



# CAVE OF THE MOUNDS®

National Natural Landmark

## Educational Programs

### SpeleoQUEST

Cave Mini-Course

Grade K-2

#### Objectives:

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

- Identify cave related vocabulary
- Describe what a cave is
- Tell how a solution cave forms in general terms
- Name at least 2 cave formations
- Recognize a connection between what is above ground and what is below ground

#### Wisconsin DPI Standards:

##### *Science:*

A.4.1, A.4.2, A.4.3, A.4.4, A.4.5, B.4.1, B.4.3, C.4.1, C.4.2, C.4.8, D.4.1, D.4.2, D.4.3, D.4.4, D.4.8, E.4.1, E.4.2, E.4.3, E.4.5, E.4.6, E.4.7, E.4.8

##### *Social Studies:*

A.4.1, A.4.2, A.4.5, A.4.7, 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 cave, formation of sedimentary rocks, how caves form, and how cave formations are deposited.
- 30 minutes      Outside Karst Tour shows above ground features that indicate the presence of caves, shows examples of local geology, and traces the path of Cave of the Mounds from above the ground.
- 50 minutes      The Cave Tour fosters a connection between previously discussed cavern features and formations with the experience of the actual cave environment.

#### Pre-teach Vocabulary:

A glossary of terms is provided for your convenience.

Cave	Mineral	Geologist
Stalactite	Rock	
Stalagmite	Column	
Acid	Limestone	
Dissolve	Fossil	

#### Learning Extension:

Try this activity after your visit to reinforce important concepts.

Recommended for Kindergarten	Recommended for Grades 1 & 2
<p>1. Have the children help you make fruit punch using uncolored Kool-Aid and sugar.</p> <p>2. Give children a sample of plain water to taste. Then, give a sample of the drink mixture.</p> <p><b>Questions:</b> How did each look? How did each taste? Why?</p> <p><b>Discuss:</b> Water can combine with other substances to make a solution. Sometimes you cannot tell if there is another substance just by looking at it. A weak acid solution (rain + carbon dioxide) is what caused the cave to form inside the rock at Cave of the Mounds.</p>	<p>1. Give each child 3 cups (4 oz.). Place ½ tsp salt in 1 cup and ½ tsp sugar in another cup.</p> <p>2. Pour 2 oz of warm water into each of the three cups and ask the children to stir each for 1 minute.</p> <p>3. Have the children make observations about each cup by color &amp; taste.</p> <p>4. Have each child (or in partners) make a simple chart to record observations and compare solutions.</p> <p><b>Discuss:</b> See Kindergarten discussion (←). <b>Add:</b> As the weak acid solution moved through cracks in the rock, it dissolved and carried other minerals with it.</p>

### Glossary of Terms

**Cave** - A hole in a rock that was made by nature and is large enough for a person to fit into.

**Stalactite** - A formation which develops when water deposits minerals in successive rings downward from the ceiling of a cave.

**Stalagmite** - A formation which builds upward from a cave floor as the result of water dripping from above. They are usually located beneath a stalactite.

**Acid** - A substance that produces ions when it is dissolved in water. Acids can breakdown (dissolve) rocks and minerals.

**Dissolve** - To breakdown a substance into smaller more dilute particles.

**Mineral** - the materials that make up rocks (naturally occurring solid element or compound with an internal crystal structure).

**Fossil** - Any remains or traces of animals or plants that lived in the past. These can include bones, tracks, casts or imprints.

**Rock** - A solid, cohesive aggregate of one or more minerals or mineral materials.

**Column** - A formation which is formed when stalagmites meet overhanging stalactites. Water flowing down the sides of the column gradually enlarges it by adding layers of flowstone to the surface.

**Limestone** - A carbonate-rich sedimentary rock which usually forms from layers of the remains of marine life and other marine sediments.

**Geologist** – A scientist who studies the earth and the materials that form it.