

Unit 1 Lesson Plan developed for Grade(s) 6-8

Title: Net Radiation and Snow Cover

Author: Jill Olsen

Applies to Lesson(s) 2 from <http://cimss.ssec.wisc.edu/climatechange/>

Objective:

Students will recognize the patterns between the 4 seasons and the Net Radiation of the Earth

Total Time Expected: 1 day

Overview:

Students will view the CERES Net Radiation/Snow Cover Animation (Quicktime movie). They will “step” through the animation gathering data for each month. Once the data has been put on the chart, patterns in each of the seasons will be examined to see if students can come up with conclusions based on the data.

Sequence:

Class – present the CERES Net Radiation/Snow Cover Animation. Show how it is used.

Small groups or partners fill in the data chart.

Discussion in small groups about what patterns are evident in the data.

Students try to come up with a statement about the Net Radiation and the Seasons.

Supplies or references required:

- Computer access, one for each small group, with CERES Net Radiation/Snow Cover animation (Quicktime movie) loaded onto it.
- Data chart for Net Radiation and Snow Cover with instructions.
- 4 different colored pencils or 4 different colored highlighters

National Science Standards addressed:

U. Unifying Concepts and Processes –

M.U.2 Evidence, models, and explanation

a. Evidence–Evidence consists of observations and data on which to base scientific explanations. The goal is to help students use evidence to understand interactions and predict changes.

A. Science as Inquiry –

M.A.1 Abilities necessary to do scientific inquiry

c. Use appropriate tools and techniques to gather, analyze, and interpret data.
d. Develop descriptions, explanations, predictions, and models using evidence.
e. Think critically and logically to make the relationships between evidence and explanations.

- f. Recognize and analyze alternative explanations and predictions.
- g. Communicate scientific procedures and explanations.

D. Earth and Space Science –

M.D.3 Earth in the solar system

- d. The sun is the major source of energy for phenomena on the earth's surface, such as growth of plants, winds, ocean currents, and the water cycle. Seasons result from variations in the amount of the sun's energy hitting the surface, due to the tilt of the earth's rotation on its axis and the length of the day.

Related URLs or recommended reading:

CERES Net Radiation and Snow Cover animation

http://earthobservatory.nasa.gov/GlobalMaps/view.php?d1=CERES_NETFLUX_M&d2=MOD10C1_M_SNOW

The quicktime movie of this animation can be downloaded at this site.

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