

FOSSILS THROUGH TIME - GRADE 4



OBJECTIVES:

Compare different fossil models through time.
Comparing different ways a fossil can be preserved.

VOCABULARY:

Paleozoic- Pertaining to geologic time, 225-650 million years ago.

Mesozoic- Pertaining to geologic time, 65-225 million years ago.

Cenozoic- Geologic time period, pertaining to the last 65 million years.

Stratigraphy-The study of how rocks are layered.

Trace Fossils- The fossilized remnants of the effects of an organism in the past.

BACKGROUND INFORMATION:

Fossils are the remains of plants and animals that lived long ago. The probability that an organism will be preserved as a fossil is very low. Geological processes such as erosion, weathering, sedimentation, and leaching constantly "attack" the fossil, and may destroy it before anyone sees it. The other types of indirect evidence are collectively called trace fossils. A trace fossil gives a paleontologist some evidence of the organism's behavior. There are three main types of trace fossils. Tracks and trails are produced by an organism walking, crawling, foraging, or resting. For example, dinosaur tracks provide information about how large the dinosaur was, how fast it walked, and whether it walked alone or in a group

Evolution is the documented change in organisms, leading to the creation of new species, through time. Evolution is a non-reversible process. For example, dinosaurs will never exist again. Present day evolutionary theories are based not only from biochemical data from living organisms, but also from the remains of organisms preserved as fossils in rocks. Discoveries about the details of the evolutionary process continue, but the basic accuracy of the theory is not in doubt.

PROCEDURE:

1. Review "What Is A Fossil" slideshow
<http://msnucleus.org/membership/slideshows/Fossil5.html>
2. Discuss with students what fossils tell us about that organism. The remains of organisms tell us about what it was and how it lived. However, think about how organisms live

today; they do not live in isolation, but interact with other organisms in their environment. The biological sub discipline of ecology studies the relationships between communities of organisms, as well as interactions between organisms in their environment.

3. Lab #1 using the Paleozoic, Mesozoic, and Cenozoic science posters, give students instructions to sort fossil models in categories in the time period they lived. The poster has photographs of each model to help clarify time period and correct species name.
4. Read electronic story, "Going back through time with Dinosaurs"
<http://msnucleus.org/membership/storybooks/Dinosaur.html>
5. Complete workbook accompanied with the lab.

