

Climate change can be tackled in different ways. Some solutions are nature-based, meant to increase the Earth's natural systems to help lessen climate change. Others require behaviour modification, meaning society needs to change habits that contribute to climate change.

For example, nature-based solutions can include planting trees and protecting forests, which promote the natural capture of carbon dioxide and release of oxygen through photosynthesis. Similarly, wetlands naturally store carbon, remove pollutants from our water, and control floods and droughts. An example of behaviour modification could be opting to compost food waste at home, which reduces the amount of greenhouse gases emitted compared to using landfill sites.

In this activity, meet five Canadian teenagers with different hobbies. Unfortunately, their hobbies are affected by climate change. They need your help to understand why they are experiencing these impacts and find some solutions/actions that they can use to help solve their problem or reduce their environmental impact.

PART 1: For the following climate solutions, write an "N" if the solution is nature-based or a "B" if the solution is behaviour-based:

• Conserving wetlands	
Carpooling to school	
• Planting trees	
• Changing from coal to solar energy	
• Protecting coral reefs	
Buying local products	
• Raising awareness	
• Asking school administration to stop selling plastic water bottles	
• Creating a green roof garden	

PART 2: Meet these five teenagers, listen to their concerns and help them understand how their concerns are related to climate change – and what can they do about it.





EXAMPLE: MEET WILLIAM

Location: Toronto, Ontario

Hobbies: "I love to spend time outdoors in the city, whether at the skatepark or riding my bike. But in the summertime, it's becoming more frequent that we have lingering heatwaves. This makes it difficult to hang outside. Sometimes there's smog that looms over the city for multiple days. That's when I catch up on Netflix."

Explain how this consequence is related to climate change:

Greenhouse gases naturally trap heat, making the temperature "just right" for life on earth. However, recent human activities have released extra CO_2 into the atmosphere, trapping additional heat and causing more frequent heatwaves.

What can William do to help reduce or stop this problem? Put yourself in their shoes – what would you do?

Examples of solutions:

- Plant trees in the city to create shade and cooler zones (join a planting

event or get permission to plant trees in a local park).

- Talk to members of the Toronto city council about creating new green

spaces or wetlands.

- Support wetland conservation in a local park, ravine or conservation area.

MEET NUKILIK

Location: Resolute Bay, Nunavut

Hobbies: "I enjoy going hunting with my dad to catch seals. It feeds my whole family and our neighbours, plus it's so rich in nutrients and is way cheaper than buying food at the store up here! However, hunting on the ice is becoming more and more dangerous. Accidents are becoming more frequent as skidoos go through the ice. Going seal hunting is starting to become too risky."

Explain how this consequence is related to climate change:



What can Nukilik do to help reduce or stop this problem? Is there anything they can do to adapt?

Example of adaptation: New technologies can improve safety on the ice. Smartlce allows communities to monitor ice thickness and snow along their traditional routes. The system gathers and relays information collected into colour-coded, intuitive maps that can be downloaded onto computers or mobile devices to help people plan their travel across the ice. For more information, read the complete article in the link below.¹

1 Thompson, J. (2018, June 5). Finding safe routes across melting Arctic ice with new tech and Inuit knowledge. *The Narwhal*. https://thenarwhal.ca/finding-safe-routes-across-meltingarctic-ice-with-new-tech-and-inuit-knowledge





MEET ALEXANDRA

Location: Lake Winnipeg, Manitoba

Hobbies: "I love to spend the summers at the lake! You can jump in to cool off and you can go fishing! But sometimes we can't swim in the lake because of algae blooms, which can be toxic to humans and animals. They say they're caused by too much nutrients entering the lake from things like fertilizers or leaky septic tanks. I don't understand why, but apparently warmer temperatures are making the problem worse."

Explain how this consequence is related to climate change:

Because of the combined effects of climate change (increased water temperature) and nutrient runoff, the eutrophication of Lake Winnipeg is getting worse (more occurrences of algae blooms).

What can Alexandra do to help reduce or stop this problem? Put yourself in their shoes – what would you do?



MEET LIAM

Location: Kamloops, British Columbia

Hobbies: "During my summer holidays, I spend time at my grandparents' house in Kamloops. I love it there! I can go mountain biking and hiking! But I've noticed over the last couples of years that I'm ending up inside a lot because of wildfires. The smoke gets blown in and the air quality is bad – sometimes public health recommends staying inside. When that happens I feel trapped, and cabin fever gets to me."

Explain how this consequence is related to climate change:

Climate change is making conditions drier (droughts, extreme heat, and declining snowpack) and increasing thunderstorms. This is a perfect combination to increase wildfires.

What can Liam do to help reduce or stop this problem? Put yourself in their shoes – what would you do?



MEET CHARLIE

Location: Lunenburg, Nova Scotia

Hobbies: "My favourite pastimes are reading a book at the beach and hanging out with my friends! But I'm worried that we might lose our beach. I've noticed we have more intense and frequent storms and have heard about sea level rise... After storms, the beach looks terrible and some homes get flooded or damaged by the waves. Luckily it hasn't happened to us yet."

Explain how this consequence is related to climate change:

There are two consequences happening in this scenario. One is sea level rise, which is a consequence of Arctic ice melting, as discussed in Nukilik's example. The second consequence is stronger storms. **Explain why storms are stronger:**

What can Charlie do to help reduce or stop this problem? Put yourself in their shoes - what would you do?

Examples of solutions:

- Ask the members of your city council to develop a sea level rise adaptation plan for your community.
- Join a local environmental group and advocate for immediate climate action.
- Promote the restoration of coastal wetlands to help buffer homes from storm surges.
- Create signs at the beach raising awareness about sea level rise.

IT'S YOU!

Location:

Hobbies: What activities do you enjoy doing?

Your hobbies: Are they, or will they, be impacted by climate change?

What actions can you take?

Learning about climate change can be difficult to take in. Check out Ducks Unlimited Canada's (DUC) <u>The Climate Change Conundrum</u> cartoon, that talks about all the different feelings and coping strategies you can experience when thinking about climate change. Know that it's perfectly normal – and that you are not alone.

Want more ideas of actions you can take? Check out DUC's Take Action for Climate resource page.

Want to keep the conversation going on climate change? Check out our other resources at <u>ducks.ca/teachingclimatechange</u>