



Fossils: Pre-Field Trip Activity  
(4th Grade - Monumental Hike, Digging Into Fossils)

Name \_\_\_\_\_



**Fossil Lingo** - Fill in the blanks to learn more about the different types of fossils.

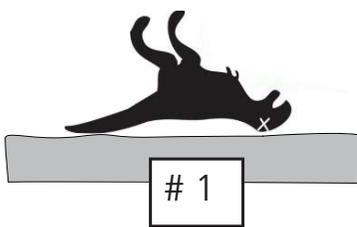
Key:      body      trace      coprolite      amber

1. A part of a plant or animal that was turned to stone is a \_\_\_\_\_ fossil.
2. A \_\_\_\_\_ fossil is the remains of a sign left by a dinosaur or ancient animal like a fossilized track or \_\_\_\_\_ (*dinosaur droppings*).
3. Some fossils are perfectly preserved, like insects trapped in \_\_\_\_\_ (*tree sap*).

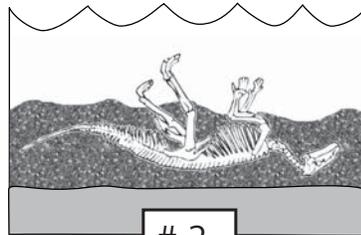
**A Fossil in the Making** - The pictures below show how the bones of an *Allosaurus* dinosaur turned into fossils. **Write** a story on the lines below to describe what happened.



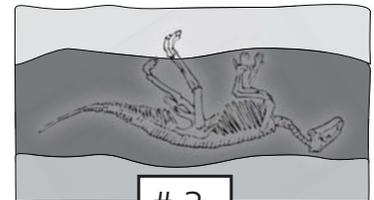
Trilobite Fossil



# 1



# 2



# 3

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Fossils: Pre-Field Trip Activity  
(4th Grade - Discovering Fossils Monumental Hike, Digging Into Fossils)

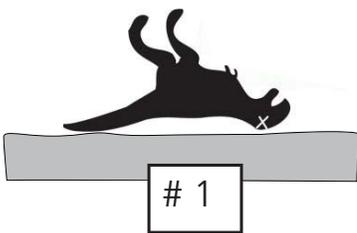
## Answer Key

 **Fossil Lingo - Fill in the blanks** to learn more about the different types of fossils.

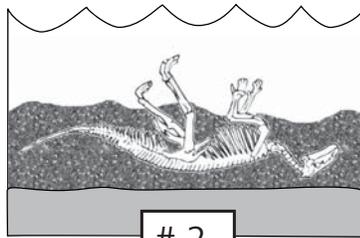
**Key:**      body      trace      coprolite      amber

1. A part of a plant or animal that was turned to stone is a body fossil.
2. A trace fossil is the remains of a sign left by a dinosaur or ancient animal like a fossilized track or coprolite (dinosaur droppings).
3. Some fossils are perfectly preserved, like insects trapped in amber (tree sap).

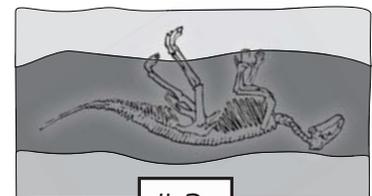
**A Fossil in the Making** - The pictures below show how the bones of an *Allosaurus* dinosaur turned into fossils. **Write** a story on the lines below to describe what happened.



# 1



# 2



# 3

**Answers will vary. Main points students should cover:**

1. **Allosaurus died**

2. **Bones were buried by sand in the bottom of a river/ocean.**

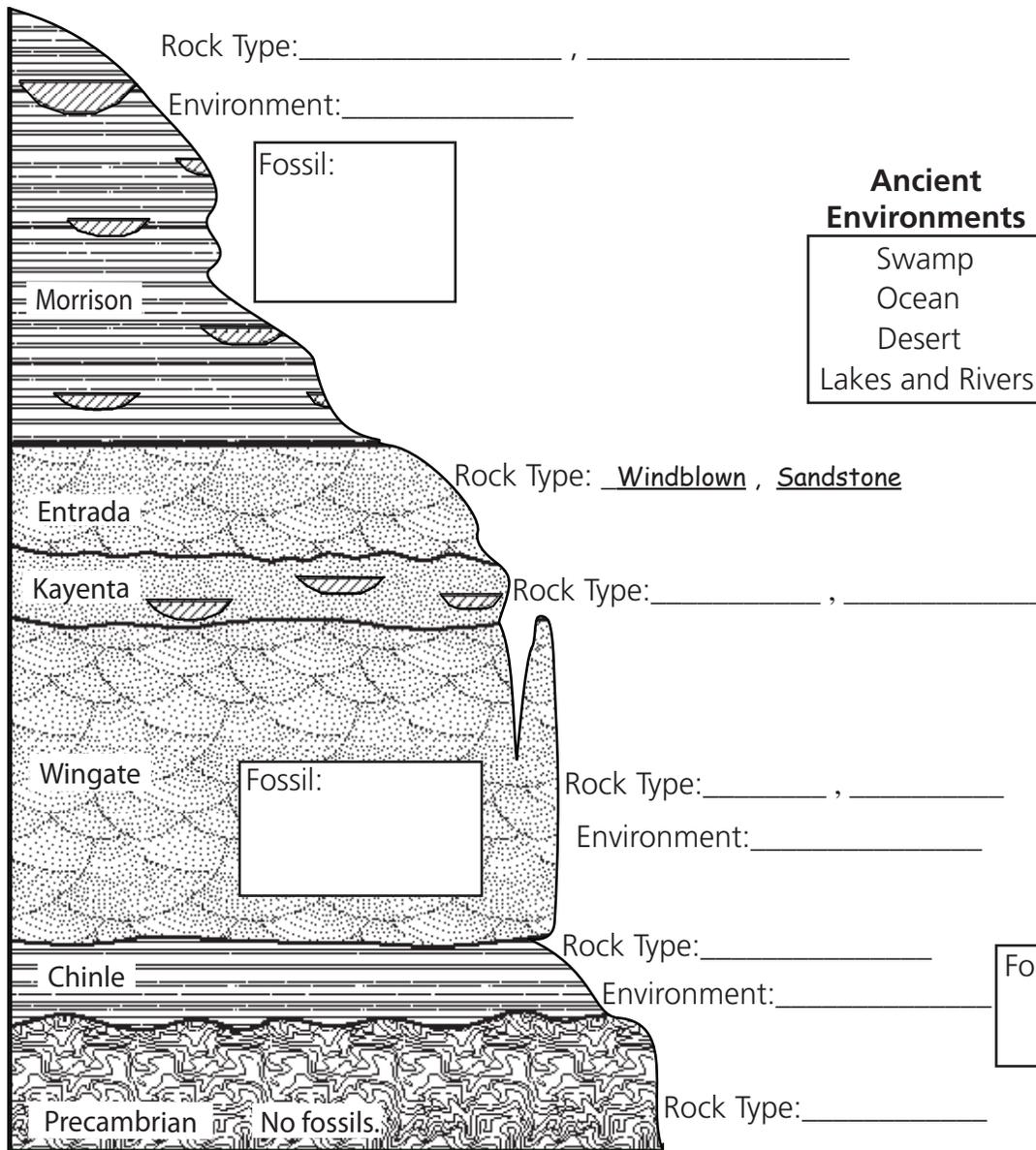
3. **Sand and bones turned to stone. (Original bone material was replaced by minerals.)**



Fossils, Post-Field Trip Activity, (4th grade, Digging into Fossils, Discovering Fossils)

Name \_\_\_\_\_

Clues to the Past - This drawing of the Monument's rock layers is called a stratigraphic column. Each layer has a name. Use the key to identify and **label the rock types**. (Entrada has been done for you.) Based on the rock types and what you learned during your field trip, write the name of the **ancient environment** next to the layers in the spaces provided. **Draw and label the fossils** found in the rock layers in the boxes below.



- Ancient Environments**
- Swamp
  - Ocean
  - Desert
  - Lakes and Rivers

**Key**

	Sandstone
	Mudstone
	Riverbed
	Windblown
	Metamorphic

**Fossils**

	Phytosaur
	Grallator Track
	Turtle Tracks

- 1) Draw a claw on the layer allosaurus fossils have been found in.  
(Hint: Many dinosaur fossils have been found in the layer that is Riverbed Mudstone.)
- 2) Draw a star or stars on the layer or layers that you hiked in during the field trip.

**On the back of this paper, or on a separate sheet:**

Write a paragraph explaining how **fossils** and **rock types** helped you figure out what the **ancient environment** was like for one of these layers: Morrison, Wingate or Chinle.



### Fossils, Post-Field Trip Activity, (4th grade, Digging into Fossils, Discovering Fossils)

#### Clues to the Past

This drawing is called a stratigraphic column. The rock layers names are labeled. Use the key to identify and **label the rock types**. (Entrada has been done for you.)

Based on the rock types and what you learned during your field trip; **write the ancient environment** next to the layers in the spaces provided.

**Draw and label the fossils** found in the rock layers in the boxes below.

Name \_\_\_\_\_ **Answer Key**

**Key**

- Sandstone
- Mudstone
- Riverbed
- Windblown
- Metamorphic

**Ancient Environments**

- Swamp
- Ocean
- Desert
- Lakes and Rivers

**Fossils**

- Phytosaur
- Grallator Track
- Turtle Tracks

**Stratigraphic Column Data:**

Layer	Rock Type	Environment	Fossil
Morrison	Riverbed, Mudstone	Lakes and Rivers	Turtle Tracks
Entrada	Windblown, sandstone		
Kayenta	Riverbed, Sandstone		
Wingate	Windblown, Sandstone	Desert	Grallator Track
Chinle	Mudstone	Swamp	Phytosaur
Precambrian	Metamorphic		No fossils

1) Draw a claw on the layer allinosaur fossils have been found in. **(Morrison Layer)**

(Hint: Many dinosaur fossils have been found in the layer that is Riverbed Mudstone.)

2) Draw a star or stars on the layer or layers that you hiked in during the field trip. **Field trips at the Visitor Center hiking on the canyon**

**rim trail are on the Kayenta layer (the alcove trail is in Entrada). Lower Monument Canyon hikes in the Precambrian, Chinle and Wingate layers. (The trailhead is actually in Morrison, but rangers rarely point this out.)**

#### On the back of this paper, or on a separate sheet:

How did you determine what ancient environments matched the rock layers? Choose one of the rock layers: Morrison, Wingate or Chinle, and write a paragraph explaining how **fossils** and **rock types** helped you figure out what the **ancient environment** was like. Samples:

I know from using the key and from the hike that the chinle layer is mudstone. A fossil that has been found in the chinle layer is phytosaur a creature like a crocodile. Crocodiles today live in swamps. Phytosaur probably lived in swamps too. Swamps are muddy, which is why the rock layer is mudstone.

Turtles today live near water like lakes and rivers. The ranger told us fossilized turtle tracks have been found in the Morrison layer, and that is a clue that the ancient environment had shallow water. Also the key says the rock is riverbed mudstone which is formed from lakes and rivers.

Wingate is windblown sandstone. This is formed from sandunes in a desert. Fossilized grallator tracks are from a group of dinosaurs, some of these dinosaurs were desert dwellers.

# Outreach Education

Colorado National Monument

National Park Service  
U.S. Department of the Interior



Colorado History: Pre-Field Trip Activity  
(4th Grade Utes to Cowboy Boots)

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

**Ancient Cultures** - Humans have lived in the Grand Valley for the past 10,000 years!  
**Read** the paragraphs below. **Circle the names** of the different groups of people (*cultures*) who lived in this area. (*Hint: You should find 5 different cultures.*)

The Paleo Indians were the first humans to live in this area. They were mainly hunters and followed herds of Ice Age mammals, like the woolly mammoth. After the glaciers melted and the huge mammals died off, Archaic Indians thrived in this region. Archaic Indians were a hunter-gatherer culture. They survived by hunting bighorn sheep, deer, and small mammals and collecting plants to eat. Around 400 A.D., the Archaic lifestyle began to change, and a new culture appeared.

The Fremont Indians lived in this region from 400 A.D. until around 1250 A.D. Fremonts farmed corn and other crops, hunted animals, and gathered plants. They were a sedentary culture, meaning they lived in one place throughout the year. In the Monument, **archaeologists** found their corn cobs, small dams for collecting water, and **petroglyphs**.

The last group of Native Americans that lived in this area were the Ute Indians. The Utes traveled throughout the Grand Valley to hunt a variety of animals and gather plants, spending each season in a different zone. In 1881, Utes were forced to move to a **reservation** in Utah so that pioneers could live in the Grand Valley.

The pioneers that moved into this area were farmers and ranchers, and built the towns of Grand Junction and Fruita. These early settlers are the ancestors of many people living here today.



Fremont Petroglyph

## Vocabulary

**Archaeologist** - A scientist who studies objects by ancient cultures to learn more about them

**Petroglyph** - An ancient drawing made by pecking the surface of a rock with another rock

**Reservation** - An area of land controlled by a Native American tribe

## Grand Valley Timeline

**Write the names** of the cultures from the reading above in the boxes on the timeline in the correct order. (*Pioneers has been done for you.*) Then **choose 2 cultures and compare** their lifestyles on the lines below. **How did members of each culture get their food? Did they move around or stay in one place all year? When did they live in the Grand Valley?** (*Use the back of the page if you need more room.*)



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# Outreach Education

Colorado National Monument

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## Answer Key

Colorado History: Pre-Field Trip Activity  
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Answers will vary:

Hunter-Gatherers, moved around: Paleo, Archaic, Utes

Mostly Farmers, stayed in one place: Fremonts, Pioneers