
SPATIAL SKILLS/ACTIVITIES

GRADE 3: PEOPLE AND ENVIRONMENTS: LIVING AND WORKING IN ONTARIO

ABSTRACT:

Students will be extracting information from various maps to understand how natural features of the environment influence land use and the type of employment that is available in a region.

GUIDING QUESTION:

How do we determine human activities and different land uses by reading a map?

SPATIAL SKILLS FOCUS:

Extracting information from and constructing maps .

LEARNING GOALS

- Identify different ways the land and natural resources are used in Ontario
- Explain the impact that land and resource use have on local/provincial environments
- Use thematic maps to interpret and analyze land use and resources in my community and in Ontario

CONCEPTS OF DISCIPLINARY THINKING:

Perspective

This concept refers to the ways in which different individuals or groups view something (e.g., an issue, event, development, person, place, process, interaction). Students learn that different groups have different perspectives, which depend on factors such as beliefs, social position, geographic location, and so on.

Cause and Consequence

This concept requires students to determine the factors that affect or lead to something (e.g., events, situations, actions, interactions, etc.) as well as the resulting impact or effect of these factors. Students study the causes and consequences of various types of events, situations, and interactions in both the natural environment and human society.

OVERALL EXPECTATIONS

B2 Inquiry: Use of the social studies inquiry process to investigate some of the environmental effects of different types of land and/or resources use in two or more municipal regions, as well as some of the measures taken to reduce the negative impact of that use

SPECIFIC EXPECTATIONS

B2.3 Analyse and construct print and digital maps, including thematic maps, as part of their investigations into the environmental impact of land and /or resources use in different municipal regions (e.g., the use of maps and atlases to locate information about the spatial boundaries of municipal areas and the different land uses within them; use an interactive atlas to identify resources in your local area)

Sample question: “What information would you need to include on a map showing natural resources in your community?”

Student talk: “On my computer last night I looked at a map of a big mine outside Timmins. I zoomed in and followed the roads from my house to the mine.”

PRIOR TO THE SPATIAL SKILLS ACTIVITY

- Generate a list of questions about Ontario. “What do you wonder about?” Record the responses on Post-it notes. Later these comments can be categorized as students examine other concepts i.e. natural, built features, activities, employment etc.
- Examine images of Ontario to discuss and locate natural features. Do the same task to identify activities. Lead concept attainment activities to develop these concepts.
- In a large group, ask students to share impressions related to a natural feature in Ontario. They must support their impression(s) with evidence
- In small groups, create a mind map using Ontario as the key word. Then consider the activities which occur in Ontario and add the ideas to the mind map
- Investigate maps of Ontario and look for some of the places discussed in class. Also, locate some of the natural features on a map. As students discuss the places, consider the difference between relative and absolute location that students use.
- Determine areas of interest in the province and examine the natural features and activities that occur there

- As students investigate natural features, begin using the term environmental. Make reference to the content as you use the term to help students see how the term applies to the content that they are familiar with.

Ontario Ministry of Culture <http://www.youtube.com/watch?v=Omatsvk2Q3U>

Learn More About Your Local Community

- Discuss what the needs of a community are and how these needs are met
- What are some ways that land is used in my local community? (food, shelter, money, jobs, etc....) Review the term environmental and include it when you discuss needs of the community. What are the environmental needs in a community?
- At this point the students can consider the different voices that are included in the community. This will be the opportunity to highlight “perspectives”. Students can identify families, workers, employers, naturalists etc.
- Using Google Earth or a 2D map of your community, gather some information about the type of land use and resources that are near to you. <http://www.city-data.com/canada/Ontario-Index.html>
- When examining the map, what different symbols that you notice? What do these symbols represent? Begin to note the observations on the social studies bulletin board. What connections can you make to symbols on a map and what they represent?
- Begin a discussion about the environmental impacts of land use. How does the impact differ between a home and a supermarket? How is the impact of a school different than a park? Brainstorm some ideas and keep a record of them on the social studies bulletin board. Continue to discuss the concept cause and consequence
- This focus on environmental impacts can highlight cause and consequence. Discuss examples of activities that may have a short term impact and others that may have a long term impact. Examine locations in your own community i.e. parks, factories, homes, schools

Jigsaw Activity

- Divide students into groups and give them each a section of the Government of Ontario website. Have them present the key ideas and information to the class. When all of the information is presented, compile a fact book as a class with important information and vocabulary.
- Consider using assistive technology to read the site and build a word wall.
<http://www.ontario.ca/government/about-ontario>

SPATIAL SKILLS ACTIVITIES

Review the guiding question:

How do we determine human activities and different land uses by reading a map?

Activity/Strategy:

Investigate some of the short and/or long term effects on the environment of different types of land and/or resource use. (focus on cause and consequence)

Investigating Community Land Use:

Investigate the land use in the local school area through available means (e.g., physical exploration, community walk, Google Maps/Earth) and the use of images. Determine the different types of visible spaces, e.g. buildings, playgrounds, parking lots, gardens, etc. Consider the other elements related to land use that you may not see. Consider asking students to review the needs of a community and note the services that are identified. Discuss how those needs are met (e.g., pipes, hydro/telephone lines, sewage)

Develop questions about the community.

Analyse images to determine land use and environmental concerns. This can be done through the use of a graphic organizer; what do you see; what do you think about the use of land; what questions do you have about the environmental use of this land?

Data collection suggestions:

- Sketching and labelling maps, adding information to outline maps that have been provided, taking photographs, or printing digital screen captures
- Create a three column chart with different categories, i.e. *land use, needs met, effects on environment, ways to reduce the effects* –create a word wall to represent relevant vocabulary
- Conduct the same investigation regarding another area in Ontario (e.g., using digital images) and make a comparison
- Collect images about communities from Google Maps or municipality websites

Activity/Strategy:

Investigate some of the short- and/or long-term effects on the environment of different types of land and/or resource use.

Examine another community in the province. Look at images of school areas. How are they similar or different to your own community? Look at other images of this community beyond the school. Consider the activities and facilities in this community. Explore the impact of the different land or resource uses? As students examine the impacts they can begin to identify different perspectives. For example, agriculture uses surface water, pesticides and fertilizers. Farmers want the resources to grow a variety of crops. Conservationists want to preserve water use and protect streams from pollution. Governments may develop rules to protect water quality.

<http://environment.alberta.ca/02226.html>

Consolidate learning using one of the following activities:

- Using Padlet or other brainstorming applications, have students share the types of resources, land use, and environmental issues that they have gathered regarding two Ontario communities. Place key ideas relating to the data collected in the above activities on a map reflecting the location of the generated content. This becomes a spatial journal. Sort the contributions as a class and discuss.
- Make a Venn diagram comparing land use between 2 Ontario communities
- Have students give a brief oral presentation related to the learning goals of the lesson (low tech) or use a presentation software like Pixie, PPT, Frames, Photostory etc...

Activity/Strategy:

Students may create their own community thinking about how to use the land justifying their choices.

Guest Speaker:

Invite a local community representative to speak about environmental issues that the students have identified and strategies that the town or city is doing to reduce the impact.

ASSESSMENT



- During class discussions and group work, teacher should circulate and ask focused questions to determine student's grasp of the impact various land and resources use. Anecdotal notes should be taken to focus future teaching.
- Observe how student make inferences from the photos and satellite images, look for misconceptions
- Conference with students to determine the language they use when they describe maps

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- As students are learning about their community, they may record and discuss questions on the KWHL. They can consider the tools that help them to gain their new understanding. Which aspects of the inquiry went well, which aspects were more difficult? As part of the consolidation of learning, students may assess their own progress as community investigators.

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- Evaluate the reports or presentations or Venn diagrams

ADDITIONAL RESOURCES

Government of Ontario

<http://atlas.gc.ca/data/english/maps/reference/provinceterritories/ontario/map.pdf>

"Ontario." *Government of Canada, Natural Resources Canada, Earth Sciences Sector, Mapping Information Branch*. N.p., n.d. Web. 26 Nov. 2013.

<http://atlas.gc.ca/site/english/maps/reference/provinceterritories/ontario>

Welcome To Ontario: "Welcome to Ontario." *YouTube*. YouTube, 30 Nov. 2006. Web. 26 Nov. 2013. <http://www.youtube.com/watch?v=Omatsvk2Q3U>

About Ontario: "About Ontario." *Ontario.ca*. N.p., n.d. Web. 25 Nov. 2013.

<http://www.ontario.ca/government/about-ontario>

Ontario City Data: "Ontario Agglomerations, Cities, Towns and Villages." *Ontario*. N.p., n.d. Web. 26 Nov. 2013. <http://www.city-data.com/canada/Ontario-Index.html>

Google Earth- Maps in 3D: "Earth." *Google*. N.p., n.d. Web. 24 Nov. 2013.

<http://www.google.com/earth/index.html>

Prezi – presentation software (web tool): "Ideas Matter." *Prezi.com*. N.p., n.d. Web. 24 Nov. 2013. <http://prezi.com>

Padlet- sticky notes on the web: "Paper for the Web | Padlet (Wallwisher)." *Paper for the Web | Padlet (Wallwisher)*. N.p., n.d. Web. 26 Nov. 2013. <http://padlet.com/>

Culture Grams Provinces Edition- Ontario (subscription only): "Subscriber Area Only." *CultureGrams Online Database*. N.p., n.d. Web. 26 Nov. 2013.

<http://online.culturegrams.com/provinces/province.php?pid=11>