

Lesson 5

39 Minutes (plus optional sections)

Outcomes | Alberta Grade 6 Science Curriculum

- Climate change over time can affect land, plants, humans, and other animals in a variety of ways.
- Personal actions that can help address human causes of global climate change include reducing personal consumption and waste, and using clean, affordable, and reliable energy sources responsibly.
- Traditional knowledge and modern technologies both provide information on long-term climate changes.
- Local Elders, traditional Knowledge Keepers, and scientists can collaborate and share information about local climate and climate change.

Pre-Flight Checklist

- Device and projector set up.
- Organize First Nations speaker if possible.
- Being outdoors is beneficial to everyone, especially when talking about the environment. If any of the remaining lessons can be taught outside, please do so.
- Prepare summary of Seventh Generation Principle or sound clip (after the first few paragraphs): <https://www.ictinc.ca/blog/seventh-generation-principle>
- Cue up Autumn video: <https://www.youtube.com/watch?v=A33XRMLBbOc>
- Organize students into elbow partners; partners they can quickly turn to and share a brief conversation.

Time	Learning Opportunity
5 min	<p>Margaret Meade said, “Never doubt that a small group of thoughtful, committed citizens can change the world; indeed, it's the only thing that ever has.” Turn to your elbow partner and tell them how these words might apply to the climate change situation. (share a few)</p> <p>Tell your elbow partner something big that you have learned over the past few lessons. (share some to create a bit of a review of the past four lessons).</p> <p>Some of that stuff can be a little scary.</p>
Optional 1-30 min	<p>STATE OF MIND Think back to the spectrum on the whiteboard. On the left was “not a care in the world” or “not concerned”, in the middle “somewhat concerned”, on the right “completely freaked out” or “losing sleep”. Remember, there is no right answer to this question: Where are you now on the concern scale in terms of the state of the climate in the future? (If you still have them up on the board, you could get the students to move their stickies) How many are feeling better than you were at the</p>

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Time	Learning Opportunity
(cont.)	<p>beginning? How many are feeling worse? You could ask a few to share the reasons for why they feel the way they do, and this could lead into a rich discussion since dialogue is such a powerful tool in building empathy and creating opportunity for students to reflect on their beliefs/values.</p>
20 min	<p>What is resilience? (define together). With your elbow partner, name one or two famous resilient people. Highlight the resilience of people (Terry Fox), flora (how quickly vegetation overtakes abandoned areas), fauna (Planarian worms have the ability to regenerate body parts. If you cut a planarian worm in two, the part without a head will grow a fully functional head with a new brain. The other part will grow a tail. It does all of this within 7 to 10 days). (You could even talk about the planet: Jane Goodall talks about the resilience of the planet and the spirit of people as two of her big hopes) In fact, the whole planet is resilient (ozone layer healing as an example).</p> <p>No matter how we are feeling at the moment... Like all big issues on earth, we as individuals cannot solve them single-handedly. But, like big issues throughout history, individuals taking small initiatives make big change.</p> <p>15 second elbow partner question: What is something in your life that you had to do, but then you were a bit upset when someone else did not do it? (eg. shovelling sidewalks, making bed, doing dishes, picking up garbage) Share one or two specific examples. (Try to come up with an example of your own. For me it is biking to save fuel, then neighbour warms up their truck for 45 minutes. If everyone in my neighbourhood runs their vehicle all the time, should that slow me down/make me not bike as much? Insert a parallel for your example.)</p> <p>Three choices: yes, no, maybe a bit, stand when I say the one you agree with. By the way, is someone a bad person because they warm up their truck for 45 min? (no, they probably just don't give it much thought).</p> <p>Some complain that other countries are not doing their part to reduce greenhouse gas emissions. Is that a legitimate reason for our inactivity? (do another standing survey)</p>

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Time	Learning Opportunity
(cont.)	<p>Earlier, most of you said that it would be better to deal with the root causes of climate change rather than deal with the problems it creates. Take 20 seconds with EP to list a couple root causes of climate change. (list on the board or out loud)</p> <p>Next, we will talk about what is already being done around here to help deal with the root causes. Your job is to brainstorm some ideas about what is being done right here in this school (give an example), or in our city, or in Canada, or the world. Especially involving young people but it could be anyone. I will ask every group to name one. (List a bunch of these on the board) Let's give these a rating in terms of dealing with the root causes of climate change. (Use any rating system you like)</p> <p>(Cleaning up garbage on playground is great project but would get a low rating here. Recycling: medium because it might lead to less production of new material. Walking/biking to school instead of getting a ride would be highly rated.)</p>
Optional 60 min	<p>DIGGING DEEPER (First Nations community members can teach us many things. Bring in an Indigenous Elder to talk and answer questions about First Nations' approaches to the earth, decision-making, weather, and climate change.)</p>
8 min	<p>(If that is not possible, Darrell Willier (First Nations, Métis & Inuit Education Coordinator at Peace Wapiti School Division 76) has agreed to allow his words to be used):</p> <p>We can all take little actions that make a difference, a few examples: take shorter showers, use less water, use laundry detergents that are environmentally-friendly, no half loads of laundry, take care of the trees and teach younger students why we should not break off branches, try not to use pesticides, the importance of dandelions: Pollination, helps soil nutrients, can be eaten. His kookum and moosum (ask students what that means – grandparents) taught him that in the fall, we should not rake leaves and they act as an insulator for the plants from the winter cold. Leaves will also decay, eventually leaving nutrients and food for insects.</p> <p>Indigenous people have unique ways of looking at decision-making. One is called the Seventh Generation Principle. (Briefly summarize or play two-minute sound clip – Bob Joseph– stopping at 1:59: https://www.ictinc.ca/blog/seventh-generation-principle (Please credit Indigenous Corporate Training for this material)</p>

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Time	Learning Opportunity
(cont.)	<p>Another First Nations friend proves that you are never too young to make an impact - I'd like you to meet Autumn: https://www.youtube.com/watch?v=A33XRMLBbOc (you could play the whole three minutes, or just 0:26-0:44, 2:13-end).</p>
5 min	<p>Now that we understand more about climate change, we have talked about resilience, we agree that actions of any size make a difference no matter what anyone else is doing, you have shared some examples of actions here in the school all the way up to the world, we have an idea about getting to the root of the problem, and we have seen that young people are capable of and are making a positive difference, it is time for action! You are going to create a small project that will help in the effort to deal with climate change. It will involve only a little school time, you will complete it within one week (you could continue the project further if you wish), and your presentation to explain it to your peers will be less than a minute. As you suggested, the goal will be to deal with the root causes of climate change rather than deal with the problems it creates.</p> <p>Do we have any ideas to add to our list?</p> <p>Now we will rate three projects in terms of their bearing on climate change: Discuss each of these with your elbow partner and use our rating scale to show how they address the root causes of climate change. Remember, they don't have to solve the problem. We are just talking about how well they address the root causes. (eg: One = does not address the root causes of climate change. Five = strongly directed at the root causes of climate change) (Survey the groups to give each one an average rating, discuss why it got the rating it did, and how it might be improved):</p> <p>Project A: I will clean up garbage on the playground three times per day for one week. (maybe 1 because it does not address the roots of climate change, hard to improve)</p> <p>Project B: I will go to three different primary classes and explain why they should recycle (maybe 2 because it might lead to less production of new material. Reducing and reusing could be emphasized as better options)</p>

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Time	Learning Opportunity
(cont.)	Project C: I will walk/bike to school instead of getting a ride all next week. (maybe 4. You could convince some of your peers to join you in this endeavour for greater impact)
Optional 5 min	BUILDING A RUBRIC (“Begin with the end in mind.” – Steven Covey. Create/fine tune a rubric together. Talk about the outcomes you would like to cover, focus on a couple, and build a rubric with students that they can use to direct their work right from the start. You may want to include something about affecting climate change or greenhouse gas emissions so that you don’t end up with playground clean-up projects. Alternatively, use rubric included.)
1 min	We will talk much more about it next time, but you can start thinking about some possible projects. If you have a great idea, run it past me before you start anything. Don’t worry if you have no ideas, we will look at some suggestions next time. A scientist named Dr. Jonas Salk once shared a simple yet profound statement: "Our greatest responsibility is to be good ancestors." Think about what this means; talk about it at the dinner table. We will start with that quote tomorrow.

