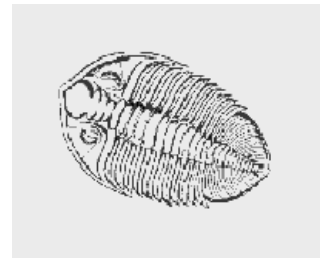




ECHO School Program

Rock & Roll Basin Geology

Grades 3 - 6



Summary

Students will investigate the different geological factors that have shaped the landforms of the Lake Champlain Basin area. Through inquiry of geological evidence, students will learn about continental movement, glaciation and fossilization. Students will explore the concept of geological time.

Essential Question:

What are the forces that change the landscape of an area over time?

Focusing Questions:

How did the landscape and climate change in the Lake Champlain basin over millions of years?
What was the sequence of change in the Lake Champlain basin?
What evidence do we have of these changes?

Vermont Standards and Grade Expectations

7.15 Universe, Earth and the Environment

Fulfills: S3 – 4: 47 and S5 – 6: 47

Forces and Changes on the Earth's Surface

Key Program Activities

- Identify warm and cold areas of the planet
- Understand how plates shift and how landmasses moved
- Vocabulary: Plates, Subduction, Transformance, Artifact
- Evidence in a geologic time capsule and the significance of geologic time
- Evolutionary periods in the Basin from the Iapetus Ocean to Lake Champlain today



Pre-Trip Activities

NATURESCOPE: "The Earth, Inside and Out" (act out and make models of the structure of the Earth)

This Lake Alive: "Geology You Can Eat" (an edible representation of the Earth's rock strata)

Big Beast Book: "Carbon Copies" (create easy leaf "fossil" prints)



Post-Trip Activities

This Lake Alive: "Rubies Pearls" (make your own fossil print)

Earth Science Activities: "How Do Glaciers Change Landforms?" (set up a simulated mountain glacier)

Science Scope: "Glacial Goo" (ice flow and glacial movement simulations)

Teaching Children : "Erosion Due to Glaciers" (model ways glaciers carve the land)

Earth Science Activities: "How is Snow Compacted into Ice to Form Glaciers?" (demonstrates snow compaction)

Field Trip Destinations

Perkins Geology Museum at the University of Vermont: meet the Charlotte whale - the official state fossil.
Reservations appreciated - 656-8694.

Redstone Quarry: a good demonstration of sedimentary rock layers. Located at the end of Hoover Street in Burlington.

The Champlain Thrust Fault: the best example to see when looking at land formations and thrust faulting. Located at Rock Point in Burlington. Permission required from the ArchDiocese - 863-3431.

Salmon Hole: another great spot to investigate sedimentary layers, including layers from the Iapetus Sea. Located on the Winooski River by the old mills in Winooski.

Button Bay State Park: experience the famous "button" formations of this geological wonderland - Located in Vergennes - 475-2377.

Isle La Motte: look at the oldest known coral reef fossils on the planet. Must get permission from LaBombard Campground.

Lesser's Quarry: find fossil rocks from the Iapetus ocean time period. Located in South Hero. Call Richard Paradis with UVM Environmental Programs to set up a time to visit - 656-4055.



Bibliography

Booth, Jerry. The Big Beast Book: Dinosaurs and How They Got That Way. Little, Brown and Company, 1988. A great book written for kids and adults, filled with hands-on activities.

Demarest, Amy. This Lake Alive! An Interdisciplinary Handbook for Teaching and Learning about the Lake Champlain Basin. Shelburne Farms, 1996. A comprehensive curriculum, and valuable resource.

Kanis, Ira B. and Warren E. Yasso. Earth Science Activities: A Guide to Effective Elementary School Science Teaching. Allyn & Bacon, 1996. Provides lesson ideas and critical thinking suggestions for upper elementary level educators.

Levenson, Elaine. Teaching Children About Life and Earth Sciences. McGraw-Hill Inc., 1994. Offers more demonstrations, activities and ideas for science educators.

NatureScope: "Geology: The Active Earth" National Wildlife Federation, 1988. An excellent resource for teachers who want to learn and teach about rocks, quakes and the make-up of the Earth.

Raymo, Chet and Maureen E. Written in Stone: A Geological History of the North-eastern United States. Globe Pequot Press, 1989. Very user-friendly for those who are not geologists. Great presentation of local geological phenomena.

Tolman, Marvin N and James O. Morton. Earth Science Activities for Grades 2-8. Parker Publishing Inc.,



1986. Basic, yet helpful ideas to enhance science curricula.

Woods, Robin. "Simulating Glaciers: Stimulating Interest in Geology" Science Scope. October, 1996.



Some books to have around the class:

Cole, Joanna. The Magic School Bus: Inside the Earth. Scholastic Inc., 1987. Another fantastic journey with Ms. Frizzle.

Lauber, Patricia. Dinosaurs Walked Here and Other Stories Fossils Tell. Bradbury Press, 1987. Good classroom book for encouraging inquiry and interest.

Simon, Seymour. Icebergs and Glaciers. William Morrow & Company, 1987. Great photographs of glaciers and ice formations.

Walker, Sally M. Glaciers on the Move. Carolrhoda Books, Inc., 1990. A pictorial view of glacial movement and its effects.

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