

Decoding Carbon

#DECODINGCARBON

Activity: Global Impacts of Climate Change



Learning Outcomes

By the end of this activity learners will

- Explore the impacts of climate change in Canada and around the world.
- Learn about the predicted impacts under different temperature increase scenarios.

Curriculum Connections

Alberta

- Grade 10 Science
- Grade 10 Social Studies
- Grade 11 Social Studies

British Columbia

- Grade 10 Science
- Grade 10 Environmental Science
- Grade 11 Environmental Science
- Grade 12 Environmental Science

Ontario

- Grade 10 Science
- Grade 12 Canada & World Studies

Length of Activity

2 - 2.5 hours

Materials List

- Topic Backgrounder
- Marking Rubric
- Internet Enabled Device

Activity: Step 1

Using the backgrounder, explain the impacts of climate change on Earth, talk about the findings from the IPCC's assessment report and Canada's Changing Climate Report to summarize the impacts of temperature increase beyond 1.5°C above pre-industrial times. (10 minutes)

Activity: Step 2

In groups or individually, complete the following activities:

1. Introduce an interactive tool by NASA that summarizes key findings of the IPCC's report by [clicking here](#); encourage students to explore the key findings of the report from IPCC.
 - a. After opening the webpage, scroll down to the interactive presentation for key findings. As you keep scrolling, new slides keep appearing presenting predicted impacts across the globe if temperature rises beyond 1.5°C. Encourage students to make notes as they go through the slides. **(15 minutes)**
2. Individual or group poster assignment: Summarizing the impacts listed in the tool provided by NASA, students will research and create an individual poster demonstrating visually "how the impacts of global temperature increase beyond 1.5°C above pre-industrial times will impact Canada?" (1.5 - 2 hours)
 - a. Students can choose from any of elements presented by NASA and visually present the

impact i.e., warmest temperature extremes, water availability, heat waves, extreme precipitation, impacts on biodiversity and ecosystems, forest impacts, ocean impacts, marine life, coral reef impacts, human impacts, food shortages, droughts, economic impacts.

- b. Suggested resource for research and gathering information can be found on:
 - i. Canada's Changing Climate Report
 - 1. Students are encouraged to explore the entire report, however reviewing the executive summary is sufficient for this program.
 - 2. Click on the table of contents and then go to summary; review each impact heading for gathering information for the poster.
- c. Sample posters for illustration can be found at:
 - i. <https://energy.techno-science.ca/doc/content/environment.PNG>
 - ii. <https://visme.co/blog/wp-content/uploads/climate-risks-1.5-degree-vs-2-degree-global-warming-climate-change-facts-infographic.jpg>