

Climate Change and Recreation Inquiry

Spiral Inquiry Activity

Grade Level: 9-12

Climate Change Where I Live



About This Activity

Learners will use GreenLearning's Spark Inquiry Model to examine the impacts of climate change on recreational areas and activities, identify the mitigation and adaptation measures required to address these changes, and take action.

Learning Outcomes

By the end of this activity, learners will:

- Discover the implications of climate change on their recreational areas and activities
- Investigate various topics surrounding climate change and weather patterns, and present their findings to the class
- Collaborate amongst peers to develop their own focus question(s) and inquiry plan

Length of Activity

1 – 1.5 hours

Materials List

Internet-enabled device

Climate Change and Recreation Inquiry Worksheet

Step 1: Spark (A Student Investigation)

- Begin by getting familiar with GreenLearning's Spiral Inquiry Model found here: <https://programs.greenlearning.ca/course/spiral-inquiry-model>
- Explain to learners that climate change is the long-term change in weather patterns, such as less annual average precipitation. Then

focus the discussion to: *What changes have you seen/observed/already know about with regards to changes in recreation? In what ways have changes in weather patterns/climate affected the recreational activities of you and your family? Which of these changes do you think are attributed to climate change? How can we find out?*

- Pose the following questions to learners: *How have recreational activities changed in your area (where can you find out)? Are these changes related to climate change (again, how can you find out)? What is the outlook for a particular recreational activity of industry in your area (10 years? 25 years? 50 years?) How is this industry adapting (or planning) to these changes? What can this activity or industry adapt to changes resulting from climate change?*
- Allow learners to break out into think-pair-share groups to begin generating some ideas.
- Ask the groups to share their ideas, and record down their responses in a bullet list at the front of the class on the board.
- Each bullet can be discussed at large with the class by providing them with some teaser information on those points so it really gets them thinking further.

Step 2: Hypothesize and Plan

- As a class, decide the focus of your inquiry.
- Learners can be split up into groups so that they can brainstorm potential inquiry questions.

Have the groups discuss what they have taken away from the class discussions.

- c. You will want the learners to choose how they structure their inquiry and this will emerge as you listen and help guide their discussions.
- d. Hand out the Climate Change and Recreation Inquiry Worksheet to the learners in their groups and allow them to complete Part 1.

Step 3: Explore and Research

- a. This step involves the groups of learners to research the information required for their topic.
- b. Inform learners in their groups to gather and review information needed to answer their questions or to test their hypotheses. The internet, libraries, or experts in the field are all great tools for research.
- c. Hand out the Climate Change and Recreation Inquiry Worksheet to the learners in their groups and allow them to complete Part 2. Be sure to remind learners to record their information and remember to keep track of their sources. Groups can evaluate their information they have collected and answer these questions:
 - i. Does your research answer your questions or test your hypothesis?
 - ii. Does it raise more questions, and how can you answer these?
- b. Allow groups to reflect and discuss their findings and observations to their previous knowledge. They may need to clarify and modify their focus question(s) and inquiry plan.

Step 4: Analyze and Check

- a. Allow learners to compare, sort and classify their information.
 - I. Learners reflect on and discuss their preliminary findings and observations to compare this to their previous knowledge and they clarify and modify their focus question(s) and inquiry plan.
 - II. Learner's review and evaluate the information they collected and record this information.
 - III. Learners use their information to answer

their inquiry question(s), test their hypotheses, describe patterns and draw conclusions.

- iii. Learners reflect on their findings to create new questions and hypotheses.
- b. Get learners to draw conclusions about your questions and hypotheses.
- c. Hand out the Climate Change and Recreation Inquiry Worksheet to the learners in their groups and allow them to complete Part 3.

Step 5: Communicate and Act

- a. Now the groups are ready to turn their knowledge into action. Allow the learners to communicate their findings to the class. Be sure to remind them about the message they want to get across and to tailor it to the classroom audience.
- b. Individually – create a mind map, poem/song, poster, infographic, PSA (public service announcement), or some other form of work (in consultation with the educator) that addresses your hypothesis, as formed, of your inquiry.

Step 6: Conclusion

- a. Refer to the marking rubrics on the various ways learners could communicate their findings.