

December 2014

Full resource accessible online at: www.polarisinstitute.org/education

Curriculum Expectations:

- Strand A:** Geographic Inquiry and Skill Development
A1. Geographic Inquiry
- Strand B:** Interactions in the Physical Environment
B1. Physical Environment and Human Activities
- Strand C:** Managing Canada's Resources and Industry
C1. Sustainability of Resources
C2. Development of Resources

*Teachers may also find connections to the *Gr.12 Environment & Resource Management (CGR4M)* curriculum

Section I: Water Use

Activity 1 – What About Our Water?

10-Question quiz to get a sense of students' awareness and perceptions around:

- (a) Global and Canadian freshwater sources/ supplies;
- (b) The influence of environmental, economic, social and political factors on water supplies in Canada and around the world

Activity 2 – Personal Water Use Inventory

[OPTION 1] Water Audit: Students complete a take-home activity where they record their direct water usage over a 24-hr or 1-week period.

[OPTION 2] Water Use Habits Questionnaire: Students complete an in-class activity where they answer a series of questions related to their personal water use habits. During the activity, they create a visual representation of their water use—includes an exploration of both direct and indirect (“virtual”) water use.

Activity 3 – Water Resources in Conflict

An independent assignment where students explore a proposed pipeline project which has the potential to put water resources in danger. Students must consider both the positive and negative aspects of proceeding with the project, as well as actions or processes that might help to resolve or mitigate the conflict. Option to discuss Aboriginal rights and issues as associated with the project.

(cont'd on reverse...)

Section II: Water Availability

Activity 1: Freshwater in Canada—A Great Lakes Case Study

Engagement Activity: Students complete a Q&A matching activity that helps them to understand the significance of the Great Lakes as a source of fresh water in Canada.

Main Activity: Students learn about the impacts of various human activities on the Great Lakes by matching a described impact (*e.g.*, harmful algal bloom) to some of the possible human activities responsible. Students use deductive reasoning and critical thinking skills.

Activity 2: Water Availability Around the World

An examination and comparison of factors affecting water availability in various countries around the world. Working in pairs or groups, students are presented with fictional “water profiles” from two characters living in different countries. The profiles highlight what might constitute a typical water reality for a person living in that country. The activity asks students to read the profiles, and fill in a Venn diagram comparing and contrasting the two different water availability scenarios.

[OPTIONAL] Assignment: Students investigate and answer questions related to water availability in Canada. It can be used as follow-up assessment to Activity 2, and is a RAFT assignment:

Role: Which perspective are they taking during the assignment? (*i.e.*, point-of-view)

Audience: To whom are they communicating? (*e.g.*, who are they trying to inform/ persuade?)

Form: In what form are they communicating? (*e.g.*, letter to the editor, video blog post, *etc.*)

Topic: What is the topic they are investigating/ reporting on? (*e.g.*, Water availability in Aboriginal communities in Canada; Urban growth and water infrastructure demands; *etc.*)

Activity 3: Climate Change & Water Availability

An electronic media project that has students gather, examine and analyze evidence of how climate change is influencing water availability in Canada. Students are given guiding questions for selecting credible pieces of evidence that reflect the following:

- The impact of human activity on climate change in Canada
- An impact of climate change on glaciers (or the Arctic) in Canada
- A current or projected impact of climate change on water availability in Canada

Students may select such online media as: articles from reputed newspapers or magazines; excerpts or case studies from books or blogs written by experts; videos or film clips made by expert bodies; photos, images, slides, maps, cartoons, *etc.* They then fill out an information table describing: (1) the evidence they chose & *why*; (2) how they came to decide it was credible; (3) what the chosen piece of evidence demonstrates; and (4) a social, economic and/or political consequence of the impact demonstrated by the evidence.