

My Community vs. Nunavut – Weather and Climate

Content Areas

Social Studies, Science, Technology

Objective

Students will differentiate between weather and climate. For 1 month, they will collect and graph daily temperature and precipitation data at school and use the Internet to collect the same data for a community in Nunavut. Students will then discuss how the long-term daily weather averages begin to describe each climate.

Materials

- My Community vs. Nunavut – Weather Data – 2 per student
- Graph paper
- Clipboards (if available)
- **Internet Access:**
 1. For collecting average temperature and precipitation for a Nunavut community – The Weather Network web site <http://www.theweathernetwork.com/weather/cities/indexNU.htm> or the Environment Canada Weather Office web site http://weatheroffice.gc.ca/forecast/canada/index_e.html?id=NU
 2. For collecting average temperature and precipitation for school community – The Weather Network web site www.theweathernetwork.com or the Environment Canada Weather Office web site http://weatheroffice.gc.ca/canada_e.html

Activity

- 1 Pair up students, and have each pair get a piece of paper and a pencil (if clipboards are available, have each pair use one).
- 2 Explain that the class is going to go outside for five minutes. During that time, each pair is to record as much information related to the weather as they can.
- 3 Bring the class outside and allow time for recording.

My Community vs. Nunavut – Weather and Climate

- 4 Once students are back in the classroom, ask volunteers what they recorded. List information on the board as students share (information may include cloudy, sunny, rainy, cold, clear skies, windy, etc).
- 5 Explain to students that what is happening outside right now is the weather. Weather is the state of the atmosphere at a particular place and time. (Define atmosphere if students are unfamiliar with the term.)
- 6 Explain that the air or atmosphere around us behaves in different ways. It changes when it's hot or cold, wet or dry, calm or stormy and clear or cloudy. Sometimes the atmosphere behaves violently, such as during a thunder and lightning storm, and sometimes it's peaceful and quiet. Either way it's weather.
- 7 Review Nunavut with students. Remind them that Nunavut is a territory in Canada, of which most is located within the Arctic Circle, and the capital is Iqaluit. Ask students if they expect the weather in Iqaluit to be the same as the weather they just experienced. Why or why not?
- 8 If there is a computer in the classroom, visit the Weather Network web site and record the current temperature and precipitation in Iqaluit as a class. If no classroom computer is available, collect information prior to lesson and offer it to students at this time. Write on board.



- 9 Ask students if they have heard the term “climate.” Allow volunteers to share what they know. Explain that climate is the average weather in a location over a long period of time. A place that doesn't get much rain over many years would have a dry climate. A place where it stays cold for most of the year would have a cold climate.

My Community vs. Nunavut – Weather and Climate



- 10 Discuss the climate of the students' community. Is it a mild climate? Dry climate?
- 11 Ask students how they think the climate in Nunavut might differ from their climate. Explain that the main features of an Arctic climate are low amounts of precipitation with a maximum in summer, cool summers and very cold winters. In addition to being very cold, the winters north of the Arctic Circle are also very dark, and there are days when the sun doesn't rise (see [Land of the Midnight Sun – Seasons and the Arctic](#) lesson).
- 12 Ask students if they think the same animals live in Nunavut as live here in their community. Why or why not? What about vegetation?
- 13 Explain that the area north of the Arctic Circle is known as tundra, coming from the Finnish word *tunturia*, meaning "treeless plain." The Arctic tundra is above the tree line, which means no trees grow. However, there are about 1,700 kinds of plants that have adapted to surviving in this cold, desert-like climate. Many animals have also adapted to handle long, cold winters and to breed and raise young quickly in the short summer.
- 14 Explain to students that they are going to be scientists and collect weather data for their community and a community in Nunavut for 1 month. They will then analyze their data and discover whether it supports each climate description.

My Community vs. Nunavut – Weather and Climate

- 15 Distribute both weather charts. Decide if students are to choose the Nunavut community, or if the choice is to be teacher-made (check Weather Network or Environment Canada web site first to be certain data is available for the Nunavut community). Together, fill in the top portion of each chart, one for your own community and one for the Nunavut community, and the dates data is to be collected. In order to collect average high and low temperature and precipitation, students will need to collect the previous day's data. Therefore, for the first date, enter the day immediately prior to the current day (for instance, if "today's date" is October 24, make the first date on chart October 23).
- 16 If a classroom computer is available, guide students through either web site.
- 17 Choose a weather person for Nunavut community and own community. Explain that this person will collect the average high temperature, average low temperature, and precipitation amount for the previous day and record it on the board. At a selected time, students are to record data on their charts. Continue for one month, choosing new weather people throughout.

Evaluation

- 1 At the end of the one month period, have students analyze their data. Guide them through finding the average high temperature, average low temperature and average amount of precipitation for the month for both their own community and the Nunavut community.
- 2 Compare results to what was learned about the climate of each community. Does the data collected support each climate? Why or why not?
- 3 As an optional activity, students could do a double line graph, using different colours, for each category of data. This would offer a visual comparison of the climate differences between Nunavut and their own community.

My Community vs. Nunavut – Weather and Climate Weather Data Sheet

Name: _____

Location: _____ Month: _____

| Date | Average High Temperature | Average Low Temperature | Precipitation |
|------|--------------------------|-------------------------|---------------|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

My Community vs. Nunavut – Weather and Climate

Weather Data Sheet 2

Name: _____

Location: _____

Month: _____

| Date | Average High Temperature | Average Low Temperature | Precipitation |
|------|--------------------------|-------------------------|---------------|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |