

ACTIVITY: Fossil Excavation and Identification



Objective: Learners will observe and model various jobs that paleontologists do to understand how fossils are located and identified.

Introduction: Paleontologists study fossils to understand the history of life on Earth, focusing on how ancient organisms lived and interacted with their environments. They use a variety of tools and techniques at field sites to excavate and analyze fossils. Through their research, paleontologists help piece together Earth's evolutionary history, providing insights into past climates, ecosystems, and the development of life over millions of years.

Have learners:

1. View the images on the handout to make observations of the work done by paleontologists. Discuss:
 - ▶ *What tools do you see in the images? How and why do you think they are used?*
 - ▶ *What do the images have in common? What do these similarities reveal about the process of excavation?*
 - ▶ *How do the images differ? Why do you think not every excavation is the same?*
 - ▶ *What surprised you the most about these images and why?*
2. Watch the video **Digging for fossils at Petrified Forest National Park** to see an excavation in action.
3. Complete one or more activity from the NPS Educator Resources database to learn more about the work of paleontologists:
 - a. To mimic how paleontologists locate fossils, complete: **So You Wanna Be a Paleontologist?**
 - b. To model excavation, complete: **Paleo Fossil Cookie Dig**. (Tip: In addition to rounded toothpicks, it is helpful to have small paintbrushes to use during excavation.)
 - c. To analyze an excavated outcrop, complete: **Inventory + Monitoring Evaluations**. (The video and evaluation sheet can be accessed here: **I&M Evaluations**.)
 - d. To learn about identifying fossils and using them to describe past environmental conditions, complete: **So You Wanna Be a Paleobotanist?**

4. Learn about two fossils that were discovered by visitors of Badlands National Park:
 - a. Watch the presentation [Kylie's Fossil Find](#).
 - [Supplementary documents](#)
 - [Images from the Saber Site](#)
 - [Additional information on the saber fossil](#)
 - b. Read about and view photos from The Big Pig Dig.
 - [Read the story](#)
 - [View the interpretive sign at "The Pig Dig"](#)
 - [Access the Photo Gallery](#) (look for items labeled "Big Pig Dig")
 - c. Discuss why it is important to report fossil finds within National Parks to rangers.
5. Optionally, complete the activity, [Coordinates and Gridding in Archeology](#), to compare and contrast what paleontologists and archeologists do.

HANDOUT: Fossil Excavation and Identification



Observe the images showing paleontologists at work.



Credit: NPS/Bill Faulkner



Credit: NPS



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Credit: NPS/Brent Sumner



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► Note the similarities and differences between each fossil excavation site.

► How do paleontologists ensure that they do not damage fossils during excavation?