

Chapter 3: How Does Addressing Climate Change Make Us Healthier?

Inquiry 3: Impacts on Health: Water

- < **Provocation** – Video
- < **Question Generation** – Neighbourhood Walk, I Wonder
- < **Knowledge Building** – Knowledge Building Circle, Umbrella Question
- < **Determining Understanding** – Concept Map
- < **Pursuing learning** – Garbage Audit, Puppet Show
- < **Consolidation** – Perspective
- < **Assessment** – Choice Board
- < **Take Action**



A. Provocation

To hook student interest, introduce the provocation to initiate student's thinking.

Video

As a class, watch the following video as a springboard for discussion:

- [The Lump! A Rhyming Kids' Story About Plastic Pollution in the Sea](#)

Possible Questions:

- How does it make you feel when you hear and see what is happening to the animals in the water?
- Why do you think that some animals eat plastic they find in the water?
- How do you think the pollution gets into the water?



B. Question Generation

At this point in the inquiry, we want to harness students' curiosity and build off of the provocation by generating meaningful questions to continue to drive the learning process.

Take students on a [Neighbourhood Walk](#). Before setting off, tell students that they will go outside to look for pollution in the community. Encourage them to ask "[I Wonder](#)" questions while on the excursion. Example: *I wonder where the plastic bag came from?*

Note: Bring a camera to take photographs of any pollution that your students notice throughout the neighbourhood.



C. Knowledge Building

At this stage, students may be ready to engage in a group knowledge building activity. It will encourage students to open their minds to many alternative ways of thinking about the provocation and ideas that have been generated thus far in the inquiry process.

Engage in a class [Knowledge Building Circle](#) (recommended to conduct outside if possible) using one of the questions that you generated after the neighbourhood walk or the example below.

Possible [Umbrella Question](#): “What happens to the pollution that is left on the ground or in the water?”



D. Determining Understanding

At this stage of the inquiry, use responses to inform and guide the learning process. They can provide insight into which concepts need clarity, what students are already well informed about, and a general direction that students want to pursue.

After the Knowledge Building Circle, introduce [Concept Mapping](#) to students. This activity can be done in groups or with the whole class. (More info on [Concept Maps | Classroom Strategies | Reading Rockets](#))

1. Refer to the concept map that was created in the second inquiry.
2. Add the new [concept map pictures](#) of water pollution, and/or photos taken during the neighbourhood walk. You can add the images or concepts that were taught on index cards or sticky notes to allow students to move them around the concept map.
3. Have students place and connect with lines the ideas that have something in common with the concepts from the first inquiry.
4. Save the concept map for inquiry 4 where more concepts will be introduced.



E. Pursuing Learning

Students will continue exploration of health and climate change. If there is interest, the activities listed below offer deliberate, focused opportunities for students to pursue learning about physical and mental health-related impacts and responses to climate change.

Activity Example 1: Garbage Audit

Conduct a schoolyard garbage audit.

- Create a graph of the different types of garbage found around the school or schoolyard and post it in the hallway for other classrooms to see.

- Create and share announcements and information about water pollution and garbage. (e.g. posters, school-wide announcements, send students class to class)
- Do another schoolyard garbage audit in a couple of weeks and compare the graphs. Were there any changes after educating the community? Why or why not?

OR

Activity Example 2: Puppet Show

Create a puppet show.

- Using the story plan below, students work with the teacher to write a story.
 - Beginning: An animal/fish/amphibian/reptile is in a pollution situation in a river/ocean/pond.
 - Problem: How is the character impacted by pollution?
 - Solution: How is the problem resolved?

The story is then presented as a puppet show.

Possible Extension Activity

[Make puppets out of recycled material](#) or [create sock puppets using mismatched socks](#).



F. Consolidation

This step is designed to encourage students to integrate and synthesize key ideas. When students make connections and see relationships within and across lessons, this helps them to solidify knowledge and deepen understanding.

Perspective

Write, draw or dramatize a story about pollution from a living thing's perspective.

Example: *Ask students to tell you how the fish feels.*



Assessment Idea

Teachers will assess learning at different points throughout the inquiry using multiple methods. The following assessment provides an alternative evaluation method to standard quizzes and tests, that can be used after consolidation or at any point in the lesson to check for understanding.

[Choice Board Strategy](#)

Possible Guiding Question: *What can we do to prevent pollution in the first place?*

Sample Choice Board

Create a Bumper Sticker	Create a poster	Make an Announcement
Draw a Picture	FREE CHOICE	Be a piece of garbage. Show your journey Dance
Make Music (any materials)	Sing a Song	Use Recycled Materials to Make a Model

After the students have decided which activity they would use to prevent pollution, they should be given an opportunity to present their understanding to other students or parents/administrators.



Take Action:

Allowing time for students to take action is an essential part of the learning process on climate change, as it empowers students and eases their eco-anxiety. Remind students that even when things get hard and seem so big they can always do something by taking action. Their actions will create an impact.

These ideas for action can be utilized at any point in the learning process, whether it's now or after completing more guided inquiries. Please note that the suggestions are consistent in each chapter.

While the future is uncertain, there are many examples of positive actions happening all around the world, and too often these stories do not get media coverage (check out [The Happy Broadcast](#) to get some good news for a change!). Finding actions that students can get involved in is paramount and in the subsequent thematic inquiries there are many examples of school projects and activities. As we collectively oscillate between optimism and outrage, stories of the past can also be important for active hope pathways.

Ask the students what they want to do to positively impact climate change. List their ideas and come up with a plan to put their action in place.

Ideas for Taking Action:

- [A Ready-made Vehicle Idling Campaign](#) *NRCAN*
- Create their own anti-idling or idle free posters for their community. [Catalogue of Potential Idling Reduction Campaigns](#) *NRCAN*

- Educate the school through different announcements sharing “waste and water facts”.
- Post the garbage collection graph on the wall outside the classroom. Do a second schoolyard garbage audit a month later. Put the second graph on the wall. Celebrate successes.
- Start a campaign for rain barrels to water school gardens
- Create anti-idling posters for the community
- Think about making a commitment to reducing plastic waste [10,000 Changes](#)

Action Project Examples

“KINDERGARTEN GARDEN PROJECT”-Byron Northview Public School- London, ON (2019)
K-2

- Their vision for Canada is to foster healthy and mindful attitudes toward nature and the outside world. It is their hope to show the youngest students how to cultivate and grow a sustainable garden, respect the planning and planting process, and to reap the benefits of growing their own produce. [See their project here.](#)

“USING A HYDROPONIC GROW KIT WITH GRADE 1/2”-Anne Hathaway Public School- Stratford, ON (2020) K-2

- The goal of the project was to learn about the importance of eating local produce, sharing local produce with others, and learning about where food comes from. The first step of the project was to use a hydroponic grow kit to see leafy greens grow fairly rapidly in the classroom. Grade 1/2 were intrigued that plants could grow without soil and were very excited to watch the lettuce grow. [See their project here.](#)

*How could you use these great examples to come up with action projects with your K-2 students?

- [Think Big! Collective Action for Climate Change | Sustainability Classroom Resources](#) at Resources for Rethinking
- [World's Largest Lesson](#)
 - “In the first activity the students watch a 5 minute video that takes them around the world visiting other young people who have taken individual actions to fight climate change. From India to Jordan, the students see that individual actions can make a difference while the narrator encourages them to fix things where they live. The message of the video is to invent, collaborate or campaign to make improvements where you live. After watching the video, the students will brainstorm a list of possible actions that could fight climate change.”
- **Feeding Our Community - Ruth Betts Community School - Flin Flon, MB (2019)**
 - Students at RBCS built a community garden to increase the availability of affordable fresh produce. Students acquired the knowledge to build, grow, and harvest their own fresh fruit and vegetables and how to utilize them in daily meals

and snacks. The garden contains a plant medicine wheel, ceremonial plants, and a three sisters garden, incorporating traditional knowledge. [See their project here](#)

- **VegFest - E.L. Crossley Secondary School, Pelham, ON (2016)**
 - E.A.R.T.H. club members at E.L. Crossley hoped to inform their fellow students about the positive impacts a plant-based diet can have on the future of our planet. Students organized a week of veggie-friendly events with the support of various local community partners. The week's events included a vegan cooking class with a local natural chef, a screening of the documentary Cowspiracy, a smoothie day, vegan salad bar extravaganza, cafeteria games, and a vendor day. VegFest received an overwhelmingly positive response and high levels of student participation each day. [See their project here](#)