

Exploring the Maquoketa Caves

Dr. Heinzel UNI - Geology

History

Who were the first people to use the caves?
- What evidence do we have for human use of the caves?

When did the caves become a state park?
Has the name always been the Maquoketa Caves State Park?
What is the purpose of a State Park?
Who maintains and protects our state parks?

Geospatial

How many acres are within the park's boundaries?
What is the maximum elevation in the park?
What is the maximum relief in the park?

Geology

Depositional environments of sediment and rock
Types of rock present
Age of the rock (how do we know?)
What life is preserved in the rock? What does this say about the environment of deposition?
How are fossils formed?

Water

How has water helped form this park?
Water samples will be tested for the amount of Ca, Mg, in the water and compare to the tap water in Latham Hall.
Go into a two or three caves, turn off the lights (if possible) then remain still without speaking for approximately 1 minute (Record your senses)

Meteorology and Astronomy

Astronomy
When did the sun rise today?
When did the sun set today?
What constellations will be visible tonight?
Will the same constellations be present in January? Why/why not....

Weather

What was the range in temperature?
What caused the temperature changes throughout the day?
What direction was the wind blowing? Why?

Find and document (text, photos, drawings, video) these topics...

- A. at least two different forms of mass wasting
- B. A natural spring coming out of a rock wall
- C. A soil profile (name the horizons)
- D. Two positive anthropogenic influences upon the park
- E. Two negative anthropogenic influences to the park
- F. A fossil that was not part of an instructor led discussion
- G. A product of mechanical weathering
- H. A product of chemical weathering
- I. A product of biological weathering
- J. A Civilian Conservation Core (CCC) structure or project
- K. A chemical cave
- L. A mechanical cave
- M. A natural bridge
- N. Use the Principle of Superposition
- O. Use the Principle of Uniformitarianism
- P. A depositional environment that contains sand
- Q. A depositional environment that contains clay
- R. Evidence of recent flooding

Find your own examples of geologic processes or products....

S.

T.

U.

V.