

# Geology Field Book



**Name:** \_\_\_\_\_

**Date:** \_\_\_\_\_

# Geology

Let's break it down!

Geo means: \_\_\_\_\_

Ology mean: \_\_\_\_\_

Geology Definition:

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What does a geologist do?

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# Observations:

An observation is taking notice of something to better understand it.

Example:

- I notice that Ian is wearing a uniform. The National Park Service emblem is on his hat and jacket sleeve.

# Inference:

An inference is an educated guess, or an informed conclusion, based on evidence or passed knowledge.

Example:

- I infer that Ian is a park ranger because he is wearing a uniform that has the National Park Service emblem.

# Study Site #1: Boulder Field



## Observations

**What do you notice about the boulder field?**

# Scientific Inference

**How did these boulders form?**

**How did they get to this location?**

**What events caused this area to change and look the way it does today?**

## Further Thinking Activity

**Write or draw a fictional boulder formation story:**

# Weathering and Erosion Notes:

*Free Space:*

What is the force of weathering in the toast model?

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What is the force of erosion in the toast model?

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*How can you remember the difference between weathering and erosion?*

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# Boulder Field



## Formation Sketch:

Step 1:

Step 2:

Step 3:

Step 4:

Step 5:

# Study Site #2: Rock Face



## Observations

**What do you notice as you look up and down the rock face?**

**Do you notice anything different as we zoom in?**



# Scientific Inference

**How do you think these rock layers formed?**

## Further Thinking Activity

**List 4 ways that this rock face is used by plants, humans, and other animals that call Obed home.**

# Bonus Questions

## Circle True or False

- 1) Sediment is a solid material that is transported and deposited in a new location. True / False
- 2) Sediment can be parts of an animal, plant, or rock.  
True / False
- 1) Sediment can form layers.  
True / False

**Where did the sediment that formed most of the rocks at the Obed come from?**

- A) Sand Worms
- B) The ancient Appalachian Mountain Chain
- C) Tennessee has always looked like this.

The sediment has never moved or changed.

**Notes:**

Sediment Jar Predictions:

Compare Sediment Jars:

# Study Site #3: Gated Area



## Observations

**What do you notice about this gated area?**

# Scientific Inference

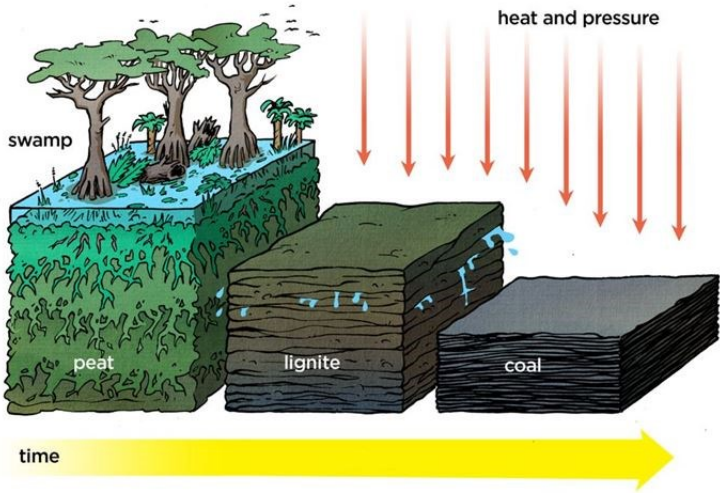
**Why was this area gated off?**

**Is this hole humanmade or natural?**

## Further Thinking

**What are 4 reasons that people may dig into the earth?**

# Coal Formation



Coal Notes:

# Plateau Notes:

# Study Site #4: Lilly Bluff Overlook



## Observations

**Write or draw the things that you notice about this gorge.**



# Scientific Inference

**How did the river valleys and gorges form?**

## Further Thinking Activity

**What emotions have you felt while viewing our park?**

**How are you inspired by our county's national parks?**

## Lilly Bluff Overlook Notes:

Why did the rock outcrop erode at a different rate than the surrounding hillside?

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Additional Notes:

Additional Notes:

## Glossary

**Appalachian Mountains** - a mountain range in eastern North America, extending from south Quebec province to northern Alabama.

**Coal** - combustible sedimentary rock formed from ancient vegetation.

**Cementation** - when the sediments are glued together by the minerals that come out of supersaturated water.

**Compaction** - when deposited sediments are smooshed together by the weight of water and other sediment that has settled on top of it

**Deposition** - is the laying down of sediment carried by wind, water, or ice.

**Differential Erosion** - Erosion that occurs at irregular rates based on the hardness and resistance of the material

**Erosion** - The geological process in which earthen materials are transported by forces such as wind or water.

**Fossil Fuel** - any combustible organic material, as oil, coal, or natural gas, derived from the remains of former life.

**Geology** - the study of the origin, history, and structure of the earth.

**Gorge** - a narrow valley with steep, rocky walls located between hills or mountains.

**Hypothesis** - a supposition or proposed explanation made on the basis of limited evidence as a starting point for further investigation.

**Inference** - an educated guess, or an informed conclusion, based on evidence or passed knowledge.

**Lithification** - the process of loosened sediment particles transforming into a solid rock.

**Observation** - taking notice of something to better understand it.

**Plate Tectonics** - The scientific theory that states the Earth's outer layer is made up of large, moving pieces called plates.

**Plateau** - a flat area of land that rises above the surrounding area.

**Sediment** - particulate matter that is eroded and deposited on the surface of the land or the bottom of a body of water, and may in time become consolidated into rock.

**Sedimentary rock** - a rock that is formed when loosened sediments are cemented together.

**Weathering** - the breakdown or dissolving of rocks and minerals.

# National Park Service

The Obed Wild and Scenic River was added to the National Park system in 1976.

## NPS Mission:

The National Park Service preserves unimpaired the **natural and cultural resources and values** of the National Park System for the **enjoyment, education,** and **inspiration** of this and future generations.

This is our NPS emblem. Each image represents one of the main facets that the park service protects!

The **Sequoia tree** and **bison** represent vegetation and wildlife, the **mountains** and **water** represent scenic and recreational values, and the **arrowhead** represents historical and archeological values.



# National Wild and Scenic Rivers System



The National Wild and Scenic Rivers System was created by Congress in 1968. The rivers protected under this act are free-flowing and possess “*outstanding remarkable scenic, recreational, **geologic**, fish and wildlife habitat, cultural, or other similar values.*”

What began with eight rivers has grown to include more than 226 of legally recognized wild, scenic, and recreational rivers.