



Sample Lesson Plan Glaciers & Global Warming

Lesson plan for: **Glaciers & Global Warming**

Date: **Weeks 6 & 7**

Objectives (1 – 3 things that the learner will know or be able to do at the end of the lesson):

1. Learners will **recall** environmental science facts and vocabulary that are specific to glaciers.
2. Learners will **summarize** information about glaciers and global warming.
3. Learners will **produce** mini-projects on glaciers.

Frameworks utilized (1 or 2 strands, standards, and benchmarks that capture the 'big ideas'):

English Language Arts: R3.5a Take notes of key ideas while reading (e.g. paraphrase in the margins, outline)

English Language Arts: R3.4c Underline or highlight key ideas or words while reading

English Language Arts: W1.5a Respond to a prompt in essay form with a clearly focused main idea that addresses the prompt, followed by coherent development with specific and relevant details and examples

English Language Arts: OC1.3c Deliver a well-organized oral presentation with consideration of audience, purpose, and the nature of the selected information

Math: 5S-4.4.3 Use specific vocabulary to describe trends

Math: 5S2.3.2 Know how to connect the shape and comparisons of data with text or background knowledge to infer causes for such phenomena

Materials/Resources:

Flip chart paper, markers, masking tape

Research materials on glaciers

Access to computers with internet capability, PowerPoint and speakers

Art materials

Copies of “Alps Glaciers Gone by 2050, Expert Says” from for National Geographic News

January 23, 2007 (see <http://news.nationalgeographic.com/news/2007/01/070123-alps-glaciers.html>).

Highlighters

Copies of “Signs From Earth: The Big Thaw” from National Geographic Magazine, September 2004 (see <http://green.nationalgeographic.com/environment/global-warming/big-thaw.html?nav=FEATURES>).

Pathways to Success by 21

Activities (include steps and length of time):

KWL Chart- Glaciers

20 minutes

Ask learners to brainstorm what they know or want to know about glaciers. Scribe on flip chart paper and post in the classroom.

Small Group Activity- Learning about Glaciers

60 minutes

Split students into a minimum of three groups. Assign each group a theme about glaciers: how they were formed, where they are located, why they are significant. Provide groups with access to research materials on their topic (i.e. internet access, books, maps, short articles). Groups will be given a minimum of ten minutes for large group presentations. Instruct groups to research their themes and to prepare a “product” to present to the larger group. For example, the group researching how glaciers are formed prepares a flow chart detailing the life cycle of a glacier; the group researching where glaciers are located prepares a world map detailing glacial location; the group researching the significance of glaciers prepares a short Power Point presentation highlighting current topics and events.

Presentations- Learning About Glaciers

30 minutes

Instruct small groups to present their “products” to the larger group. Update the KWL chart with what learners gained from small group presentations.

Instruction- Vocabulary

20 minutes

Ask groups to list new or significant vocabulary they learned during their research. Define and list on the board. Instruct learners to take notes. Post the vocabulary list in the classroom.

Instructional Video- Glaciers

30 minutes

Instruct groups to find the National Geographic website on the Internet and to locate the video section on Global Warming. Instruct groups to choose one or two videos to view and to take notes on significant facts. Ask learners to identify what they learned about climate, sea levels, animal life, land formation and human impact from the videos. Continue to add to the vocabulary list, as necessary.

Reading- The Alps

45-60 minutes

Pass out copies of “Alps Glaciers Gone by 2050, Expert Says” from National Geographic News, January 23, 2007 (see <http://news.nationalgeographic.com/news/2007/01/070123-alps-glaciers.html>). Instruct learners to skim and read the article, highlighting important facts and statements. Provide comprehension questions for learners to complete. Guide a brief conversation about global impact.

Instructional Media- Interactive Map

20 minutes

Instruct learners to view and use the National Geographic Global Warming Effects Interactive Map (see <http://green.nationalgeographic.com/environment/global-warming/gw-impacts-interactive.html>). Based on this map and previous activities, update the KWL chart.

Homework- GED examples

Prepare GED multiple-choice questions based on “Signs From Earth: The Big Thaw” from National Geographic Magazine, September 2004 (see <http://green.nationalgeographic.com/environment/global-warming/big-thaw.html?nav=FEATURES>). Instruct learners to complete the assignment at home.

Complete a GED essay on a global warming topic.

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Suggested follow-up activities

Create contrasting maps of an identified glacier from one hundred years ago and from one hundred years in the future.

Research the diminishing Quelccaya Iceberg in Peru and discuss its impact on the people who live closest to it.

Calculate individual carbon usage (see www.thegreenguide.com/doc/119/calculator) and discuss individual action steps to reduce carbon use.

Assessment *(Must directly measure whether or not each objective was met. Use a variety of methods):*

1. Active participation in small group activities and classroom discussions.
2. Completion of small group projects and classroom presentation. *Design a rubric to identify strengths and weaknesses of projects.*
3. Accurate completion of comprehension questions.
4. Completion of a GED essay that is evaluated based on the rubric.

Student wrap-up and reflection

(What did students like/not like about the lesson? What did they learn? What would they like to do next time?):

Teacher wrap-up and reflection

(What worked well? What should be changed? What needs to be remembered about specific learners?)