

Lesson Plan

Digging Deeper

Book: *Velociraptor*

Series: Finding Dinosaurs

Level: Navigator

Objective

To help students learn about the process used to excavate and preserve fossils by comparing descriptions of that process in several different texts.

Supplies

- *Velociraptor* book
- Whiteboard
- Paper and pencils

Before the Activity

Read through the *Velociraptor* book, or assign it to students to read on their own.

Activity

Ask students to turn to the “Digging Deeper: Preserving Fossils” feature on pages 10 and 11. This feature describes the process that Roy Chapman Andrews and his team used to dig up and preserve fossils:

“Uncovering a dinosaur skeleton is a long process. Fossils are buried beneath deep layers of rock. Plus, many fossils are fragile. They can break easily. People must use great care when digging them up. When Andrews and his team found fossils in the Gobi Desert, they wrapped the fossils in burlap. This rough fabric helped protect the fossils. Team members used paste made from flour and water to hold the burlap together. Soon they had used up all the burlap they brought. So, the team ripped up tent flaps, towels, and clothes to wrap the fossils. One dinosaur skull was even wrapped using striped pajamas. Scientists also work to preserve the fossils that have already been excavated. Fossils or casts are often joined together to look like dinosaurs. They are put on display in museums.” (Sheryl Peterson, *Velociraptor*, pp. 10–11)

Next, read the students the following excerpt from the “Digging Deeper: The Bernissart Skeletons” feature in the *Iguanodon* book from the same series:

“In 1878, two coal miners in Bernissart, Belgium, discovered a clay-filled crack filled with fossils. The find included more than 30 Iguanodon fossils. Earlier Iguanodon finds had been

of small, disconnected bones or scattered remains. But these were skeletons of complete dinosaurs. . . . The mine was closed for two years while people worked to excavate the fossils. They coated the fossils in wet paper, clay, and plaster for protection. Then they brought them to the surface. The skeletons are now on display at the Royal Belgian Institute of Natural Sciences in Brussels, Belgium.” (Rebecca E. Hirsch, *Iguanodon*, pp. 10–11)

Then ask the following questions:

- What are a few similarities between the processes described in these two features? (Possible answers: Both accounts describe wrapping the fossils to protect them, and both accounts describe putting the fossils on display in a museum.)
- What are a few differences between the processes? (Possible answers: The Velociraptor fossils were wrapped in burlap or cloth, while the Iguanodon fossils were wrapped in paper, clay, and plaster. The Velociraptor fossils were found out in the desert, while the Iguanodon fossils were found in a mine.)

Next, read the students the “Digging Deeper: Studying Sophie” feature from the *Stegosaurus* book:

“In 2003, paleontologist Bob Simon found a Stegosaurus skeleton at Red Canyon Ranch in Wyoming. . . . The skeleton was almost fully connected. With 85 percent of the bones, it is the most complete Stegosaurus ever found. Studying these bones may help scientists answer many questions about Stegosaurus. All of [the dinosaur’s] skull bones were separated from one another. Scientists can study each one individually. The bones may reveal more about the dinosaur’s eating habits. Computer programs can help reconstruct the tissue, such as muscles, that connected the bones. This allows scientists to study how the jaws moved during chewing. Scientists can also use X-rays and scans of [the] bones to create computer models. They hope to learn more about how Stegosaurus moved and how quickly it grew.” (Samantha S. Bell, *Stegosaurus*, pp. 28–29)

Then ask the following questions:

- What are a few similarities between the process described in this feature and the process described in the other two features? (Possible answers: This account also tells about how scientists found a nearly complete skeleton, and all three accounts tell how scientists studied the bones after they were found.)
- What are a few differences? (Possible answers: This feature focuses much more on how scientists study and use the bones after they are found. This feature also describes how technology such as X-rays and computer programs can help scientists study fossils.)

Ask students to use the information in these three “Digging Deeper” features to write a paragraph describing how scientists excavate, preserve, display, and study fossils. Collect each student’s paragraph at the end of the activity.

Evaluation

Could students identify similarities and differences between the three texts? Did their paragraphs accurately summarize the process scientists use to excavate and preserve fossils? Did they draw information from all three sources?

Standards

This lesson may be used to address the Common Core State Standards' reading informational texts standards, grade 5 (RI 5.6; RI 5.9).