The Mammoth Site of Hot Springs South Dakota is situated over and around a rich concentration of fossilized mammals. In this location some 26 thousand years ago, a substantial number of animals died after becoming trapped in a steep-sided pond, or sinkhole. Over time, the sinkhole filled with dirt and rock, which covered and to some extent preserved the animals' bones.

In June of 1974, a man using heavy machinery to clear and level ground for construction of an apartment building unearthed what he knew were old bones.

Dr. Larry Agenbroad, Chadron University, was contacted and came to Hot Springs. At that time he determined that there were six mammoths on the site. This was enough to stall the apartment project and secure the site for potential future study. Dr. Agenbroad and a team of students returned in the summer of 1975 to begin more extensive work on the site.

Today, according to The Mammoth Site of Hot Springs, “… 61 mammoths have been identified, along with the remains of a giant short-faced bear, camel, llama, prairie dog, wolf, fish, and numerous other plant and invertebrate fossils.” (More)
During this activity your students will learn how the discovery of a single old bone lead to the development of one of the world’s premier fossil beds. Your students will also complete an activity in which they will learn that fossils are very delicate and that extreme care must be taken when the fossils are excavated.

Process:

- Introduce the activity by viewing the following video clips which describe the site, hunting and the accidental discovery of the first bones at The Mammoth Site of Hot Springs, South Dakota.
  - Dakota Life: Mammoth Site
    - Excellent video describing the site
  - George Hanson and son Dan Hanson, describe the find.
    - Formats: DLL / Watch PBS
  - Dr. Agenbroad, Chief Scientist/Site Director describes the original exploration of the site.
    - Formats: DLL / Watch PBS
  - Landscapes of South Dakota
    - Overview video
  - Dakota Pathways
    - The First Hunters and Farmers

- Discuss the delicateness of fossils and the importance of careful excavating when removing/preserving each specimen.
  - PBS Learning Media: Paleontology / Archeology

- Complete the following activity - Many times it can be difficult for students to understand the meticulous and tedious process of removing fill/material from and around a fossil. During the following activity your students will bury a flower and then unearth it without damaging any part of the flower.
Gather the materials below:
- Fill like Sand/Rocks
- Pan/container
- Flowers
- Tools (examples below)
  - Spoons
  - Toothpicks
  - Brushes
  - Cups
  - Etc.

- Photograph/document the condition of the flower before the lab starts.

- Carefully bury the flower without damaging it.
The flower should be completely buried by the fill.

Tools should be used to remove the flower without damaging it.
The Hot Springs Mammoth Site

Teaching Tip

Paleontologist: Unearth a Flower

Taking it to the Next Level:
- Bury the flowers for the students
- Use a deep container with multiple types of fill
- Introduce additional materials besides the flowers
- Use multiple flowers
- Use parts of flowers
- Use very delicate flowers

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