

Details



Completion Time: About a week

Permission: N/A

The “Arctic Web Pages” Mini-Project

Overview

Each group of 2-4 students will research an arctic topic from a list, build a small web page devoted to that topic, link the group’s page to other groups’ relevant pages, and advocate for change around an issue that is important to the topic.

Objectives

- Students will understand the complexity and vulnerability of Arctic ecosystems
- Students will understand the current geopolitical and legal issues surrounding the opening of the Arctic Ocean due to climate change
- Students will know the historical significance of the Northwest Passage
- Students will understand the past traditions of the Inuit and the present challenges facing the Inuit

Lesson Preparation

This assignment is intended for classes who have a specific reason to care about the Arctic – for instance, their teacher will soon visit the Arctic through the PolarTREC program, or an Arctic scientist/explorer has recently visited the school.

Procedure

- Read through the handout with students
- Introduce the books and maps
- Have each group draw a topic out of a hat
- Assign and collect each group’s research notes
- Assign and collect each group’s outline
- Have the groups build and submit their web pages
- Review and troubleshoot the pages – test the links
- Have each group show off their site to the class
- Grade the sites according to the rubric on the handout

Materials

- Books, web sites, articles, and classroom speakers on Arctic topics
- Atlases and maps of the Arctic
- Computers equipped with software suitable for building web sites such as Macromedia Dreamweaver
- A digital scanner
- A teacher who knows how to use the hardware and software
- The school’s web site and server.



Extension

Have each group identify a PolarTREC expedition/teacher that relates to their topic and use the "Ask the Team" feature on the PolarTREC web site to contact that teacher.

Resources

This assignment has been done by approximately a hundred 9th and 10th graders at Sir Francis Drake High School in San Anselmo, CA. Teachers contemplating assigning this project to their own students can view the Drake student work at Web site showing examples of student work: http://drake.marin.k12.ca.us/academics/rock/Driving_NWP.htm

Assessment

A rubric for evaluating the web sites is included in the handout.

Credits

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Adapted from "How Cold is it?" Project Wild Curriculum (1990), State of Alaska Department of Fish and Game.

National Science Education Standards (NSES):

Content Standards, Grades 9-12

Content Standard F: Science In Personal and Social Perspectives

- c. Natural resources
- d. Environmental quality
- e. Natural and human-induced hazards
- f. Science and technology in local, national, and global challenges

The “Arctic Web Pages” mini-Project

(Insert any specific classroom connection to the Arctic here – for instance, if an arctic explorer has recently visited the classroom, describe that.)

The Arctic is interesting to us on many levels: as a place for danger, tragedy and heroism, as a last frontier for development, as an environmental canary in the coal mine, as a cultural landscape linked to our hunter-gatherer past, as a Mars analog, and of course as the region affected first and most by global warming.

Your group will research an arctic topic from the list below, build a small web page devoted to that topic, link your group's page to other relevant pages, and advocate for change around an issue that you identify as being important to your topic.

One member of your group will create a folder on his/her school account with the name of your topic. All electronic files of any kind generated by your group must be stored in this folder. You will be assigned a topic by a random drawing, although you may trade with other groups the first day:

The Topics: _____ What the page will be called: _____

1. Why was the Northwest Passage important?	NWP_then.htm
2. Martin Frobisher	Frobisher.htm
3. James Cook	Cook.htm
4. Sir John Franklin	Franklin.htm
5. Robert McClure	McClure.htm
6. Amundsen on the Gjoa	Amundsen.htm
7. Polar Bears and global warming	Bears.htm
8. Seals and Walruses of the Arctic	Seals.htm
9. The Arctic Fox	Fox.htm
10. Caribou and Musk Ox	Caribou.htm
11. Tundra plants	Plants.htm
12. The whales of the Arctic	Whales.htm
13. Plankton in the Arctic Sea	Plankton.htm
14. Icebreakers and the Arctic Sea ice	Sea_ice.htm
15. Icebergs	Icebergs.htm
16. PCBs in the Arctic	PCBs.htm
17. Ozone hole in Arctic	Ozone.htm
18. Tourism in the Arctic	Tourism.htm
19. Oil and natural gas in the Arctic	Oil.htm
20. Global warming's effect on the Arctic/Permafrost	Warming.htm
21. Getting around in the Arctic	Transportation.htm
22. The towns of the Arctic	Towns.htm
23. Inuit traditions	Inuit.htm
24. Devon Island/Antarctic dry valleys as Mars analogs	Mars.htm
25. Who owns the Arctic? - Law of the Sea Treaty	Law.htm

- 26. Why is the Northwest Passage important again?
- 27. Nunavut & modern Inuit society

NWP_now.htm
Nunavut.htm

Here's what the finished web page will contain:

- A descriptive title
- A few paragraphs of text explaining your topic/ telling its story.
- The text will contain at least five appropriately explained links to other group's pages. (For example, when you write that caribou eat tundra plants, make the words "tundra plants" link to Plants.htm)
- A hand-drawn map, illustration or diagram, scanned into the computer.
- A relevant photograph, with its source properly cited.
- TAKE A STAND! Identify an issue relating to your topic and take a stand on that issue. Pitch a recommendation to some person or organization with the power to act. It might be an individual scientist or explorer, some branch of the Canadian or United States government, or even your classmates, if they have the ability to act on your recommendation.
- An appropriate link to an outside organization (an advocacy group, government agency, etc.) that works on the issue you have identified.
- A bibliography. Wikipedia should not be listed, although you may look at it and use it to find credible and authoritative web sites.

Here are the steps you need to do to create it:

Find sources of information

Make notes from the sources

Decide what your groups stand will be, and who it will be addressed to

Write an outline

Create your illustration / select a photograph

Write the text in Macromedia Dreamweaver

Build in links to other groups' pages

Add a link to an outside advocacy group or government agency, etc.

ARCTIC PROJECT GRADING SHEETS:

Research Notes – Five sources (24 points)

Properly formatted	4
Variety & quality of sources	4
Headings & Commentary	6
Student Voice	6
All group members contribute equally to quality work	4

Outline (16 points)

Factual information is intelligently organized	4
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Your stand is important	6
Your stand is well supported by factual evidence	6

Finished Web Page (48 points)

Illustrations are integrated well with text	6
Lots of content is included	6
Links are appropriate their significance to your topic is well explained	8
Links really work	4
Pleasing and effective composition	6
Text is clearly organized, precise and accurate language	6
Evidence from other sites in the project informs your commentary	6
External link to an advocacy group is well chosen	6