



# CAVE OF THE MOUNDS®

National Natural Landmark

## Educational Programs

### PaleoTALES

*Fossil Mini-Course*

Grade 3-4

#### Objectives:

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

- Define fossil related vocabulary.
- Name the four fossil types.
- Tell about the importance of fossils.
- Understand that the earth changes through time.
- Identify at least 3 fossils.

#### Wisconsin DPI Standards:

##### *Science:*

*A.4.1, A.4.2, A.4.3, A.4.4, A.4.5, B.4.1, C.4.1, C.4.2, C.4.8, D.4.1, D.4.2, D.4.3, D.4.4, D.4.6, E.4.1, E.4.2, E.4.3, E.4.6, F.4.4*

##### *Social Studies:*

*A.4.1, B.4.1, B.4.3, B.4.7, E.4.12*

#### 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	Cephalopod
Geologic Time Scale	- Mold	Gastropod
Paleontologist	- Cast	Trilobite
Sedimentary rock	- Body	
Limestone	- Trace	
Ancient		

#### Learning Extension:

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

You will need:

Clay or Play dough  
Sea shells or small toy animals  
Plaster of Paris  
Water

1. Distribute a plum sized piece of clay or play dough to students.
2. Make mold and trace fossils in play dough using fossils or animal toys to create impressions in the clay or dough.
3. Pour Plaster of Paris into the molds created to make cast fossils. This may take several hours to dry completely. When dry remove clay or dough to reveal the cast.

4. Review which fossils are mold, cast, trace & body fossils. See glossary.

5. Have students trade their “fossils” with a partner. Ask students to examine their partner’s fossils as a paleontologist would and identify the fossils.

6. Discuss why these replicas are not real fossils and that fossils are formed over many thousands of years. Discuss why you would not find some of these replicas as fossils (toy animals are not real animals, etc.).

7. Have students work in groups of 4 or 5, stacking their clay together. Explain which clay layer is oldest and which is the youngest. Why would it be important to determine which rock layer is older in relation to the study of fossil remains?

## Glossary of Terms

**Geology** – The 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>)

**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.

**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 forming layers of new rock.

**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.

**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 prehistoric 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 and octopus.

**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.

**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.