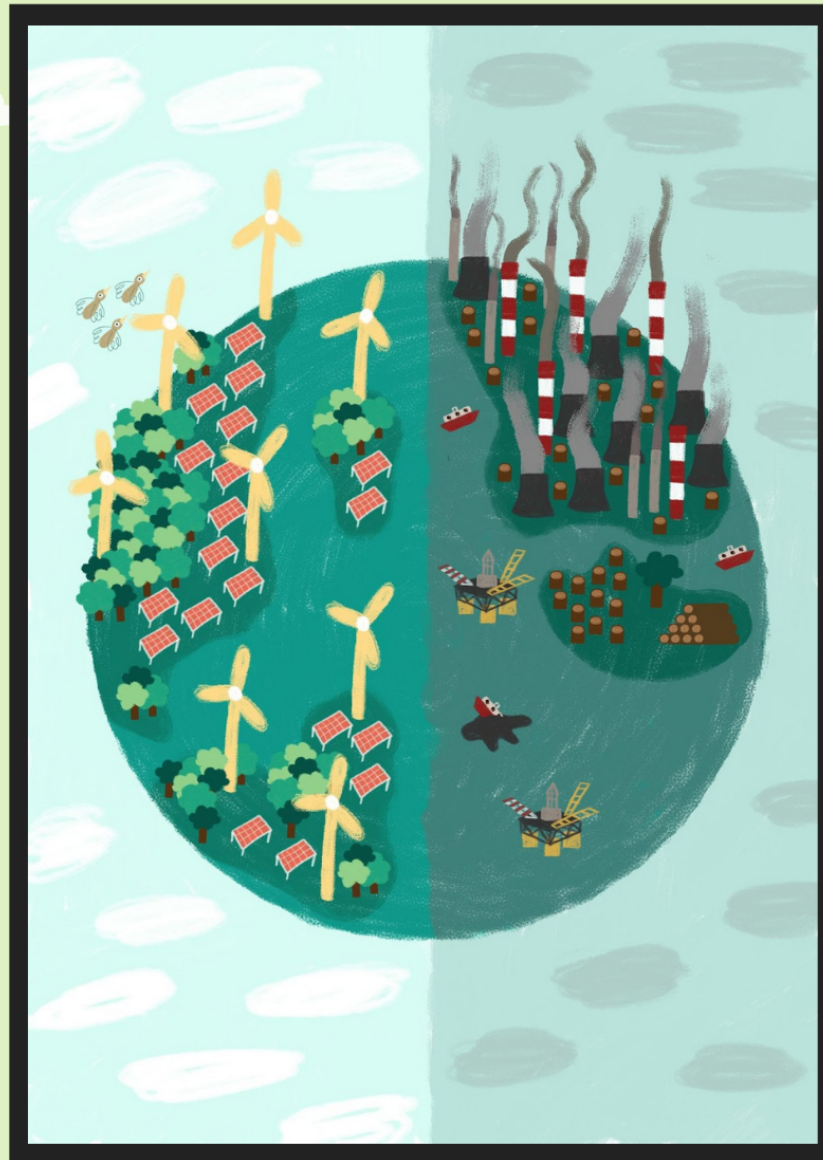




CHAPTER 1:

What is climate change? Why care?

*A Project of Learning for a Sustainable Future
Contributors: Janice Haines, Nathalie Lauriault*



Art by Joana
Campinas for
ArtistsForClimate.org

A project of



Learning for a
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Chapter 1. What is Climate Change and Why Care?

In this initial inquiry, students will explore and learn about the differences between weather and climate and understand the basic scientific principles of climate change through books, videos and interpretations of an infographic. You may find there are more activities than a class can complete. We have included several suggestions so that every kind of learner will find ideas, questions and activities to explore based on their unique and diverse community characteristics and circumstances, inspiring learning that ultimately leads to action.

Climate change is a [wicked problem](#) that is increasingly affecting human health, species distribution, and the ability of the earth's ecosystems to sustain our physical, economic, social, and environmental needs. The reports from the Intergovernmental Panel on Climate Change (IPCC) and other leading scientific organizations have become increasingly urgent. Alongside this urgency, media reporting consistently uses a doomsday framing, which can leave viewers with a sense of anxiety or paralysis.

In this inquiry, we suggest that educators begin by talking with children about the weather and climate. This will help them understand the more difficult concept of climate change. We also suggest framing learning pathways broadly by connecting to actions that students identify as personally relevant and important to them.



Illustration by Joana Campinas for ArtistsForClimate.org

Before you begin: Background Information for Educators

Canada's climate is changing at an accelerated rate: since 1948 Canada's annual average land temperature has increased by 1.5°C—roughly double the global average level of warming ([Natural Resources Canada](#)). “It has been clear for decades that the Earth's climate is changing, and the role of human influence on the climate system is undisputed,” said [IPCC Working Group I Co-Chair Valérie] Masson-Delmotte. Yet the new [IPCC] report also reflects major advances in the science of attribution – understanding the role of climate change in intensifying specific weather and climate events such as extreme heat waves and heavy rainfall events” ([Climate change widespread, rapid, and intensifying](#) – IPCC, 2021). It is true that there are many natural forces that play a role in determining the Earth's climate (the Earth's orbit around the sun, changing ocean currents, very large volcanic eruptions and the Earth's tilt) and there is a great deal of evidence that the world has warmed and cooled in decades before humans existed. However climate changes have never occurred at a pace as rapid or as drastic as we have seen since pre-industrial time, and these changes cannot be explained by any natural phenomena ([Prairie Climate Centre](#)). These changes are a cause for concern but, more importantly, they are also a call to action to mitigate current and future effects.

According to the [Council of Canadian Academies' expert panel on climate change risks and adaptation potential](#), Canada faces substantial risk with a likelihood of significant losses, damages, or disruptions over a 20 year timeframe in the following areas: agriculture and food; coastal communities; ecosystems; fisheries; forestry; geopolitical dynamics; governance and capacity; human health and wellness; Indigenous ways of life; northern communities; physical infrastructure; and water. If the global community is able to limit the increase in temperature to 1.5 degrees, the impacts on terrestrial, freshwater and coastal ecosystems are expected to be lower.

Overall, Canadians are quite certain that climate change is happening. According to the national survey [Canadians' Perspectives on Climate Change & Education](#) (2022) conducted by Learning for a Sustainable Future, 81% of all Canadians believe that climate change is happening. However, the population is less certain that humans are the primary cause of the warming climate; only 54% of respondents think that climate change is caused mostly by human activity. When this understanding is contrasted with the widespread scientific consensus that climate change is primarily caused by the human activity of burning fossil fuels, the urgent need for more comprehensive education on the subject is made clear.

Another finding from the report, [Canada, Climate Change and Education: Opportunities for Public and Formal Education](#), found that 46% of students ages 12-18 are categorized as “aware,” meaning they understand that human-caused climate change is happening, but they do not believe that human efforts to stop it will be effective. This is an opportunity for schools to help students understand that there are strategies and solutions to address climate change if all sectors take action today.

Greenhouse Effect

According to Let's Talk Energy, “A greenhouse is used to create a warmer growing environment for plants that would otherwise not survive in the colder conditions outdoors. In a greenhouse, energy from the sun passes through the glass as rays of light. This energy is absorbed by the plants, soil and other objects in the greenhouse. Much of this absorbed energy is converted to heat, which warms the greenhouse. The glass helps keep the greenhouse warm, by preventing the warmed air from escaping.” ([Greenhouse Effect](#), Let's Talk Energy)

Let's Talk Science explains that "A blanket of gases called the **atmosphere** surrounds the Earth. Some of these gases are **greenhouse gases** (carbon dioxide being the most common greenhouse gas). They trap heat, like the walls of a greenhouse. The greenhouse gases in our atmosphere keep our planet warm enough for us to survive. Not enough greenhouse gases would make the Earth too cold for humans. In fact, without greenhouse gases in our atmosphere, Earth's average temperature would be -18 degrees Celsius. But, too much greenhouse gas in the atmosphere would make the Earth too warm."

"Many greenhouse gases exist naturally. Greenhouse gases cycle through the Earth's systems. There are greenhouse gas **sources** and greenhouse gas **sinks**. Sources are parts of the cycle that add greenhouse gases to the atmosphere. Sinks are parts of the cycle that remove greenhouse gases from the atmosphere. Recently, the concentration of greenhouse gases in our atmosphere has gotten higher. This is because humans have dramatically increased the amount of sources, which now outweigh the sinks." ([Climate Change 101](#), Let's Talk Science)

Climate vs. Weather

The difference between weather and climate is that weather describes an event occurring at a particular time and place (a storm moving in over a city for example), whereas climate describes the typical weather that a location experiences based on the study of weather conditions over long periods of time. An often heard expression is that "climate is what you expect, and weather is what you get." ([Let's Talk Energy - Climate vs. Weather](#): A collaborative project with the Royal Canadian Geographical Society and Ingenium)

To better understand the difference between climate and weather, [watch this video](#) by National Geographic that features Neil Degrasse Tyson.

General Introduction to the inquiries in this chapter:

This chapter offers three different structured inquiries to support *What is Climate Change and Why Care?* Each of the three inquiries begin with a provocation followed by the other steps of the inquiry model and many strategies and examples are included.

These steps can be completed in their entirety as stated. However, as inquiry is an organic and fluid process based on student input, educators may wish to adapt, modify or replace the suggested steps to create their own inquiry with their class. We therefore suggest that teachers review the whole chapter first in order to create a plan that will work best with their particular group of learners.

The inquiries in this chapter are connected to curricular concepts as shown in this chart. These curricular concepts are applicable across Canada.

Curricular connections	Concepts
Science	Sustainability Stewardship Ecosystems

	<ul style="list-style-type: none"> Interdependence Changes Cycles Climate Conservation Action Innovation Characteristics Protection Living things Energy Environment
Language	<ul style="list-style-type: none"> Media form Retelling Restating Communication Critical Literacy
Social Studies	<ul style="list-style-type: none"> Location Physical features Community Interactions
Physical Education and Health	<ul style="list-style-type: none"> Participation Outdoor education Energy Vitality Relationships Self-awareness Appreciation Motivation
The Arts (Visual Arts, Drama, Dance)	<ul style="list-style-type: none"> Composition Interpretation Symbolism Form Line Colour Space
Mathematics	<ul style="list-style-type: none"> Data literacy Quantity Number sense

Prior to Provocations: Journaling

Encourage students to record their thinking and learning throughout the learning process. The main reason for developing a journal is for students to then be able to look back and track their growth and progression with their connection to climate change. Students scaffold their thinking throughout their learning journey. The entries can be a combination of personal reflections and assigned reflections. This can be done as illustrations, concept maps or written reflections.

Inquiry 1: Understanding Weather

Students will explore and learn about weather through storybooks, sensory walks and charades. They will acquire an understanding of how weather is the condition of the atmosphere in one area at a particular time.

Resources:

- [Read Aloud: What Makes It Rain?](#)
- [Visual Processing Cards \(Chiji or Climer cards\)](#)

Inquiry 2: Understanding Climate

Students will explore and learn about climate by exploring the outdoors and through sorting activity. They will acquire an understanding of how climate is the weather of a specific region over a long period of time.

Resources:

- [Sorting Activity](#)
- [Visual Processing Cards \(Chiji or Climer Cards\)](#)

Inquiry 3: Understanding Climate Change

Students will explore and learn about the difference between weather and climate and understand how climate change impacts our world. They will have opportunities to further learn by watching videos to obtain solid background information on the concept of climate change.

Resources:

- [Weather vs. Climate Infographic \(NOAA, 2020\)](#)
- [Visual Processing Cards \(Chiji or Climer Cards\)](#)
- [Climate Change for Kids | A fun engaging introduction to climate change for kids](#)
- [Climate Change Science Experiments For Kids](#)

Chapter 1: What is Climate Change and Why Care?

Inquiry 1: Understanding Weather

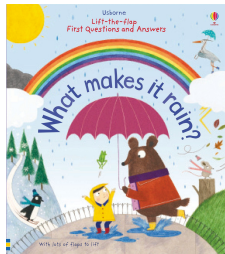
- < **Provocations** – *book*
- < **Question Generation** – *book, Five W's Strategy*
- < **Knowledge Building**– *Knowledge Building Circle, Critical Thinking Question*
- < **Determining Understanding** – *KWL*
- < **Pursuing Learning** – *sensory walk, charades*
- < **Consolidation** – *visual processing cards (\$), illustrate*
- < **Assessment** – *Graffiti Wall*
- < **Take Action**



A. Provocation

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

BOOK



[What Makes It Rain?](#) By [Katie Daynes](#), illustrated by [Christine Pym](#)

This book, [What Makes It Rain?](#) is handy to have in the classroom and has six big topics with a lot of information on each. Note suggestions for when to use each chapter in brackets below:

- Rain (spring or when it is raining)
- Rainbows (spring or if you see one)
- Sun (any season/temperatures)
- Lightning and thunder (after a storm)
- Wind (any season)
- Snow (winter or if it snows when it shouldn't)

As you read through the book, discuss how people, animals and plants are feeling and affected by weather.

**If you don't have access to this book there are other suitable titles in your school or public library that could be used instead such as [Questions and Answers About Weather](#) by the same author*

Possible Discussion Questions:

- What would happen if it never stopped raining? Or if it didn't rain at all?
- What would happen if it only rains in one part of the world and not the rest?

- What would happen if the sun overheats a farmer’s field?
- What would happen if all the glaciers melted?
- What is your favourite weather? Why?



B. Question Generation

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

Book: [What Makes It Rain?](#)

Have the students look at the pictures in the book. Ask them to think about what questions they would have. Start with one of the suggestions from [Five Ws and an H and Developing Higher Order Questions](#) (Who, What, Where, When, Why and How) to see what students come up with. Write these questions down so that students can see their questions come to life.

Extra Resource for helping students asking questions:

- [Activities for Teaching Children to Ask and Answer Questions](#)



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 provocations 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 What Makes it Rain Book provocation or the example below.

Possible [Critical Thinking Question](#):

- “What do I know about weather?” (easier)
- “Do we need different kinds of weather? Why?” (more difficult)



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.

Based on their understanding of weather, work together with your class to fill out the “Know” and “Want” columns of a [KWL \(Know-Want-Learned\) Chart](#).

Sample KWL Chart:

TOPIC:		
K – What I Already Know	W – What I Want to Know	L – What I Learned



E. Pursuing Learning

At this stage, students may begin research to pursue their questions, or the following activity could be integrated into the process to ensure that students have an understanding of foundational climate science. The activity listed below will enrich the understanding of climate change.

The purpose of this activity is to make students aware of their environment using their senses.

Start with a [Sensory Walk](#) (this can be done during every season and all weather!). Begin by having students take note of the weather on a particular day.

Example prompts:

- If it is windy, ask them, “Can you feel the wind on various parts of your body?” or “What direction is the wind coming from?”. Have them notice where the sun is and if they feel the heat. Have them notice the shape of the clouds. Are they moving? Ask, “Do the shapes of the clouds remind you of anything?”.
- In the winter, if it is snowing, go outside to have students closely look at snowflakes. Suggest that they look at their snowflakes and compare them with a friend. Ask if they are the same.

**For other ideas on focused sensory walks, explore [A Walking Curriculum](#) by Gillian Judson.

Follow up: Weather Element Charades

After the walk, divide the students in groups of 4 or students can choose to perform alone. Explain the instructions to the [Charade Game](#).

In their groups, students pick a weather element that they observed outside during the sensory walk, talked about in the book or that they would like to share. Instruct them to work together to determine how to illustrate the element using their bodies and movement. Once they have rehearsed they will present their charade to the rest of the class. The spectators are invited to guess what they are acting out.



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.

Illustrate

Have the students show their learning about climate with playdough, illustrations or movement in groups.

AND/OR

Visual processing cards (will need to be purchased)

Using a deck of [Visual Processing Cards](#) ([Chiji](#) or [Climer Cards](#)), spread these out on the floor or on a table. Ask students to pick a card that reflects something that they have learned today. This is ideally facilitated in a circle.



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.

Tell the students they are **school artists** and have been invited to explain to the **school community** about **weather**. They have been given a space on a wall called a **graffiti wall**.

Divide the wall into 3 and ask students to visually represent their ideas and opinions about **weather** in the first third. The other two thirds will be filled over the course of the next two inquiries (climate and climate change).

Spend some time learning about the history of graffiti: [Graffiti Facts for Kids](#).



Take Action:

Once the students have a good understanding of weather, climate, and climate change, allow time for students to take action. This 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 the suggestions are consistent in each chapter.

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:

- Organize an assembly to present information learned in an engaging manner
- Plant trees
- Collect data as a citizen scientist (e.g., bird counts)
- Encourage families to use eco-friendly options in place of single-use items (e.g., plastic water bottles, paper coffee cups, etc.)
- Take a class pledge to make changes:
 - Use both sides of paper
 - Turn off the lights when leaving the room
 - Unplug things that aren't being used
 - Or check out these ideas: [50 Classroom Climate Actions - Resources and Descriptions](#)

Action Project Examples:

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

Watch this video titled [‘Change the World’ in 5 minutes](#). It is about a Primary class who have decided that they would spend the first 5 minutes of school each day of the week implementing sustainable change in the world. It's more of a movement that gives the youth the power to make a difference.

These kindergartens share what they learned about “Fast Fashion” in order to educate and create change.

[Fashiontakesaction_03_24.mp4](#)

Informative Article about using Dr. Seuss' book “The Lorax”
[How Dr Seuss Wrote The Ultimate Takedown Of Fast Fashion](#)

*Please note: LSF supports the removal of other Dr. Seuss materials that have been discontinued because of anti-Black and anti-Asian racism.

“TEACHER” – Gladys Speers PS- Oakville, ON (2019) K-6

- The vision of this project was to educate the youth and the community on making choices in order to live in a sustainable and healthy way. Environment issues addressed: Convenience vs. sustainability, pace of life vs. nature appreciation,

consumer choices vs. rights to a clean environment, and ignorance of important life skills which help sustain a healthy environment. [See their project here.](#)

- [Ten Canadian Schools' Stories of Climate Action](#)
- [Climate Action Project](#) K-12
- [Our Earth: How Kids are Saving the Planet - JANET WILSON](#)

Chapter 1: What is Climate Change and Why Care? Inquiry 2: Understanding Climate

- < **Provocations** – *Neighbourhood Walk*
- < **Question Generation** – *Neighbourhood Walk*
- < **Knowledge Building**– *Umbrella Questions, Knowledge Building Circle*
- < **Determining Understanding** – *KWL*
- < **Pursuing Learning** – *Sorting Activity, Story Writing, Video*
- < **Consolidation** – *Illustrate, Visual Processing Cards (\$)*
- < **Assessment** – *Graffiti Wall*
- < **Take Action**



A. Provocation

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

Neighbourhood Walk

Neighbourhood walks and learning can be done all year in all seasons.

Take your class outside on a [Neighbourhood Walk](#) to look for things in their neighbourhood that depend on the weather/climate. Focus on the natural, human and built systems that are in place to help all species that depend on the weather/climate (e.g., rain gardens, umbrellas, energy sources, trees, etc.). Look for features that might have been altered because of the weather/climate (e.g., erosion on the schoolyard).

While you are out in your community, think of potential community partners that are focusing on weather systems and climate change (e.g., local conservation authorities, local businesses, transportation companies).

Ask students to document their observations through photos or sketches.

Some other examples of features to note on the walk:

- Bike paths
- Parks (natural areas)
- Cars/trucks/buses
- Rivers/Ponds (Storm Drains)
- Solar Panels/Wind Turbines



B. Question Generation

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

Neighbourhood Walk Follow-up

1. After the walk, display the photos or sketches that students documented throughout the walk.
2. Give students a chance to observe one another's drawings/notes. After observing, ask the students to sort the pictures into groups based on themes/similarities.
3. Ask students to explain their sorting and use the groupings to narrow down one "Big Idea" as a class.
4. Based on the big idea, generate a key question about climate.



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 provocations 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 Neighbourhood Walk provocation or the example below.

Possible [Umbrella Question](#): "What is the difference between weather and climate?"



D. Determining Understanding

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

Based on students' questions or the [Umbrella Question](#), "What is the difference between weather and climate?", work together with your class to fill out the "Know" and "Want" columns of a [KWL \(Know-Want-Learned\) Chart](#).

Sample KWL Chart:

TOPIC:		
K – What I Already Know	W – What I Want to Know	L – What I Learned



E. Pursuing Learning

At this stage, students may begin research to pursue the umbrella question, or the following activities could be integrated into the process to ensure that students have an understanding of foundational climate science. The activities listed below will enrich the understanding of climate change.

Sorting Activity (Weather vs Climate)

Adapted from [15 Meaningful and Hands-On Climate Change Activities For Kids](#)

Explain to students that you will read cards with clues and they will try to identify which is referring to weather and which is referring to climate. Discuss as a class which card belongs in each category.

OR

Story Writing

Create a story with the class explaining the weather on a particular day.

For example:

Today is a sunny day and there are no clouds in the sky. Everyone is wearing shorts because it is hot. We have to wear sunscreen and hats so that we don't get sunstroke. We are sweating so we also need to remember to drink a lot of water to stay hydrated.

Then create a story with class explaining the climate of the region that the students live in.

For example:

In the winter it often snows and the temperature drops. It is more difficult for animals to find food and water. Some animals hibernate and some birds begin to migrate south. At home we close the windows and turn the heat on.

Extension:

[What's the Difference Between Weather and Climate?](#)

This video explains the difference between weather and climate and how change can impact our world.

Extension:

Video Follow up Questions

- What did you hear that surprised you?
- Did you learn anything new?
- Do you have any questions about weather or climate?



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.

Illustrate

Have the students show their learning about climate with playdough, illustrations or movement in groups.

AND/OR

Visual processing cards (needs to be purchased)

Using a deck of [Visual Processing Cards](#) ([Chiji](#) or [Climer Cards](#)), spread these out on the floor or on a table. Ask students to pick a card that reflects something that they have learned today. This is ideally facilitated in a circle.

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Action Project Examples

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- **Watch these [kindergartens share what they learned about “Fast Fashion”](#)** in order to educate and create change.
- Informative Article about using Dr. Seuss’ book “The Lorax”: [How Dr Seuss Wrote The Ultimate Takedown Of Fast Fashion](#)

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“TEACHER” –Gladys Speers PS-Oakville, ON (2019) K-6

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Ten Canadian Schools’ Stories of Climate Action

- [Climate Action project](#) K-12
- [Our Earth: How Kids are Saving the Planet - JANET WILSON](#)

Chapter 1: What is Climate Change and Why Care?

Inquiry 3: Understanding Climate Change

- < **Provocations** – *Poster*
- < **Question Generation** – *Umbrella questions,*
- < **Knowledge Building**– *Umbrella Questions, Knowledge Building Circle*
- < **Determining Understanding** – *KWL*
- < **Pursuing Learning** – *videos, science experiments*
- < **Consolidation** – *illustrate, visual processing cards (\$)*
- < **Assessment** – *Graffiti wall*
- < **Take Action**

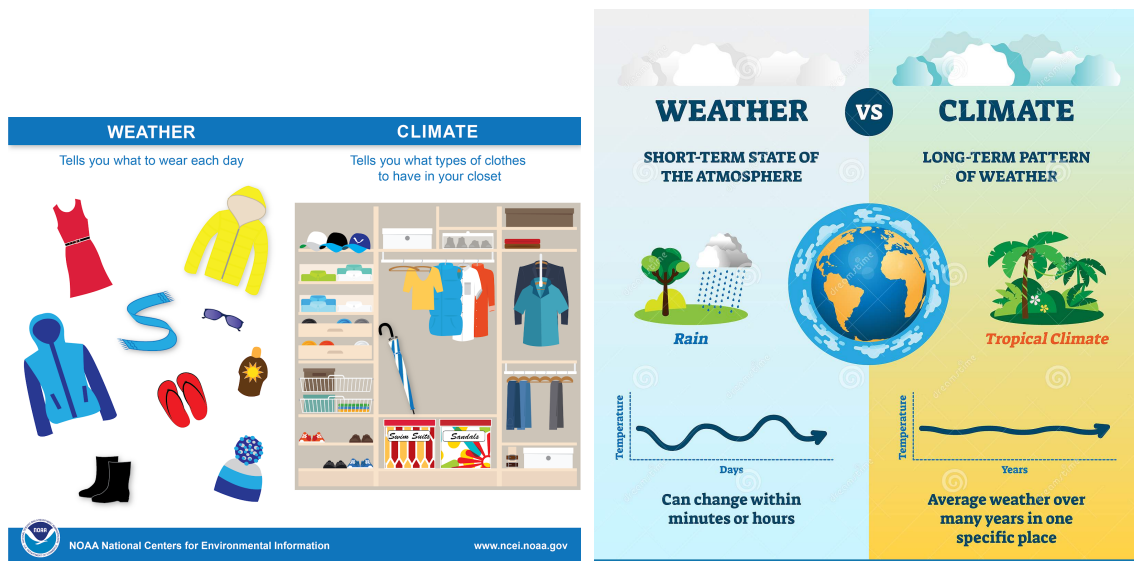


A. Provocation

To hook student interest, introduce the provocation idea to initiate student thinking using the following pictures.

Posters

[Posters can be a great tool for education](#) and motivating children.



*This is a very difficult concept for young children who are very literal. They have challenges seeing the closet as climate. This video might also help the teacher and students see the patterns [Trend and variation](#) (challenging vocabulary).

1. Display the weather picture first. Have a discussion as to what they observe in the picture.
2. Display the climate section of the poster. Have a discussion as to what they observe.
3. Read the subtitles under each title. Have a discussion about the meaning of each subtitle and the relationship between the two.

4. Look at the second poster. Talk about the pictures and the lines. Think about animals that survive in tropical climates. Would they be able to survive here? Watch the beginning of this video about Monarch butterflies. [Unraveling the Great Butterfly Migration Mystery](#) Why do you think they need to take this long journey south? Are there other animals that also need to go to a different climate?
5. Come up with a class statement that explains the difference between weather and climate.

Potential Questions:

- When would you wear a toque? Or a raincoat? Or flip flops?
- Does the weather change from day to day?
- Can we plan ahead for the weather?
- Do we have an idea of what kinds of weather we have in each season?
- What would it be like if the seasons didn't change?
- What if we had snow in the summer or no snow in the winter?



B. Question Generation

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

Poster Follow up

After observing and discussing the differences between weather and climate, invite students to develop [Umbrella Questions](#) focused on the “big ideas” of climate change. Post the questions around the poster. These questions will help ground the inquiry.



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 provocations 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 poster provocation or the example below.

Possible [Umbrella Question](#): “How does Climate Change impact our world?”

D. Determining Understanding



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

Based on students' questions or the [Umbrella Question: How does climate change impact our world?](#), work together with your class to fill out the “Know” and “Want” columns of a [KWL \(Know-Want-Learned\) Chart](#).

Sample KWL Chart:

TOPIC:		
K – What I Already Know	W – What I Want to Know	L – What I Learned



E. Pursuing Learning: Foundational Climate Science Concepts

At this stage, students may begin research to pursue their umbrella questions, or the following activity could be integrated into the process to ensure that students have an understanding of foundational climate science and enrich their understanding of climate change.

Video and experiments

The following climate change video helps to consolidate climate change vocabulary such as the greenhouse effect and global warming. We encourage teachers to watch the video beforehand and identify the teachable moments or sections applicable for your age group.

1. Watch the video: [Climate Change for Kids | A fun engaging introduction to climate change for kids](#)
2. After you have watched the video, choose one, two or all three of these [Climate Change Science Experiments For Kids](#) to help the students understand climate change.

Extension: Video

What is Climate Change?

The video explains how climate change refers to long-term shifts in temperatures and weather patterns, mainly caused by human activities.



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.

Illustrate

Have the students show their learning about climate change with playdough, illustrations or movement in groups.

AND/OR

Visual processing cards: (these would need to be purchased)

Using a deck of [visual processing cards \(chiji or climer cards\)](#), spread these out on the floor or on a table. Ask students to pick a card that reflects something that they have learned today. This is ideally facilitated in a circle.



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.

Tell the students they are **school artists** and have been invited to explain to the **school community** about **climate change**. They have been given a space on a wall called a **graffiti wall**.

Divide the wall into 3 and ask students to visually represent their ideas and opinions about **weather** in the first third. The other two thirds will be filled over the course of the next two inquiries (climate and climate change).

Spend some time learning about the history of graffiti: [Graffiti Facts for Kids](#).



Take Action:

Once the students have a good understanding of weather, climate and climate change, allow time for students to take action. This 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 the suggestions are consistent in each chapter.

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:

- Organize an assembly to present information learned in an engaging manner
- Plant trees
- Collect data as a citizen scientist (e.g., bird counts)
- Encourage families to use eco-friendly options in place of single-use items (e.g., plastic water bottles, paper coffee cups, etc.)
- Take a class pledge to make changes:
 - Use both sides of paper
 - Turn off the lights when leaving the room
 - Unplug things that aren't being used
 - Or check out these ideas: [50 Classroom Climate Actions - Resources and Descriptions](#)

Action Project Examples

How could you use these great examples to come up with Action Projects with your 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](#)