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| SCIENCE | GRADE 5 | 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****5-4 Demonstrate positive attitudes for the study of science and for the application of science in responsible ways.*** a willingness to work with others in shared activities and in sharing of experiences
* appreciation of the benefits gained from shared effort and cooperation
* a sense of personal and shared responsibility for actions taken
* respect for living things and environments, and commitment for their care

Topic D: Weather WatchStudents learn about weather phenomena and the methods used for weather study. They learn to measure temperatures, wind speed and direction, the amounts of rain and snow, and the amount of cloud cover. In studying causes and patterns of air movements, students learn about the effects of uneven heating and cooling and discover the same patterns of air movement in indoor environments as are found outdoors. They also learn about human actions that can affect weather and climate and study the design and testing of clothing used as protection against weather. **5-9 Investigate relationships between weather phenomena and human activity.*** Understand that climate refers to long term weather trends in a particular region and that climate varies throughout the world.
* Recognize that human actions can affect climate, and identify human actions that have been linked to the greenhouse effect.

**Resources[[1]](#endnote-1)**Farrell, Amy. “Hot, Hot, Hot” (pp. 24-49) in *Protecting the Planet*. Don Mills, Ontario: Pearson. 2012.**Summary**: This article examines the effects of global warming on Canada’s Arctic. Adjustments that individuals can make in daily life to reduce greenhouse gas emissions are explored.Natcher, David, Mary Ellen Thomas and Neil Christopher. *Unikkaaqatigiit: Arctic Weather and Climate Through the Eyes of Nunavut’s Children****.*** Iqaluit, Nunavut: Inhabit Media Inc., 2013.**Summary:** This anthology of poems, stories, and pictures features the weather and climate of the Arctic. It is written in both English and Inuktitut.**Purpose**This lesson provides an opportunity for students to understand the effects that human activity has on the creation of greenhouse gases. Students explore how greenhouse gases affect climate change and the impact climate change has on the ways of life on the people in the Arctic, the land, the plants, and the animals. Students identify actions that can reduce greenhouse gas emissions.**Introduction**Read through some stories from *Unikkaaqatigiit: Arctic Weather and Climate Through the Eyes of Nunavut’s Children*. Discuss the following with students: the weather in Nunavut communities; the daily life and ways of being of the people; perseverance of animals and plants; and varying weather patterns. Examine the story and illustrations (p. 57) from Dawn Katsak, a student from Pond Inlet. From Katsak’s illustration and story, what do you notice about Mother Nature? Why might the animals be confused?Using a brainstorming web, identify all the things students know about the topic of climate change and its impact on northern Canada. Why is this issue relevant to all Canadians?**Activity/Experience**In pairs, students complete responses to the following questions after reading “Hot, Hot, Hot”:* Where do greenhouse gases come from, and what is their link to climate change?
* What is the impact on greenhouse gases and climate change on life in the Arctic?
* What can be done to control greenhouse emissions?

Students will review each other’s responses and provide feedback.**Conclusion**Discuss the meaning of the quote by Jeannette Armstrong, an Okanagan poet, in *Protecting the Planet* (p. 5) and why might this quote be at the beginning of the book:*“We have the opportunity for everything to change from here on….We’re that bridge between what already is and what could be.”*Ask students what positive changes they can make to reduce the amount of greenhouse gases they generate. Discuss these changes and the actions or strategies that individuals can take to make changes. As a class, create posters or slogans that could be posted around the community for Earth Day in April. **Extension**Students can research or do a web quest to discover: * What organizations are actively involved in reducing global warming?
* What Indigenous organizations are actively involved in reducing global warming (e.g., Centre for Indigenous Environmental Resources)?
* What actions have reduced global warming?
* How can students get involved in the projects?

**Assessment for Student Learning**Consider multiple ways students can demonstrate their understanding of the effects of greenhouse gases and climate change on the life of people in Canada’s Arctic. What positive choices can individuals make to halt climate change? **Keywords:** climate; greenhouse gases; climate change; Arctic; Inuit**Themes:** climate; weather; climate change**Teacher Background**[[2]](#endnote-2)**Centre for Indigenous Environmental Resources** * ([www.ammsa.com/node/6945](http://www.ammsa.com/node/6945))
* ([www.yourcier.org/](http://www.yourcier.org/))

***United Nations Climate Change: An Overview*** (paper prepared by the Secretariat of the United Nations Permanent Forum on Indigenous Issues, November 2007) ([www.un.org/esa/socdev/unpfii/documents/Climate\_change\_overview.doc](http://www.un.org/esa/socdev/unpfii/documents/Climate_change_overview.doc))**Walking Together: First Nations, Métis and Inuit Perspectives in Curriculum (Alberta Education)*** Traditional Environmental Knowledge – Environmental Law: Because This Is Our Land([www.learnalberta.ca/content/aswt/#/traditional\_environmental\_knowledge/exploring\_connections/videos/environmental\_law\_because\_this\_is\_our\_land](http://www.learnalberta.ca/content/aswt/#/traditional_environmental_knowledge/exploring_connections/videos/environmental_law_because_this_is_our_land))
* Well-being: All My Relations (excerpt from Aboriginal Perspectives)([www.learnalberta.ca/content/aswt/documents/well\_being/all\_my\_relations.pdf](http://www.learnalberta.ca/content/aswt/documents/well_being/all_my_relations.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)*** ([www.learnalberta.ca/content/fnmigv/index.html](http://www.learnalberta.ca/content/fnmigv/index.html))
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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)