CAVE OF THE MOUNDS®
National Natural Landmark™

Educational Programs

PaleoTALES

Fossil Mini-Course

Grade 5-6

Wisconsin DPI Standards:

Science:
D.8.3, D.8.5, D.8.6, D.8.7, E.8.2, E.8.3, E.8.4, E.8.5, E.8.6

Social Studies:
A.8.4, B.8.1

Objectives:

At the end of this program, the student should be able to:

- Define fossil related vocabulary.
- Name and identify the four fossil types.
- Describe how fossils form in simple terms.
- Relate the importance of fossils to the study of the earth's past.
- Demonstrate an understanding of change through time.
- Examine and identify at least 4 fossils.

Activities:

Times are approximate and specific reinforcement activities will vary based on the needs of each individual group.

30 minutes	The interactive audio visual presentation provides the definition of a fossil, investigation of the four fossil types, fossil formation and processes of collecting and identifying fossils.
30 minutes	Sluicing gives participants a hands-on experience to discover their own collection like a true paleontologist. Guided identification shows examples of both local and non-local fossils.
50 minutes	The Cave Tour fosters a connection between previously discussed fossil and geology concepts with the experience of observing embedded within the rock of the Cave.

Pre-teach Vocabulary:

A glossary of terms is provided for your convenience.

Geology	Fossil	Paleontologist
Geologic Time Scale	- Mold	Gastropod
Geological Processes	- Cast	Trilobite
Sedimentary rock	- Trace	Brachiopod
Limestone	- Body	Law of Superposition
Ancient	Cephalopod	

Learning Extension:

Try this before or after your visit to reinforce important concepts.

You will need:
Various fossils to examine
(use collection from PaleoTALES program when possible)
Paper and pencil
Fossil identification book
Geologic time scale

1. Closely examine 1-2 fossils, and make a sketch of each.
2. Make predictions about each fossil. Why does it have that shape and texture? How did that help the plant or animal succeed in its environment? What environment did it live in? What did this plant or animal eat? How did it move? Does it resemble modern forms of life?
3. Use the geologic time scale to place fossils in their appropriate time periods. The time scale can be used to better understand environmental conditions at different periods of time.
4. Use fossil book to identify fossils, and gather information on ancient life.
5. Compare your predictions to the actual descriptions found in a fossil book. Show how organisms have adapted structures to match their functions, providing means of encouraging individual and group survival within specific environments.

Glossary of Terms

Geology - Scientific study of the earth and earth materials.

Geologic Time Scale – A scale created by scientists to divide periods of time by significant events in the history of the Earth. (Suggested Resource: http://www.ucmp.berkeley.edu/help/timeform.html)

Geological Processes - dynamic processes at work in the earth's landforms and surfaces. The mechanisms involved, weathering, erosion, and plate tectonics, combine processes that are in some respects destructive and in others constructive.
(Suggested Resource: http://www.backyardnature.net/g/processs.htm).

Sedimentary rock – a type of rock that is made of very small pieces of other rocks, or tiny pieces of shells from sea creatures. Sedimentary rock often forms underwater, where these tiny pieces of rock or shell become tightly stuck together (cementation) forming layers of new rock.

Law of Superposition - Sedimentary layers are deposited in a time sequence, with the oldest on the bottom and the youngest on the top.

Limestone – a type of sedimentary rock that formed on the bottom of the ocean floor long ago. It is made of tiny pieces of shells from sea creatures, and often contains fossils.

Ancient – Long, long ago. A time when Earth's land and seas looked very different, and plants and animals existed that do not look like the ones we see today.

Fossil – the evidence or remains of ancient life preserved in rock.

- **Mold** – an impression or indentation of ancient life.
- **Cast** – a mold fossil that has been filled with material, creating a replica of ancient life.
- **Body** - The actual remains of ancient life; includes bones, shells, and teeth.
- **Trace** - Any indication of ancient life, such as tracks, trails, burrows, or nests

Paleontologist - A scientist who studies ancient life, including extinct plants and animals that look very different from the ones we see today.

Cephalopod – an ocean animal with tentacles that has existed since long before the dinosaurs roamed the earth. Types of Cephalopods that live today include squid, octopus, and cuttlefish. The word "cephalopod" is Greek for head-foot.

Gastropod – an animal that has existed since long before the dinosaurs roamed the earth, living in the water or on land, with or without a shell. Modern Gastropods include snails and slugs. The word "gastropod" is Greek for stomach-foot.

Trilobite – an insect-like ocean animal that resembled a cockroach swimming or crawling on the ocean floor. Trilobites are now extinct; they existed long before the dinosaurs roamed the earth. Trilobites are Wisconsin's state fossil.

Brachiopod – an ocean animal resembling a clam that has existed since long before the dinosaurs roamed the earth. Brachiopods attached themselves to the ocean floor with a stalk attached to the hinged side of their shells. The word "brachiopod" is Latin for arm-foot.