

Introduction to Mountains (Grades K-2)

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Overview:

This lesson introduces students to mountains and has them consider what mountains are, and how they are formed. They will brainstorm what they know about mountains. They will look at photographs of mountains and discuss similarities and differences between them. Students will imagine how mountains might have been formed. They will create their own mountains using dirt, clay, or other materials. Students will conclude by demonstrating to their classmates how a mountain was formed. Students will also write reflections about what they have observed and learned by themselves and from each other.

Connections to the Curriculum:

Geography, earth sciences, geology

Connections to the Vermont GLE's:

H&SS1-2:1 – 1-2:7, H&SS1-2:11, H&SS1-2:12

Time:

Two to three hours

Materials Required:

- Map of the United States, showing the location of mountains
- Internet access
- Video
- Books about mountains
- Pictures of mountains
- Environmental music: wind, rain, volcanic,
- Chart paper and markers
- Journals or journal paper
- Bins for dirt or the outdoors as available, plastic plates
- Clay, baking soda, vinegar
- The Mountain That Loved the Bird

Objectives: Students will

- compare photographs of mountains
- compare similarities and differences of those mountains
- brainstorm how the mountains might have been formed
- discuss how volcanoes and plate tectonics form mountains
- conduct a mountain creation experiments (volcanic and plate tectonic)
- draw pictures of the mountain they created with captions explaining how it was formed and what they discovered
- listen to environmental music during independent work time

Geographic Skills:

Acquiring Geographic Information
Organizing Geographic Information
Answering Geographic Questions
Analyzing Geographic Information

Suggested Procedure

Opening:

Write the word "mountain" on the board. (Then record thoughts on chart paper.)

Ask: What is a mountain?

Where do you find mountains?

What else do you know about mountains?

Do you think all mountains are the same?

Most mountains are formed by Earth's internal forces. There are actually different kinds of mountains, formed in different ways.

Development:

Have students look at pictures of mountains, and discuss what they have in common and how they are different:

Ask: (Then record thoughts on chart paper.)

How do you think mountains are formed?

How long do you think it takes?

What do you need to make a mountain?

Do we see mountains where we live?

Are all mountains the same size?

Point out the location of the mountains on a United States map.

Explain that a major force shaping land is uplift, the lifting of land by forces in the Earth's interior. Moving tectonic plates lift land, forming mountains. Folded, fault-block and volcanic mountains all result from different types of plate movements.

Volcanic mountains are formed when magma, or molten rock, is forced out through the crust. Volcanic mountains are most common at tectonic plate boundaries. Hawaii's islands were formed by volcanoes. They formed, not a plate boundary, but over a hot spot. A hot spot is a place where magma rises close to the surface in the middle of a plate. The super-hot magma burns a hole through Earth's crust, like a blowtorch burns through metal. Then the magma rises through the crust. It hardens on the Earth's surface and forms a mountain.

Read many children's books to help students understand these concepts. Also watch video for young children on this content.

Demonstrate: To show plate tectonics, cover two plastic plates with a good amount of dirt and then slide them together slowly to form a mountain. Demonstrate the volcanic formation by squirting shaving cream through from the bottom of a hole in a piece of card board. Also demonstrate a volcanic eruption using baking soda and vinegar.

Conduct the experiment: Have the students work in pairs to create mini mountains using materials of their choosing (similar to the above or something different of their choosing). They may want to form their mountains from volcanoes or from tectonic movement. They will draw pictures of the mountains they created in their journals with captions explaining how it was formed and what they discovered. This information will be shared with classmates.

Read and discuss "**The Mountain That Loved a Bird**"

Fieldtrip: The class will go on a short hike up a nearby mountain. They will discuss the ecosystem and geographic features that they recognize. They will reflect upon the perspective view from the top of the mountain. Before going on the fieldtrip the class will discuss the impact we could have on the mountain. The students will consider the consequences of this impact. Students will construct a list of "rules" for treating our mountain in a "responsible" way while we visit.

Closing:

Students will be read to and read on their own from books about mountains. They will use the internet, maps, and other resources to discover facts about mountains. They will brainstorm as a class:

What do we know now about mountains? Did we learn anything new?

What impact do people have on mountains?

What are the consequences of that impact?

What do you like or dislike about mountains?