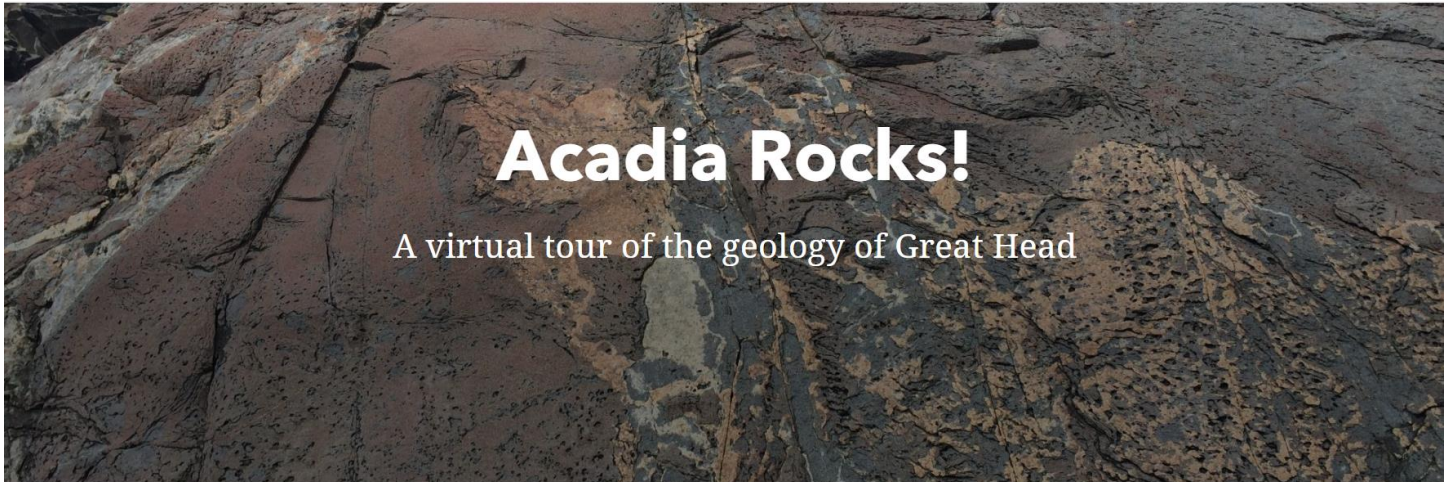




Acadia Rocks- Teacher Guide

Acadia Rocks!



Welcome to the Coast Fundamental Concepts Hiking Through Time Where Did the Rocks Come From? Inside a Volcano

NGSS Standards:

- **4-ESS2-1.** Make observations and/or measurements to provide evidence of the effects of weathering or the rate of erosion by water, ice, wind, or vegetation.
- **4-ESS2-2.** Analyze and interpret data from maps to describe patterns of Earth's features.
- **[MS-ESS1-4 Earth's Place in the Universe](#)**
Construct a scientific explanation based on evidence from rock strata for how the geologic time scale is used to organize Earth's 4.6-billion-year-old history.
- **[HS-ESS1-5 Earth's Place in the Universe](#)**
Evaluate evidence of the past and current movements of continental and oceanic crust and the theory of plate tectonics to explain the ages of crustal rocks.

Synopsis:

A story map is a virtual interactive map where students can explore different locations and key features at each location. This story map explores a trail in Acadia National Park: Great Head Trail. On this trail there are opportunities to see the geologic story of this part of coastal Maine. The story map is broken into chapters at the top of the page. These chapters can work stand alone or as an entire series.

The chapters include:

1. **Welcome to the Coast-** a walking virtual hike of the Great Head Trail, largely a visual resource.
2. **Fundamental Concepts-** geologic time, layers of the earth, plate tectonics, movement of plate boundaries.
3. **Hiking Through Time-** Reading geologic or bedrock maps, and learning the rock types of the Great Head Trail.
4. **Where did the Rocks Come From?** – The timeline and explanation of the rock types on the Great Head Trail.
5. **Inside a Volcano-** Much of this area is granite, which has an igneous background. This section explains volcanoes, igneous rocks, intrusive and extrusive, and the idea of the shatter zone.
6. **Under the Ice-** Glaciers played an important role in the forming of the landscape of the Acadian coast.
7. **Future of Acadia-** Conclusion paragraph with video of powerful coastal erosion.



Suggestions for how to use Acadia Rocks Story Map:

The NGSS authors suggest starting each unit with a “phenomenon”. Using the Acadia Rocks! Story Map, these phenomena may include:

- Glacial Erratics (*Under the Ice*)
- Shatter Zone (*Where did the Rocks Come From?* or *Inside the Volcano*)
- Granite Crystals (*Inside the Volcano*)

Acadia’s Great Head Trail is a wonderful place to see all three of the geologic rock types, compare Acadia’s rocks to those in the local area or those in other national parks.

- *Where Did the Rocks Come From?*
- *Inside a Volcano*

Other evident geologic processes in Acadia are the examples of erosion and weathering, specifically the unique glacial weathering.

- *Under the Ice*

Suggested Section for Each Grade:

Selected Sections for grades 4- 12

4th Grade:

- Welcome to the Coast
- Future of Acadia

5th Grade:

- Welcome to the Coast
- Fundamental Concepts
- Where did the Rocks Come From?
- Future of Acadia

6th – 8th Grade:

- Fundamental Concepts
- Where did the Rocks Come From?
- Under the Ice
- Hiking Through Time

High School:

- Entire Map