



## Taking Responsibility to Reduce the Effects of Climate Change

### Organization:

**Title:** Taking Responsibility to Reduce the Effects of Climate Change

**Summary:** Students learn to distinguish between the natural vs. human-caused greenhouse effect and discuss how colonization disrupted relationships characterized by reciprocity with the natural world and in so doing has contributed to the anthropogenic greenhouse effect. Students also calculate their own carbon footprint and are challenged to imagine more reciprocal ways of relating to land.

**Inquiry Question:** Inquiry Question 1: Forest Harvesting: How does observing the land teach us that an ecosystem is comprised of interdependent beings (including humans) which all have important roles and responsibilities that must be fulfilled in order for an ecosystem to thrive?

**Duration:** 1-2 class periods

**Learning Environment:** Classroom, online, outdoor

**Season:** Summer, Spring, Fall

### Materials:

- Climate Change Articles.pdf
- Climate Change Teacher Backgrounder.pdf
- Colonization and Climate Change.pdf
- Sinks and Sources Local Maps.pdf
- Website: <https://www.photojoiner.net/>
- Online Carbon Footprint Calculator: <https://rb.gy/idal4>
- Website: Trillion Trees <https://www.trilliontrees.org>
- Website: Little Forests Kingston <https://rb.gy/sqfxu>
- Video segment in the ten-minute video accompanying the Food Bundle of Anishinaabe community member Maureen Buchanan from Little Forest Kingston at the Food Sovereignty Garden on Highway 15 discussing the manner in which the Little Forest planting method can be utilized to foster biodiversity, sequester carbon, reclaim culture and land, and promote land sovereignty
- Optional: The Greenhouse Game: <https://www.greenhousegame.com/>

### Curriculum Links:

Grade 9 Destreamed: A1.1, B1.3, B2.6

Grade 10 Academic: A1.1, A1.10, D2, D2.1, D2.3, D2.4, D2.9, D3.7, D3.8

Grade 10 Applied: A1.1, A1.10, D2, D2.1, D2.3, D2.5, D3.2, D3.6, D3.7

### Meta Data:

**Content Type:** Activity

**Bundle:** Food

**Theme:** Global Climate Change



**Subject Area:** Biology, Environmental Education, Geography, Health, History, Outdoor Education, Science, Social Studies

**Curriculum Focus:** 9, 10

- Students review two news articles found in **Climate Change Articles.pdf**, one of which frames climate change as emerging because of anthropogenic impacts and the other which frames climate change as caused by the natural greenhouse effect. In discussion students compare the different perspectives and biases evident in the different media sources.
- The teacher discusses climate change with students using the **Climate Change Teacher Backgrounder.pdf** as a guide.
- Teacher asks students to revisit what human-made factors they believe are contributing to climate change. This would be an appropriate time to review the anthropogenic greenhouse effect introduced earlier.
- Teacher discusses with students how land use practices have changed/been impacted by colonization using the **Colonization and Climate Change.pdf** as a guide.
- Teacher asks students to consider what the implications of the changes caused by colonization are in regard to carbon and the release of other greenhouse gases.
- Students at this time can review the second post-colonial map they developed in **Sinks and Sources Local Maps.pdf** in Learning Activity 5 of the Food Bundle: *Forests as Climate Sinks*. Teachers ask students to consider if these changes are inevitable and permanent? For instance, now that we know that seeing the land as a commodity is not the only ways of relating to the land can we choose another more reciprocal relationship inspired by Indigenous ways of knowing and being? In this regard, could the map be changed by imagining other ways of interacting with the land that are more reciprocal and enable each element of an ecosystem to fulfill its obligations?
- Students can share their thoughts orally or through a digital or paper collage. This is a great tool to use for this purpose:  
<https://www.photojoiner.net/>

Activity:

- Students calculate their carbon footprint using the following online calculator:  
<https://rb.gy/idal4>  
and make goals regarding how to reduce their carbon footprint.
- Students learn about what different groups including First Nations are doing to help remove carbon from the atmosphere. Ie: movement to plant a trillion trees:  
<https://www.trilliontrees.org> This recent movement calls for the planting of a trillion trees around the world by 2050.
- To follow up on how to plant trees in a manner that enhances biodiversity, students can check out the work done locally by Little Forests Kingston: <https://rb.gy/sqfxu>



- Students watch video segment in the ten-minute video accompanying this Learning Bundle of local Anishinaabekwe community member Maureen Buchanan from Batchewana First Nation discussing the manner in which the Little Forests planted by Little Forest Kingston at the Food Sovereignty Garden on Highway 15, can be utilized to foster biodiversity, sequester carbon, reclaim culture and land, and promote land sovereignty.

### Optional Extension Activity:

- Teacher can purchase The Greenhouse Game:  
<https://www.greenhousegame.com/>
- Additional actions can be included to the game such as seed saving, sustainable harvesting, etc. to represent Indigenous contributions to fostering reciprocity with the natural world.

Please note that the learning represented in these activities reflects Big Idea C. in the Indigenous Knowledge Learning Bundle: “Reciprocity, Interdependence, and Holism are at the Heart of Indigenous Ways of Knowing and Being”. To help your students learn more about these foundational concepts check out the Learning Activities titled: *Holism*, *The Honorable Harvest*, and *Our Responsibilities* found in the *Indigenous Ways of Knowing and Being with the Natural World* Learning Bundle (Grades 7-10).