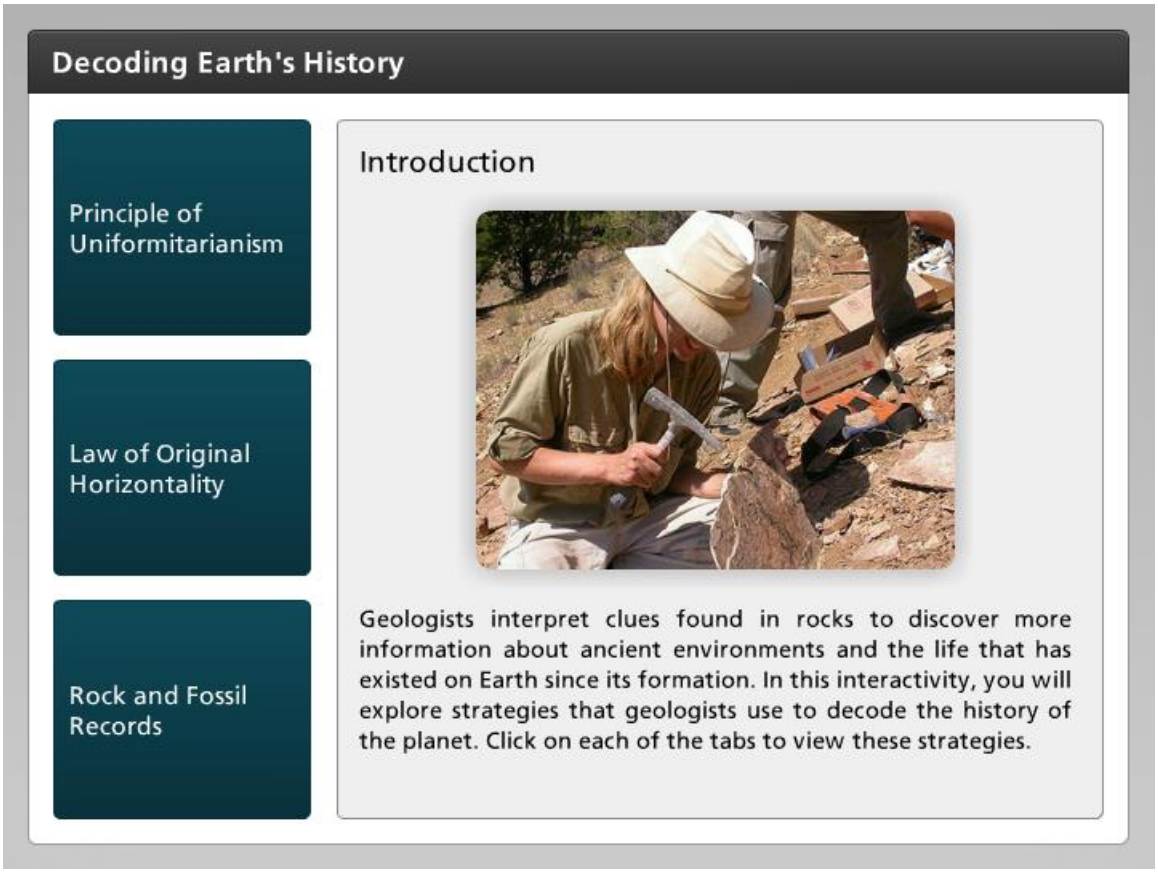
Module 9: Earth's History
Topic 1 Content: Decoding Earth's History Notes

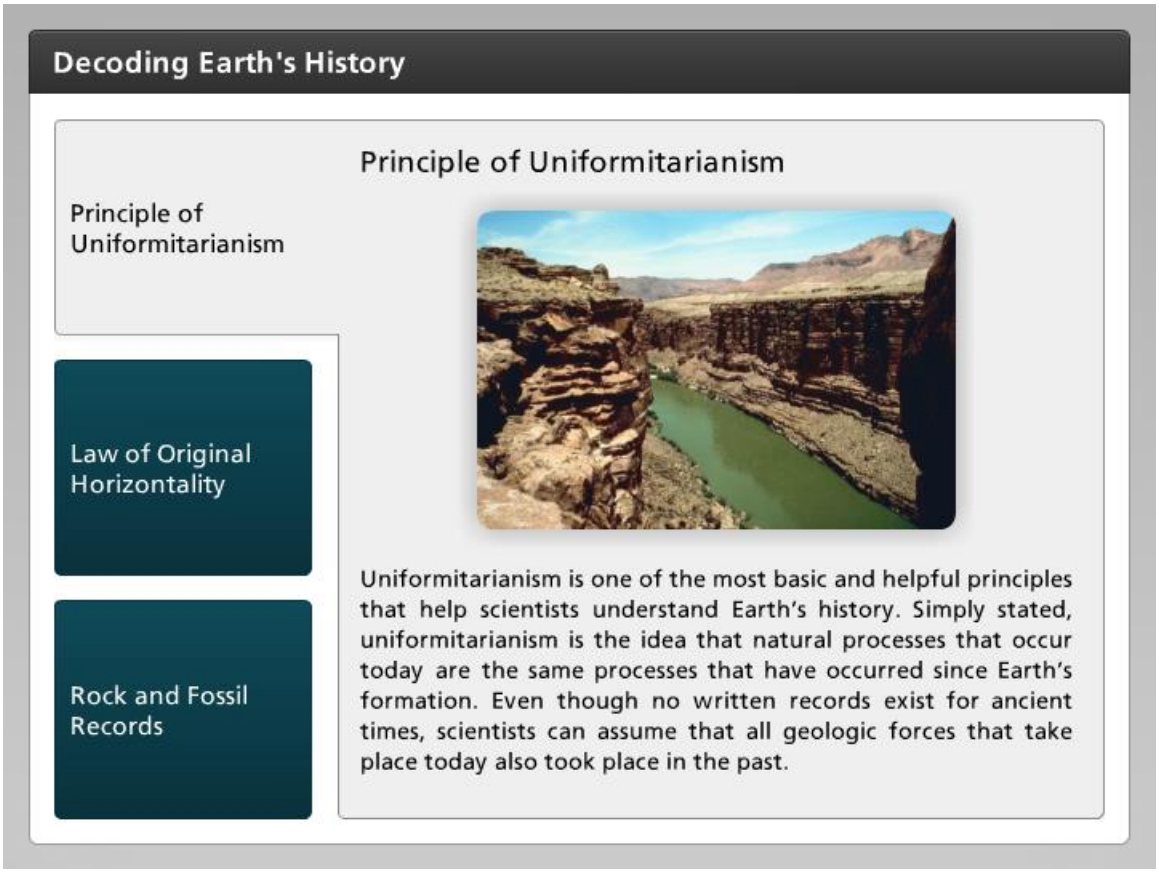
Introduction



Geologists interpret clues found in rocks to discover more information about ancient environments and the life that has existed on Earth since its formation. In this interactivity, you will explore strategies that geologists use to decode the history of the planet. Click on each of the tabs to view these strategies.

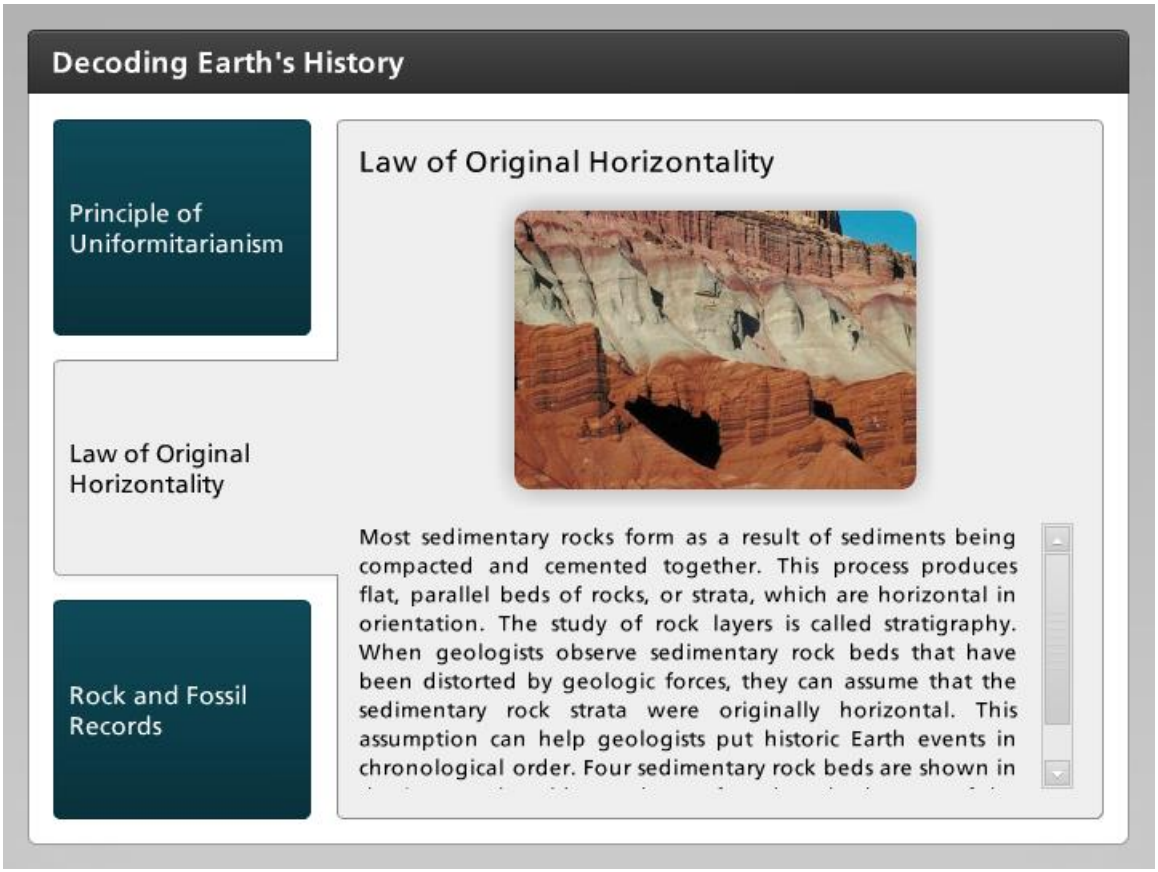
Module 9: Earth's History
Topic 1 Content: Decoding Earth's History Notes

Principle of Uniformitarianism



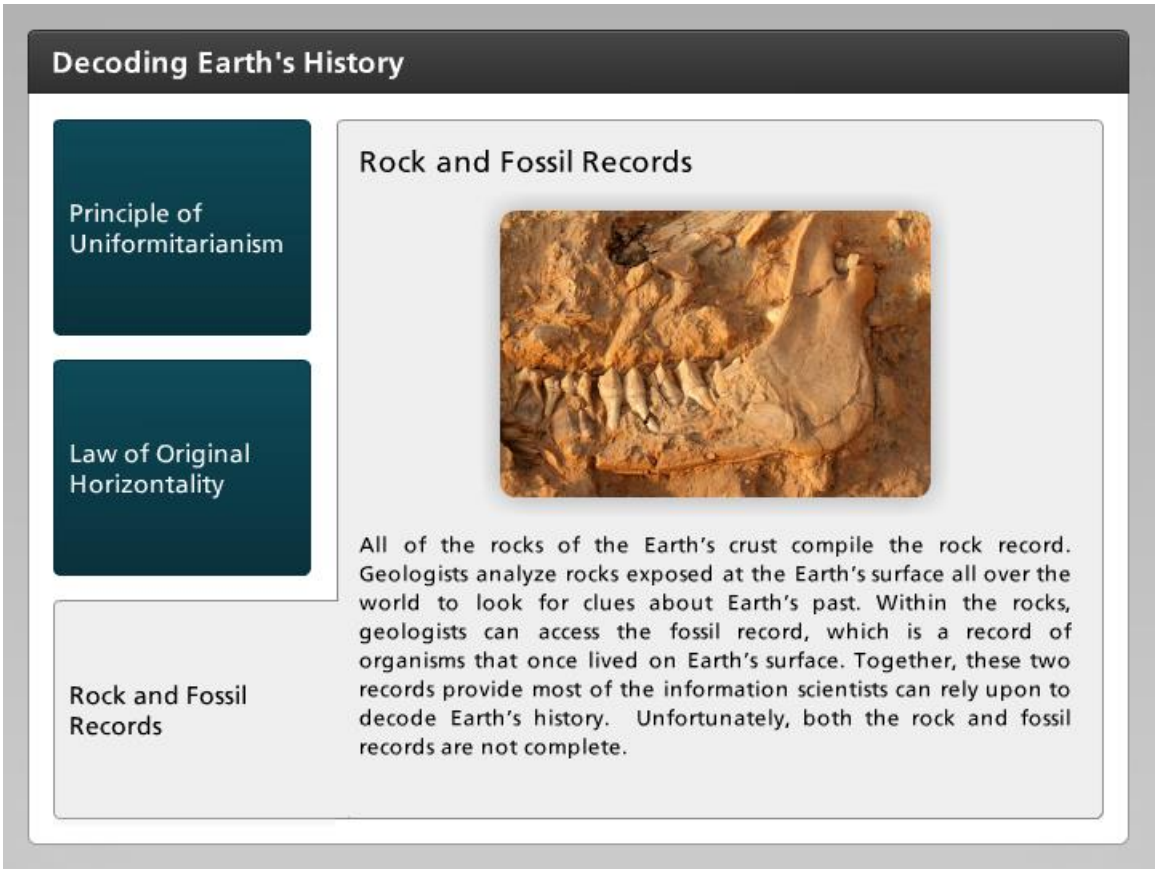
Uniformitarianism is one of the most basic and helpful principles that help scientists understand Earth's history. Simply stated, uniformitarianism is the idea that natural processes that occur today are the same processes that have occurred since Earth's formation. Even though no written records exist for ancient times, scientists can assume that all geologic forces that take place today also took place in the past.

Law of Original Horizontality



Most sedimentary rocks form as a result of sediments being compacted and cemented together. This process produces flat, parallel beds of rocks, or strata, which are horizontal in orientation. The study of rock layers is called stratigraphy. When geologists observe sedimentary rock beds that have been distorted by geologic forces, they can assume that the sedimentary rock strata were originally horizontal. This assumption can help geologists put historic Earth events in chronological order. Four sedimentary rock beds are shown in the image. The oldest rocks are found at the bottom of the outcrop and the youngest rocks are found at the top.

Rock and Fossil Records



All of the rocks of the Earth's crust compile the rock record. Geologists analyze rocks exposed at the Earth's surface all over the world to look for clues about Earth's past. Within the rocks, geologists can access the fossil record, which is a record of organisms that once lived on Earth's surface. Together, these two records provide most of the information scientists can rely upon to decode Earth's history. Unfortunately, both the rock and fossil records are not complete.