

Chapter 2: How Does Climate Change Affect Our World?

Inquiry 2: Systems in our Community

- < **Provocations** – *Neighbourhood Walk*
- < **Question Generation** – *“I Wonder” Wall, Question Formation Technique, Video Question Lesson*
- < **Knowledge Building**– *Neighbourhood Walk, Community game*
- < **Determining Understanding** – *Think/Pair/Share*
- < **Pursuing Learning** – *Book, 3D Art (Dream Community), Descriptive Words*
- < **Consolidation** – *Scenarios, Candy Wrapper Exercise*
- < **Assessment** – *Video, Choice of Media*
- < **Take Action**



A. Provocation:

To hook student interest, use the following provocation to initiate student thinking.

Neighbourhood Walk

Take students on a [Neighbourhood Walk](#). Before setting off, tell students that they will go outside to look for systems in the community. Remind them that a system is made up of interdependent parts and that all parts work together. Some examples include a road system, home settings, park, and forest.

Take photographs of the systems your students notice in the neighbourhood.

Possible questions:

- What systems do you notice?
- Could we add parts to make it a better system?
- Could we take away parts to make it a better system?



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. This section will outline an idea for question generation based on the provocation that your class engaged with.

Continue to add to your [“I Wonder” Wall](#). Post photographs of the systems that the students noticed on their neighbourhood walk. Have the students come up with their own “I Wonder” questions. In groups, create as many questions as possible.

Possible Questions:

- I wonder what would happen if there were no road signs?
- I wonder what would happen if we added another school to the neighbourhood?
- I wonder what would happen if we planted more trees?
- I wonder if there are the same amount of trees in all neighbourhoods?
- I wonder if all communities are set up in similar ways?

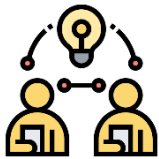
*Remember to generate questions following [Question Formulation Technique](#) rules for producing questions:

- Ask as many questions as you can
- Do not stop to answer, judge or to discuss the questions
- Write down every question exactly as it is stated
- Change any statement into a question

Add more questions to the board and put the duplicate questions together.

Watch the “[Put The Quest in Questions](#)” video (feel free to repeat the video as a reminder or review some of the prior lessons).

Have the students categorize the questions again using an “O” for open and an “C” for closed. Remind them that the closed questions can be answered with some simple research and the open questions may lead to further investigation or a deeper inquiry. Review and prioritize those questions that they think will help the class better understand systems in their community.



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.

Part 1- Take another neighbourhood walk in your community. Use this [Community Game Board](#) to emphasize activities which stimulate more selective observation. Students use all their senses to identify different aspects of the community. Page 56 of [A Kid’s Guide to Building Great Communities](#) offers an example of the game that can be modified to your class needs.

Possible questions:

- Why is it important to use all your senses while making observations?
- What did you learn about the community that you did not notice before?

Part 2- When back in class, invite the students to review the things that they found and think about which systems that they interact with. Use system pictures, [Systems for Community Game Part 2](#), to sort the items. See if students can explain which system each picture could be a part of.



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.

Work together with your class to complete the following activity.

After spending some time learning about their community and the different systems that make it work, explore the [Think Pair Share](#) strategy to determine next steps.

Possible Questions:

- We are all part of the classroom. Let's consider how!
- Are you part of the classroom system? How?
- Are you part of the school system? How?
- Are you part of the school yard system? How?
- Are you part of the community system? How?
- Are you part of the world system? How?
- How are you responsible for helping your community? What kinds of things can you do or do you do to help out?
- What makes you feel like you are part of the community?
- How are you part of a system?



E. Pursuing Learning:

At this point, students can begin researching to answer their general questions, or the following activity can be incorporated into the process to ensure that students understand basic concepts of systems, community and climate change.

Read the book: [All Are Welcome](#) by [Alexandra Penfold](#) illustrated by [Suzanne Kaufman](#)
Readers will follow a group of children through a day in their school, where everyone is welcomed with open arms. A school where students from all backgrounds learn from and celebrate each other's traditions. A school that shows the world as we will make it to be.

Have a discussion about different communities in the local/broader areas. Talk about the assets that different communities might have.

- How are rural and urban communities the same and different?

Potential Questions:

- Should all communities have parks and trees?
- Do all communities have parks and trees?
- Are all communities the same? How are they different?
- What do all communities need so all people can access them and feel happy?
- What are some of the rules and laws that impact communities?

Activity

As a class, build a dream community that is inclusive and accessible by all. *What would a dream community need for people of all identities to feel like they belong and have a space in the community?*

Place a large white paper in an area of the classroom where it is accessible to the students. Explain to the students that as a class they will add to the board to create a dream community. They can choose whatever type of medium they'd like (paint, crayon, markers) or use boxes and recycled materials. Use the [descriptive words](#) found in this link to help students think of places in their community



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.

Try to be “solutionaries”. Think about how your decisions affect everyone including the plants and animals: [What is a Solutionary?](#)

Once your community is built, look at these different [Scenarios for a Dream Community](#) and see what kinds of places that your students might add to their community depending on the problem that they have encountered.

Extension: [The Candy Bar Wrapper Exercise](#) (page 8)

Help students identify their own sphere of responsibility. Ask this question, “How far will you lean out of bed to pick up a candy bar wrapper?”

Possible Questions:

- What does “sense of responsibility” mean?
- Does accepting responsibility mean that you will do something?



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.

How the Systems Interact

Watch the following [video](#) prompt of a tree and note how many different animals pass by this tree in a year.

Students then choose an [Animal or Insect](#) and think of three ways a tree is important to this animal or insect (e.g., home, food, shelter). Students are encouraged to present their understanding using a medium of their choice. As a class, make a list of the different presentation media (e.g., dance, visual art, concept map, video, etc.).



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.*

Ask the students what things we can do to make sure that all of the systems we talked about are working well and will help climate change?

Are there any projects that your students could partner with a community expert to increase biodiversity or help to restore a specific habitat?

One system that we talked about was a bicycle. What can we do with a bicycle that will help climate change? What can we do to encourage other students and people in our community to ride their bikes to school and work?

Other Ideas for Taking Action:

- Habitat restoration
- Conduct a clothing drive
- Collect food donations for the local food bank
- Innovate sustainable solutions for school or community questions and problems

- Share your learning within your school and share your learning outside the class

Action Project Examples

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

“POLLINATOR GARDEN” – Algonquin Public School- Woodstock, ON (2017) K-2

- The main focus of the project is to inform and support young children in developing their understanding of insect life cycles and the interconnectedness of the beautiful creatures to our lives and to begin to foster an appreciation for nature and how they can have a direct impact on their local and national environment. They learned about the decline in the Monarch Butterfly populations during a professional development workshop and decided to plant a pollinator garden. [See their project here.](#)
- Ten Canadian Schools’ stories of Climate Action
 - This document outlines a collection of promising practices of climate action taking place in 10 Canadian UNESCO Associated Schools. These 10 schools participated in a worldwide UNESCO pilot project to implement climate action as recommended in the UNESCO (2016) publication, *Getting Climate-Ready: A Guide for Schools on Climate Action*. <https://bit.ly/3mpPtY>
- Young Voices for the Planet
 - This website documents youth speaking out, creating solutions and leading the change. These youth solutions to the climate crisis include stories of California kids banning plastic bags, Florida students saving their school \$53,000 in energy costs, an 11-year-old German boy planting millions of trees and other young people changing laws, changing minds and changing society as they reduce the carbon footprint of their homes, schools and communities. [Young Voices for the Planet](#)
 - Resources for Kids Taking Action: [Young Voices for the Planet | Award-Winning Film Series and Civic Engagement & Democracy Curriculum | For Kids](#)
- The Great Plant Hunt from Ecoschool Global
 - The campaign aims to educate students about biodiversity, its importance and encourages them to take positive action. [About the Campaign — Eco Schools](#)
- Warming, Waste, Water, Watts, Wildlife (W5)
 - Through this project, thousands of students will be given opportunities to assess, design, and build innovative solutions to environmental challenges. [Warming-Waste-Water-Watts-Wildlife \(Alcoa W5\) — Eco Schools](#)
- Community Conversations for Climate Change
 - In this activity, students talk to members of their community about some of the environmental and climate changes they have noticed since they were young. [Community Conversations for Climate Change | The World’s Largest Lesson](#)