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| SCIENCE | GRADE 8 | LESSON PLAN |
| This sample lesson plan supports Education for Reconciliation through the inclusion of First Nations, Métis, and Inuit perspectives; treaty education; and residential schools’ experiences with learning outcomes identified in the current Alberta Programs of Study for Grades 1 to 9 in Science.  Each sample lesson plan includes content(s) or context(s) related to one or more of the following aspects of Education for Reconciliation:   * diverse perspectives and ways of knowing of First Nations, Métis, or Inuit, including values, traditions, kinship, language, and ways of being; * understandings of the spirit and intent of treaties; or * residential schools’ experiences and resiliency.   Links and relevant information in Guiding Voices: A Curriculum Development Tool for Inclusion of First Nations, Métis and Inuit Perspectives Throughout Curriculum and Walking Together: First Nations, Métis and Inuit Perspectives in Curriculum are provided to support understandings of First Nations, Métis, or Inuit ways of knowing. Both online resources are accessed through LearnAlberta.ca. |
| Education for Reconciliation: Perspectives |
| **Program of Studies Outcomes**  **Unit E: Freshwater and Saltwater Systems** (Social and Environmental Emphasis)  **Focusing Questions:**How do water, land and climate interact? What are the characteristics of freshwater and saltwater systems, and how do they affect living things, including humans?   1. Analyze human impacts on aquatic systems; and identify the roles of science and technology in addressing related questions, problems and issues:    * analyze human water uses, and identify the nature and scope of impacts resulting from different uses  (*e.g., identify pollutants in ground water and surface water systems resulting from domestic and industrial use; analyze the effects of agriculture and forestry practices on stream flow and water quality*)    * identify current practices and technologies that affect water quality, evaluate environmental costs and benefits, and identify and evaluate alternatives (*e.g., research and analyze alternatives for ensuring safe supplies of potable water; research, analyze and debate alternatives for a specific water quality issue, such as the location and design of a landfill, the protection of a natural waterway, the use of secondary and tertiary wastewater treatment, the salinization of soils due to irrigation, the eutrophication of ponds and streams due to excess use of phosphates in fertilizers and detergents, or a proposal to export water resources*)   **Resources[[1]](#endnote-1)**  Keepers of the Water. 2017. *Voices of the Athabasca*. ([www.keepersofthewater.ca/athabasca/voices](http://www.keepersofthewater.ca/athabasca/voices))  Native Counselling Services of Alberta. 2016. *Water: The Sacred Relationship*. (<http://www.sacredrelationship.ca/>). *Why Water?* (webpage to help people understand relationships with water and Indigenous people); *Sacred Relationship* (educational video).  **Purpose**  This lesson provides students with an opportunity to consider why valuing traditional and environment knowledge is vital for First Nations, Métis, and Inuit and why water is considered to be sacred. Students investigate some of the causes of poor water quality and evaluate possible solutions to this issue.  **Introduction**  Watch the video, *Water: The Sacred Relationship*. The video describes First Nations, Métis, and Inuit perspectives caring for Earth: Everyone has a responsibility to protect the environment.  From the same website, watch the videos *The H Factor* (Cree story on changes to the water in Lac La Biche) and *Mirror Lake* (Cree/Nakota Elder reflecting on changes to the water in Wabamun Lake) and discuss factors that are affecting the water quality and the subsequent impacts on the environment.  **Activity/Experience**  Divide students into groups of four to six and assign each student the task of reading one of the six stories from the *Voices of the Athabasca,* whichincludes stories from Jimmy O’Chiese, Alice Rigney, and Cleo Reece. Have students identify some causes for the environmental concerns—land, water, and animals—related to the Athabasca River. Students record key facts from the stories they have read onto a group placemat. Each student is assigned to one section of the placemat with a central square left for a group synthesis. Students discuss their findings within their small groups.  Using a group decision-making format, students then synthesize the facts from their stories and identify what they consider to be the most significant concern regarding the Athabasca River. Using the section in the centre of the placemat, the group collectively chooses and writes down this issue and major causes related to water quality of the Athabasca River.  **Conclusion**  Students create a representation of their ideas (e.g., poster, slam poetry, oral presentation) to share and discuss their findings and provide possible reasons for the similarities and differences between the concerns they’ve identified and solutions.  **Extension**  After building an understanding of some of the causes for poor water quality, students can consider possible solutions or improvements that can improve water quality. Using *Protecting our Sacred Water* as a guide, have students create an action plan they can use to make an effective change (real or proposed). Types of actions for these projects could include awareness, advocacy, social justice, or fundraising. Groups present their findings and proposed action projects to the class.  **Assessment for Student Learning**  Consider multiple ways students can demonstrate their understanding of the causes of poor water quality and possible solutions and actions to provide quality water for First Nations, Métis, and Inuit communities in Canada.  **Keywords:** water; sacred  **Themes:** water quality; social justice  **Teacher Background**[[2]](#endnote-2)  **Placemat Activity**   * ([www.learnalberta.ca/content/sssm/html/placematactivity\_sm.html](http://www.learnalberta.ca/content/sssm/html/placematactivity_sm.html))   Jane Goodall Institute of Canada. *Protecting our Sacred Water*.Aboriginal Affairs and Northern Development Canada.   * (https://janegoodall.ca/wp-content/uploads/2017/02/ProtectingOurSacredWater-FNMIResource.pdf)   **Summary:**Created in partnership with the Jane Goodall Institute of Canada and a group of First Nations, Métis, and Inuit Elders and educators, this free online teacher’s guide supports ethical and sustainable decision-making approaches to issues related to protecting water.  ***Safe Drinking Water for First Nations Act***   * ([www.aadnc-aandc.gc.ca/eng/1330528512623/1330528554327](http://www.aadnc-aandc.gc.ca/eng/1330528512623/1330528554327))   **Articles and Websites**   * ([www.cbc.ca/news/canada/calgary/alberta-first-nations-sue-ottawa-over-safety-of-drinking-water-1.2677316](http://www.cbc.ca/news/canada/calgary/alberta-first-nations-sue-ottawa-over-safety-of-drinking-water-1.2677316)) * ([www.mondaq.com/canada/x/322888/Water/First+Nations+Launch+Drinking+Water+Lawsuit+Against+Federal+Government](http://www.mondaq.com/canada/x/322888/Water/First+Nations+Launch+Drinking+Water+Lawsuit+Against+Federal+Government)) * ([canadians.org/fn-water](http://canadians.org/fn-water))   **Walking Together: First Nations, Métis and Inuit Perspectives in Curriculum (Alberta Education)**   * Traditional Environmental Knowledge – Natural Resources and Conflict   ([www.learnalberta.ca/content/aswt/documents/traditional\_environmental\_knowledge/natural\_resources\_and\_conflict.pdf](http://www.learnalberta.ca/content/aswt/documents/traditional_environmental_knowledge/natural_resources_and_conflict.pdf))  ([www.learnalberta.ca/content/aswt/](http://www.learnalberta.ca/content/aswt/))  **Guiding Voices: A Curriculum Development Tool for Inclusion of First Nations, Métis and Inuit Perspectives Throughout the Curriculum (Alberta Education)**   * Relationships ([www.learnalberta.ca/content/fnmigv/index.html](http://www.learnalberta.ca/content/fnmigv/index.html)) |

1. Some resources may not be authorized but are provided to identify potentially useful ideas for teaching and learning. The responsibility to evaluate these resources rests with the user. The selected resource(s) provide a perspective specific to an individual, group, or nation; they are not intended to represent the perspectives of all First Nations, Métis, or Inuit. [↑](#endnote-ref-1)
2. All website addresses listed were confirmed as accurate at the time of publication but are subject to change. [↑](#endnote-ref-2)