Glacier Presentations 12/08cpj

Teacher Page 1

Grade level: 9-12
Subject: Earth/Physical Science
Duration: 4 class periods
Group size: up to 30 students
Setting: classroom/ computer lab

OVERVIEW
Students investigate and present news articles about different global climate changes related to glaciers.
A news broadcast format will be used.

Objectives/ Rational

- Students will communicate relatively new environmental information on global climate change from glacier investigations to their peers.
- The audience will rate the "broadcasts" with a likert scale peer evaluation form.
- Informed decisions will be made in a persuasive essay as an assessment tool at a later date about the seriousness and impact of global warming.
- Broadcasts use the student's technology skills as well as research and presentation abilities.

Materials
Computer lab with Internet and Blackboard links
Poster making supplies
Tables/chairs to set up for newscast
Camcorder

Procedure
see student page (page 2)

Student page
Posted on Blackboard

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100points

Work in groups of 5.

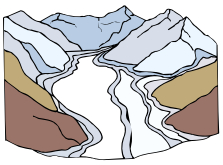
Present one of the five areas of information from the articles below. We will draw numbers to assign topics, and then bargain to trade if you really want a different topic. (5min)

- First look at the information, then as a group prepare a newscast to share your information with the class. Do extra research to make sure your topic is "fresh". The program should be 5 – 10 minutes long.
- PowerPoint, Publisher and the Internet will be available, as well as, the ELMO projector to enhance your broadcast.
- Posters or models might be in order. Class activities or quizzes are fun too.
- Not only will you be filmed but you will also have your class as a live audience.
- Professional dress is required.
- Projects are **due in 3 weeks.** You will have 4 class periods to work on it, this is one of them.

Topic choices and linked articles

1. Vanishing Into Thin Air

2. Glacier Hazards From Space



3. Outfitting an Ice Climber

4. Life Cycle of a Glacier

5. Arctic Ice 'Disappearing Quickly'

6. Sea Level Rise CatastrophicRiseArticle.pdf

- A grading rubric will be given to you as a handout.

Be sure to site all your sources and give appropriate credits at the end of your broadcast (a poster can be used for this, although Powerpoint is user friendly this way too)

Content Standards

Earth Science (9-12)
Energy in the Earth System
6. Climate is the long-term average of a region's weather and depends on many factors. As a basis for understanding this concept:
a. Students know weather (in the short run) and climate (in the long run) involve the transfer of energy into and out of the atmosphere.
c. Students know how Earth's climate has changed over time, corresponding to changes in Earth's geography, atmospheric composition, and other factors, such as solar radiation and plate movement.
d. Students know how computer models are used to predict the effects of the increase in greenhouse gases on climate for the planet as a whole and for specific regions

Biology/Life Science (9-12)
Ecology
6**.** Stability in an ecosystem is a balance between competing effects. As a basis for understanding this
concept:
b. students know how to analyze changes in an ecosystem resulting from changes in climate, human activity, introduction of nonnative species, or changes in population size.

Investigation & Experimentation (9-12)
1. Scientific progress is made by asking meaningful questions and conducting careful investigations collect data, analyze relationships, and display data.
f. Distinguish between hypothesis and theory as scientific terms.

Investigation & Experimentation (9-12) continued
g Recognize the usefulness and limitations of models and theories as scientific representations of reality.
h Read and interpret topographic and geologic maps.
i Analyze the locations, sequences, or time intervals that are characteristic of natural phenomena (e.g.,relative ages of rocks, locations of planets over time, and succession of species in an ecosystem).

SOURCES
Main page/ source
http://www.pbs.org/wgbh/nova/mtblanc/

Eric Rignot article from National Geographic publishing information on the link
Eric Rignot Articles from COSEE West Nov. 2008
CatastrophicRiseArticle.pdf
Additional resources provided by COSEE West Jane Lee that the students will be guided to:
Earthwatch_Radio_list.pdf
GreenlandMelting.pdf
Issealevelrising.pdf
MostlyMeltngAcrntarctica-2.pdf
MostlyMeltngAcrntarctica-2.pdf
Sea_lev_nesting_turtles-1.pdf
Sealeveldiagram.pdf
SpaceGeodesyGroup.pdf
AlaskaMeltdown.pdf