

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

Inquiry 2: Impacts on Health - Sustainable Well-Being

- < **Provocation** – Posters
- < **Question Generation** – Survey
- < **Knowledge Building** – Knowledge Building Circle, Umbrella Question
- < **Determining Understanding** – Concept Map
- < **Pursuing learning** – Tally Chart, Graph, Breathing Exercises, Sit Spots
- < **Consolidation** – Role Play
- < **Assessment** – Choice Board
- < **Take Action**



A. Provocation

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

Posters

Posters can be a great way of gaining student attention and interest. This [link](#) identifies the advantages to poster use in education and suggests 6 attributes of an effective poster.

Look at these [posters](#) as a class (DADA, 2013):

- [“No Idling, Children Breathing”](#)
- [“I Am Idle Free”](#)



Possible Questions

- What do you think each poster means?
- Why is it important to have clean air?
- Why is there a dollar sign on the poster?
- Does clean air affect other things? (animals, plants, water)
- Do all areas have clean air? How does air get polluted?
- Which poster do you like the best? Why?



B. Question Generation

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

Discovery

If possible go outside and observe the buses and cars that come to the school for pick up in the morning and after school.

Anti-Idling Survey

Create a class survey, to initiate conversation and discussion around the topic of idling. Come up with 3 questions that students will ask peers to see if they have an understanding of idling.

For example: Do you know what idling is?



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](#) (outside is recommended if possible) using one of the questions that you generated after the anti-Idling activity or the example below.

Possible [Umbrella Question](#): “How can we educate others about idling?”



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 first inquiry.
2. Add the new [concept map pictures](#) of pollution, car, train, plane, boat, factory and anything else that you wish. 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 3 and 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.

Survey Follow-Up

After completing the survey, [create a graph](#) to analyze all of the responses. Invite students to come up with some conclusions about the graph. Lastly, discuss what they should do about the results. They might choose to educate the school population about vehicle idling.

Mental Health Break

- Option 1: Do some [breathing exercises](#) outside.
- Option 2: If students are feeling overwhelmed at any time, spend time outside in a natural space. Learn how to do [Sit Spots](#) outside as a coping/relaxation strategy as well as a learning activity (you may have to have the students find a quiet spot by a window if you are indoors). Start with one minute and increase the time every day or week. At school, travel outside as a class with their Sit Upon. Quietly move about the playground and find a place that your class will go back to every week. Encourage students to sit a minimum of two metres apart and invite them to quietly observe what is around them.



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.

Role Play

Children work together in this role play game to understand how pollutants are passed through the ecosystem and how humans make an impact.

Idea Adapted from [10 Hands-On Science Projects to Teach About Pollution](#)



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: How can we educate other students or the community about anti-idling?

Sample Choice Board

Create a Bumper Sticker	Oral Story about how the “plant/animal” feel about the air pollution	Make an Announcement
Draw a Picture	FREE CHOICE	Teach a breathing exercise
Make Music (any materials)	Sing a Song	Use Recycled Materials to Make a Model

After the students have decided which activity they would choose to educate others about anti-idling, 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](#)