

## Pre-Visit Lesson #1: Pinnacles Geology

<b>Grades:</b> 4-8 (suggested)	<b>Time Allotment:</b> 50-60 mins	<b>Subject:</b> Science
<b>Guiding Question/ Phenomena:</b> What geologic processes are responsible for the creation of the Pinnacles rock formations?	<b>NGSS Performance Expectation(s):</b> <ul style="list-style-type: none"><li>- 4-ESS1-1. Identify evidence from patterns in rock formations and fossils in rock layers to support an explanation for changes in a landscape over time.</li><li>- MS-ESS2-2. Construct an explanation based on evidence for how geoscience processes have changed Earth’s surface at varying time and spatial scales.</li></ul>	
<b>NGSS DCI(s):</b> <ul style="list-style-type: none"><li>- ESS1.C The History of Planet Earth- Local, regional, and global patterns of rock formations reveal changes over time due to earth forces, such as earthquakes. The presence and location of certain fossil types indicate the order in which rock layers were formed. (4-ESS1-1)</li><li>- ESS2.A: Earth Materials and Systems- Rainfall helps to shape the land and affects the types of living things found in a region. Water, ice, wind, living organisms, and gravity break rocks, soils, and sediments into smaller particles and move them around. (4-ESS2-1)</li><li>- ESS2.A: Earth’s Materials and Systems- The planet’s systems interact over scales that range from microscopic to global in size, and they operate over fractions of a second to billions of years. These interactions have shaped Earth’s history and will determine its future. (MS-ESS2-2)</li><li>- ESS2.C: The Roles of Water in Earth’s Surface Processes- Water’s movements—both on the land and underground—cause weathering and erosion, which change the land’s surface features and create underground formations. (MS-ESS2-2)</li></ul>		

### Student Learning Goal

Students will be able to use sequencing language to describe how the Pinnacles rocks formed through tectonic processes and erosion by writing a summary to their notes.

### Supporting Instructional Materials:

- [Formation of Pinnacles Note taking Document \(Spanish Version\)](#)
- Pinnacles Geology [Video](#)
- Pinnacles Geology [Website](#)

### Activities and Sequence:

**Background Knowledge:** Students should have a basic understanding of plate tectonics, earthquakes and volcanoes, and weathering and erosion.

**Hook:** Class discussion- Have you ever experienced an earthquake? What do YOU think causes an earthquake?

**Lesson:** Use the [Formation of Pinnacles Note taking Document](#) (or [Spanish Version](#)) with [Video](#) and [Website](#).

- **Beginning:** Have students ponder and write their answer to the “Think about it” question: “Do landscapes (mountains, valleys, fields, rivers, etc.) change over time or do they always look the same? What do you think causes them to change?” Students can share some of their answers. (5-10 mins)
- **Middle:** Instruct students to use the two resources (video + website) to answer the questions on the note taking document. This can be done with sources projected to the whole class, in small groups, with partners, or individually using a personal device.
- **End:** Students should use their notes to complete the summary individually.

- **Closure:** Have students share their summaries with partners, then pick a few students to share with the class.