



LEARNING INQUIRIES

RESOURCE EXTRACTION

TIME: SIX 30-MINUTE CLASSES

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OVERVIEW/FOCUS QUESTION

During this investigation, students will use a variety of maps to determine the different stakeholders involved in setting up a new extraction site in the oilsands of Alberta and then evaluate the various perspectives.

SUBJECT/TOPIC

SOCIAL STUDIES/PEOPLE AND ENVIRONMENTS: THE ROLE OF GOVERNMENT AND RESPONSIBLE CITIZENSHIP

GRADE LEVEL

GRADES 5-7
(can be adjusted for older grades)

LEARNING GOALS

- Students will be able to read a variety of maps and find specific information.
- Students will be able to create a detailed map showing landforms and communities in a region of Alberta.
- Students will be able to formulate thoughtful questions to explore the perspectives of different stakeholders involved in setting up a new extraction site.
- Students will be able to evaluate and draw conclusions from their research to inform others.

MATERIALS NEEDED

- Chart paper
- Blank paper for group work
- Blank maps of Alberta (one per student)
http://www.canadiangeographic.com/educational_products/activities/tiled_map_canadian_provinces/AB.pdf
- Access to digital or physical maps
- Access to the internet for research

CONNECTION TO THE CANADIAN GEOGRAPHY FRAMEWORK

CONCEPTS OF GEOGRAPHIC THINKING

- Patterns and trends
- Interrelationships

INQUIRY PROCESS

- Formulate questions
- Gather and organize
- Communicate

GEOSPATIAL SKILLS

- Foundational elements
- Spatial representations

LESSON DESCRIPTION

MINDS ON

Students will activate their prior knowledge about the oil industry by collaboratively creating what they think an oil extraction facility looks like. This process may prompt questions that will help drive the inquiry.

ACTION

Using a variety of maps, students will determine who and what may be impacted by the development of an oil site. The class will identify the various stakeholders and investigate their perspectives on the development of a future oil site. Students will also investigate how governments, including self-governing First Nations and Métis communities, are consulted in the process.

CONCLUSION

Students will create and present the results of their research with the class.

LESSON IMPLEMENTATION

MINDS ON

- Students will work in small groups to sketch/model what they think an oil extraction site looks like. As groups are working, check in to ask questions to encourage deeper thinking (e.g., What do you think is there now? What buildings would you need?).
- Have students share their sketches/models with the class, noting similarities and differences.
- Ask students to identify what questions they now have about oil extraction? You can display these questions on the board or have them written down somewhere in the classroom.

ACTION

- Ask students to explore a map of Canada's non-renewable energy resources (e.g., Canadian Geographic issue of Best Maps 2019 p. 26-27) to help them understand that most of Canada's oil resources are in Alberta.
- Show an aerial-view map of Alberta (<http://osip.alberta.ca/map/>). Zoom in on the Athabasca oilsands region that has not yet been developed. With a partner or small group brainstorm answers to the question: What or who is there now? Record responses onto chart paper (e.g., people: First Nations and Métis, environment: animal and plant species).
- Provide students with a blank map of Alberta. They will create a map of the area showing important landforms and communities near the region of the planned oil extraction field. Help them create a checklist to ensure that all parts of a map are included.

Class Inquiry

- Project an image or video onto the board to show an oil extraction site.
- For example: <https://www.megenergy.com/news-room/photo-gallery/#Operations>
- Tell students that the class will be going into the oil extraction business, and that everyone will have different roles to play.

- Have students determine the following aspects of their new company:
 - Name
 - What do we have to do before we can start building?
 - Who do we need to talk to? Whose voices must be heard? (Refer back to the brainstorming on the chart paper; answers may include community members, businesses, governments, First Nations and Métis, environmental agencies, etc.) Use maps such as the [Indigenous Peoples Atlas of Canada](#) tiled map to guide this discussion.
- Help students generate questions about the different stakeholders.
- Next, assign student groups to investigate the perspectives of the different stakeholders, using the generated questions to create relevant and focused research questions.

CONCLUSION AND CONSOLIDATION

- After conferencing with the teacher, student groups will share what they've learned and create a plan for presenting this information to the class.
- Work with students to create success criteria for class presentations.
- After the presentations, encourage students to share what questions they still have about the oil industry and resource development.

EXTEND YOUR GEOGRAPHICAL THINKING

- Investigate the environmental impact of the oilsands industry.
- Learn about the research and innovations in resource development and energy production that promote a healthy environment.
- A complimentary lesson can also be found in Can Geo Education's lesson plans: [Fossil Fuels and Ecology investigation](#).

ASSESSMENT OPPORTUNITIES

Assessment for learning: During the Minds On activity, note what students know about the oil industry in Alberta, what questions they have, and how they document their thinking through sketches/models. Use exit cards for questions they have.

Assessment as learning: Help students create success criteria for map-making, research questions, and presentations.

Assessment of learning: Have students reflect on what they've learned.

SOURCES AND ADDITIONAL RESOURCES

- Indigenous Peoples Atlas of Canada tiled map
http://www.canadiangeographic.com/educational_products/tiled_map_ipac.asp
- Indigenous Peoples Atlas of Canada online version
<https://indigenouspeoplesatlasofcanada.ca/>
- MEG Energy
<https://www.megenergy.com/news-room>
- Athabasca Tribal Council
<http://atcfn.ca/>
- Mikisew Cree First Nation
<http://mikisewcree.ca/>
- Crown-Indigenous Relations and Northern Affairs Canada
<https://www.canada.ca/en/crown-indigenous-relations-northern-affairs.html>
- Energy IQ energy map
https://energyiq.canadiangeographic.ca/main/energy_map#3&-203+91&94+53&1&0&1
- Oilsands Mining - How it Works?
<https://youtu.be/cxiA40XHF0I>

- Oilsands Information Portal interactive map
<http://osip.alberta.ca/map/>
- Alberta Energy Regulator
<https://www.aer.ca/regulating-development>
- What is the AER?
https://youtu.be/z7U_DDbJaYU
- Alberta Provincial Government - Oilsands acts and regulations
<https://www.alberta.ca/oil-sands-acts-and-regulations.aspx>