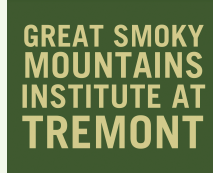


Story of All Life I

Maplewood Richmond Heights, MO



Watch Now

The Great Smoky Mountains were once 15,000 feet high, formed by tectonic plate interactions within the lithosphere. Weathering slowly eroded their once tall peaks into the rolling hills we know today. Variation in geographic features creates different habitats and microclimates, and organisms have adapted to the shifting terrain over time. Indeed, the biodiversity, ecosystems, natural resources, and population dynamics of this region are largely dependent on the variety of landscape features. Students can witness the impact of natural landforms and landscape design on ecosystem biodiversity in the Smokies and their local communities.

LIFE SCIENCE

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| 6.LS2.1 | Evaluate and communicate the impact of environmental variables on population size. |
| 6.LS2.6 | Research the ways in which an ecosystem has changed over time in response to changes in physical conditions, population balances, human interactions, and natural catastrophes. |
| 6.LS4.1 | Explain how changes in biodiversity would impact ecosystem stability and natural resources. |
| 7.LS1.6 | Develop an argument based on empirical evidence and scientific reasoning to explain how behavioral and structural adaptations in animals and plants affect the probability of survival and reproductive success. |
| 8.LS4.4 | Develop a scientific explanation of how natural selection plays a role in determining the survival of a species in a changing environment. |

EARTH & SPACE SCIENCE

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| 4.ESS1.1 | Generate and support a claim with evidence that over long periods of time, erosion (weathering and transportation) and deposition have changed landscapes and created new landforms. |
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| 4.ESS2.1 | Collect and analyze data from observations to provide evidence that rocks, soils, and sediments are broken into smaller pieces through mechanical weathering (frost wedging, abrasion, tree root wedging) and are transported by water, ice, wind, gravity, and vegetation. |
| 4.ESS2.2 | Interpret maps to determine that the location of mountain ranges, deep ocean trenches, volcanoes, and earthquakes occur in patterns. |
| 6.ESS2.3 | Construct an explanation for how atmospheric flow, geographic features, and ocean currents affect the climate of a region through heat transfer. |
| 8.ESS2.1 | Analyze and interpret data to support the assertion that rapid or gradual geographic changes lead to drastic population changes and extinction events. |
| 8.ESS2.4 | Gather and evaluate evidence that energy from the earth's interior drives convection cycles within the asthenosphere which creates changes within the lithosphere including plate movements, plate boundaries, and sea-floor spreading. |
| 8.ESS2.5 | Construct a scientific explanation using data that explains the gradual process of plate tectonics accounting for A) the distribution of fossils on different continents, B) the occurrence of earthquakes, and C) continental and ocean floor features (including mountains, volcanoes, faults, and trenches). |
| 8.ESS3.2 | Collect data, map, and describe patterns in the locations of volcanoes and earthquakes related to tectonic plate boundaries, interactions, and hotspots. |

Before the salamanders ever came
The Smoky Mountains were yet to be
Sand in the sea
The continents were on the move
On the blue and round
Earth is always changing

And it was all like:
Sand under water was pressed into the bedrock
Tectonic action, uplifting and then: Knock, Knock
Who is there?
The rising mountain chain from underneath

And then the earth was like:
Tectonic action, pulling plates apart again
Continents drifting, no more mountain building
The peaks they stare, 15,000 feet up in the air

And the Smokies were royal
Standing up so high above
Before dinosaurs, before us
Before the bees ever made their buzz
Yeah, the Smokies were rulers
As tall as the Rockies
They grew, they grew, they grew
But now that's all history

Biodiversity!
Pangea, it came and went
A little erosion and a little uplift
Changing into the Cenozoic

The Age of Mammals then soon began
Then came the continental glaciation
And also there was the dawn of man
Biodiversity!