



Weather and Climate Scavenger Hunt Activity

Grades: Middle school to high school (Grades 6-10, ages 11-16)

Time: 45 minutes

Venue: Outdoors

Overview

The objective of this activity is to learn more about your immediate environment, as related to weather and climate. It begins with an introduction to weather and climate change basics, and then includes a group scavenger hunt. By the end of the activity, students should be able to explain the difference between weather, climate, and climate change.

Notes:

- This activity was developed for a land camp activity, where there were youth of a wide age range. The activity could be modified for older/younger age groups.
- This requires minimal supplies. Weather meters were used (for measuring temperature and wind speeds), but the activity could be altered if those are not available.
- Having a book on common plants of Nunavut would be useful for identifying plants that are found by the students.

Materials

- Printouts of the scavenger hunt activity sheet (1 for each team)
- Pencils (1 for each team)
- Weather meters [optional] (1 for each team)

The Activity:

1. Introduce the topic, using the background below (or another climate change resource).
 2. Split the class into small groups (of about 3 students per group).
 3. Hand out the activity sheets and pencils to each group.
 4. Give the class a time limit (e.g., 30 minutes) to complete the sheet.
 5. Discuss the findings as a group at the end of the activity.
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Similarly, the earth's atmosphere works like a greenhouse. Can someone explain how the greenhouse effect works?

- 1) The sun's rays reach the earth – sunlight passes through the earth's atmosphere and warms the earth.
- 2) Some sunlight (or solar radiation) is reflected by the earth and the atmosphere
- 3) Most of the sun's energy (or the radiation) is absorbed by the Earth's surface.
- 4) Next, some of the energy will pass back through the atmosphere, into space.
- 5) But, the atmosphere also traps some of the heat, which helps to keep the earth warm (warm enough for life on Earth).

What happens when more heat is trapped around the Earth? The overall surface temperature of the Earth increases. **This leads to climate change.**

Greenhouse Gases

The greenhouse effect on earth is caused by the atmosphere and greenhouse gases. Greenhouse gases are things like carbon dioxide or CO₂. We need some greenhouse gases to keep the earth warm enough to live on, but if there are too many greenhouse gases in the atmosphere, we will start to see climate change.

What are some sources of **greenhouse gases**?

There are natural and human sources:

- Natural → forest fires, volcanoes
- Human → using fossil fuels – driving a car, taking an airplane, charging your phone

How will climate change affect you?

- Hunting seasons
- Changing ice
- Increased shipping season
- Different plants and animals in the area – seeing plants that normally don't grow here

Adaptation

What are some things that we can do to adapt to the changing environment? What can we do in our everyday lives to live with the changes from climate change? Think about our houses, activities in winter, what happens when sea ice changes...

- Building communities to handle permafrost thaw
- Hunters to find safer, alternate hunting routes
- Being prepared for quick changes in the weather, especially when out on the land
- New building techniques and building stable structures



SCAVENGER HUNT ITEMS

*Note: you cannot use the same item twice.

- 1) Come up with a team name and cheer.
- 2) Measure the temperature. _____ °C
- 3) Draw a picture of your favourite arctic animal. (use the back of the page)
- 4) Sound Scavenger Hunt: Listen for a sound. _____
 - a. What sound did you hear? _____
 - b. What made the sound? _____
 - c. How loud was it? _____
 - d. Describe something else about the sound. _____
- 5) Plant Scavenger Hunt: Look for a plant.
 - a. What type of plant did you find? _____
 - b. How tall was the plant? _____
 - c. What colours did it have? _____
 - d. Where did you find it? _____
 - e. How was its structure adapted to the area? _____
 - f. Describe something else about the plant. _____
- 6) Animal Scavenger Hunt: Look for an animal.
 - a. What animal did you see? _____
 - b. How big was the animal? _____
 - c. What colour was it? _____
 - d. Describe something else about the animal. _____
- 7) Find:
 - a. Something that releases oxygen. _____
 - b. Something that reflects sunlight. _____
 - c. Something that can be reused. _____
 - d. A natural resource you depend on. _____
 - e. Something that looks delicious. _____
- 8) Sing a song that has a combination of 2 languages. What song is it? _____
- 9) Updating traditional hunting routes to reflect changes to sea ice thickness is a climate change adaptation measure. TRUE or FALSE?