sector of the Alberta economy
   c. The provincial government
   d. The citizens of Rocky Mountain House
   e. Shell Canada
3. What is the difference between a sour gas and sweet gas well?
4. How does the presence of a gas well impact the environment?
5. What is an Emergency Response Zone and how is its area calculated?


Step 2: For evaluation, assess the accuracy of the students’ work.

ACTIVITY 1: (60-75 minutes)
Objective: To deconstruct the arguments used by the Clearwater Coalition to convince the Alberta EUB that their community was the wrong place for the Shell Canada sour gas well.

Step 1: Brainstorm with the class a list of the arguments used by the Clearwater Coalition in the fight against Shell Canada.
Step 2: Working in small discussion groups of 4-5, students group the arguments into the following headings:

- Ecological / environmental
- Safety and security
- Health – human and animal
- Sociological
- Economic
- Quality of life – immediate and long term
- Democratic processes

Step 3: Using graphic organizer software such as Microsoft Visio or Inspiration, each group is to draw connections with the arguments listed in step 1. This work should be posted in the classroom. Have students do a “walk about” looking for similarities and differences in their representations.

Step 4: Guide the class in a discussion about step 3, highlighting how different groups saw things differently. The students can write a personal reflection on this realization, making a connection with how different audiences might react to the film, e.g., employers and employees in the energy sector, parents of young children, consumers, environmentalists, etc.

Step 5: The teacher can use the personal reflections for student evaluation.

ACTIVITY 2 (75-90 minutes)

Objective: To understand that reducing the demand for Shell Canada products may also reduce the company’s need to explore and exploit new energy resources.

Step 1: Have students study Shell Canada’s Web site to learn about the company’s various products:
http://www.shell.ca/home/content/ca-en/welcome.html
Have students analyze or “deconstruct” how the company frames the product, i.e., positively, as a need, a want, as entertainment, etc. Ask everyone to list which products they use, when, why, etc. Have them frame the use of the product, i.e., positively, as a need, and so on. Spreadsheet software might be helpful in this process.

Step 2: The students (and teacher) calculate their personal carbon footprint using tables from the U.S. Environmental Protection Agency at these 2 sites:

Students: http://www.bp.com/extendedsectiongenericarticle.do?categoryId=9015627&contentId=7029058
Adults: http://www.earthday.net/footprint/index.asp

Step 3: Looking at their need or want designation, the students state if:

- There is an alternative product they could use in place of the Shell Canada one.
- They could reduce their use of the product.
- They could eliminate their use of the product.
- They could convince others to do the same, i.e., reduce, eliminate or find an alternative.
Step 4: Looking at the information gathered in steps 1-3, each student chooses one product to decide how they could make changes to reduce, eliminate or find a more environmentally friendly product to use. Students can share this information through a class discussion, a shared spreadsheet or a school-based Wiki.

Step 5:
- Calculate the economic ramifications of this decision (to reduce, eliminate or find a more environmentally friendly product) on their own disposable income.
- Calculate the potential economic ramifications on Shell Canada’s profits.
- Calculate results if their whole family and their entire school followed their decision.
- Write a position piece on whether this would be a feasible community action to help the community protect their environment, their health, their livelihoods and their way of life.

Step 6: Use the position pieces for evaluation purposes.

ACTIVITY 3 (1–2 days)
Objective: The students are to create a Public Service Announcement (PSA) to encourage others in their school/community to follow their decision from activity 2.

Step 1: In groups of 4-5, the students choose a medium (TV, radio, Web, print, PowerPoint), audience and message for a 30-second or 1-page PSA.

Step 2: Have students do some research about PSAs using some of the following:
- [http://etb.ku.edu/tools/en/sub_section_main_1065.htm](http://etb.ku.edu/tools/en/sub_section_main_1065.htm) Preparing PSAs

Step 3: Ask students to prepare a script for presenting their production after consulting the following website:

Step 4: Once the storyboard and script have been approved, the students will create their PSA.

Closure Activity (45-60 minutes)
Objective: The teacher and class evaluate the PSAs to determine their effectiveness.

Step 1: The students will either embed their PSAs in the school-based Wiki or air them in a media festival for other classes and parents.

Step 2: Together evaluate the PSAs on a 1-3 scale on the 4 criteria listed below 1: did not meet the criteria, 2: met the criteria, 3: surpassed the criteria.
- Was the message clear?
- Did the message use the appropriate language, tone and voice for the audience?
- The PSA was technologically error free.
- Production tools of light, sound, focus and camera angles enhanced the message.
Check for Understanding
The students write a personal reflection on whether or not the information about the oil and gas industry acquired in this lesson, the PSAs and the knowledge of what happened in Rocky Mountain House, Alberta, will make a difference in their lives, their behaviours and their views about energy consumption.