

Lesson 6

37 Minutes (plus optional sections and project time)

Outcomes | Alberta Grade 6 Science Curriculum

- The study of science allows students to nurture curiosity, ask and answer questions, explore scientific and technological concepts, and acquire knowledge and understanding of the world.
- It includes the critical-thinking skills, scientific knowledge, and civic literacy required to respond to relevant personal, societal, and environmental issues.
- Personal actions that can help address human causes of global climate change include reducing personal consumption and waste, planting a garden or buying local produce, and using clean, affordable, and reliable energy sources responsibly.

Pre-Flight Checklist

- Device and projector set up.
- Copies of “My Action Plan” ready to hand out (two sides), and rubric.
- Being outdoors is beneficial to everyone, especially when talking about the environment. If any of this lesson can be taught outside, please do so.
- Organize students into elbow partners; partners they can quickly turn to and share a brief conversation.
- Cue up final video if you choose to use it: <https://www.cbc.ca/kidsnews/post/watch-on-the-ground-with-greta-thunberg-in-montreal>

Time	Learning Opportunity
3 min	A famous doctor named Jonas Salk created a vaccine in the 1950’s that largely put an end to the deadly polio disease (it paralyzed between 13,000 and 20,000 children annually in the years before the vaccine). He did not patent his invention which means that he did not make money every time someone used it. It was given like a gift to humanity. Later in his life, Dr. Salk said that the most important question we can ask of ourselves is, “Are we being good ancestors?” What is an ancestor? (someone who came before) How can we be good ancestors when we don’t know who will follow us? Turn to your elbow partner and try to work out what Dr. Salk meant. (will the generations who follow think we were good or considerate people?) Through your project are you being a “good ancestor”? (Yes!!) How? (Discuss)
7 min	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

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Time	Learning Opportunity
(cont.)	<p>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. What will you do to become part of the solution? Small things lead to big change, you don't have to be Malala, Greta, or Terry Fox.</p> <p>On (fill in date) you will present your projects and we will celebrate the completion of your action plans. Between now and then you will have some time, starting today as you begin to fine tune your idea. We will start by brainstorming some ideas. Turn to your elbow partner and share any ideas you have for projects. (share some with class and fine tune as necessary to fit goal of dealing with root causes of climate change)</p>
5 min	<p>Here are some more possible projects (on screen or board) – these are just ideas, you are not meant to pick one from the list. I would rather see you invent your own:</p> <p>Research: do some digging and share your findings with the class:</p> <ul style="list-style-type: none"> -Approximately 9% of plastic waste in Canada is recycled. About 3 million tonnes goes to landfills every year, much is single use. What is being done locally about this? -China is reportedly going to reduce its import of recycling by 96%. There have been facts unearthed about some of our recycling going to developing countries so that they makes some money, but it ends up in dumps. Where does our recycling go? -What is allowed in our blue recycle bins? -Phone the City and ask about the most problematic items in our blue bins. -Some people's favourite 'R' is refuse and they refuse all plastic water bottles. Look into the high quality of our tap water and share tips on reusable water bottles. -Why don't pop cans and other drink containers usually get thrown away? How does/could this work with other items? -Look into the negative impact of Styrofoam and make a list of ways we can avoid it. -What is this school doing/has this school done? Interview a staff-member. -Check for the places of origin of your food for one meal (or one day) and add up the distance the products have gone. Who can have the most local meal? -Go on a city bus ride to see and report back on how it works.

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Time	Learning Opportunity
(cont.)	<p>-Ask an elder/grandparent if they used to preserve summer produce, and if so, how? Do people still do that now?</p> <p>Discussion: Talk with a family member or trusted adult:</p> <ul style="list-style-type: none"> -Should big companies have to pay forward recycling fees for the materials they use for packaging? -Should we have to separate recycling or toss it all in one blue bin for pick-up? -How can we avoid packaging altogether? (refillery, bulk barn, etc.: visit and report) -How could we reduce the number of take-out containers used and thrown away? -Share info (especially about reuse/refuse) with your family, discuss, and write up a plan (remember rubric). -Look at non-recyclable waste at home or at school. Discuss with someone how we could realistically reduce and/or refuse. -How could we organize so that we eat more of our leftovers/throw out less food? -Could our diet help the environment? How might that look? (more plants, less process) -Could we reduce our electricity/gas use without creating big problems (clothes driers for example)? <p>Action: Be an influencer:</p> <ul style="list-style-type: none"> -Write City Council, MLA, MP (be clear about what you want). -Write a company about their packaging or practices. -Create a "Walk to School" day, maybe one day each week. -Make a yard sign (talk with your family). -Plan a garden for the spring.
4 min	<p>Whether you come up with your own project, choose one from the list, or modify one from the list, you will be presenting to the class. Remember that this will be a one-minute-or-less presentation, so it cannot be complex. You will simply share what you did. The easiest way would be to stand up and tell us about it, but there are other possibilities like a zine, flyer, poster, or digital presentation about your topic instead of</p>

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Time	Learning Opportunity
(cont.)	<p>an oral presentation. Notice on the rubric that there is not a focus on high-tech production.</p> <p>Let's take a moment to look at the rubric together. What is here? What is not here? What is the focus? Think about this constantly as you decide on and develop your project.</p>
3 min	<p>Take a minute each with your elbow partner to share which idea is inspiring you. Your partner will ask questions like: how does this tie into climate change? Is it possible to complete without much class time? Will there be any cost? Will you drive your family crazy? (make sure both partners get a chance to share).</p>
5 min	<p>(Put "My Action Plan" on screen) Next you are going to fill in this sheet to help focus your project. It will not be set in stone once you write something down; you could still change your mind. But get at least one idea down on paper. (go through My Action Plan questions, hand out My Action Plan sheets)</p>
8 min	<p>In a moment you will meet again with your partner (or with a different partner if you think that would be more productive) who will now positively critique. As you listen to your partner, your main job is to figure out if this will actually happen, and then to draw out specific details. (Be sure to write some key questions/ideas on the board: Does it address climate change? How? What would you suggest to your partner in terms of expanding or contracting their project? What are they going to do first to get their project going? Model the interaction with a volunteer or the whole class, examining those key questions as you pretend to be their partner.)</p> <p>Take a moment to explain the basics of your project and then your partner has two minutes to ask questions, I will signal when it is time to switch.</p>

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Time	Learning Opportunity
Optional 8 min	REPEAT (assign new partners, repeat previous meeting)
2 min	<p>Now flip the page over and jot down the first steps to make the rubber hit the road. (Model an example.)</p> <p>One last thing... as you work on your project, remember that you are one of many young people working to make a difference. It is not all up to you, but there is great power in your small actions.</p>
Several days	<ul style="list-style-type: none"> • Work on projects independently for approximately three hours total in class. You choose how this time will be structured. Check in on each project to ensure it is appropriate in time requirement and focus. Keep referring to the rubric. • Present projects. • Celebrate!
Optional Wrap-up 5 min	<p>Be honest – there is no right answer: Since we first sat here/talked, have your feelings changed about Climate Change? Do you feel any better? Does knowing that your fellow students are doing things make a difference? Will you solve the climate challenge with your project? (not alone)</p> <p>I heard a story on the news (fill in your own if you wish) about a Northern Labrador Innu community that is really struggling because ice is essential to their way of life and their ice melted two weeks earlier than last year. This story and others like it might get me down, but they do not. Why? (Your presentations. You are doing little things, I am doing little things, and these things will lead to solutions). I am not hearing excuses like “other schools are not doing their share, other countries are not doing their share...”. You are just focused on what you can do and acting, and that gives me great hope. So, you can feel empowered by the fact that you are already problem-solvers, and as you grow and learn and become the future leaders, your original ideas may grow into powerful, earth-changing action.</p>

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Time	Learning Opportunity
(cont.)	<p>Now, we have been talking about the environment this whole time... does this kind of hopefulness apply only to environmental issues? (no) Last question (for your elbow partner): what other big issues in life could be approached with this same hopeful concept that each little action combines to make a big difference in the world? (pandemics, politics, war, homelessness, hunger, etc.) Share ideas with the big group.</p> <p>https://www.cbc.ca/kidsnews/post/watch-on-the-ground-with-greta-thunberg-in-montreal 2:22-cheering (30 sec)</p>
Thanks!	<p>Thank you for helping your students to look at the world in a different way! Please help us make this resource better for others: if you have any feedback, corrections, broken links, or anything else to share, send us an email: education@cpaws.org</p>

