

Fossil Find

Activity for Grades 5–8

Introduction

For more than 100 years, expeditions from the American Museum of Natural History have scoured the globe in search of fossil specimens. Fossils are the remains and imprints of plants and animals that lived thousands, and even millions of years ago. Seashells, impressions of skin, leaves, petrified wood, bones and teeth of animals, and insects trapped in amber can all be fossils. When paleontologists find large fossil specimens, they often create a grid with string and draw a diagram showing the exact location of each bone they find. The position of the bones may hold clues as to how the animal stood, behaved, or even died.

Objective

This activity will stimulate a “dig” experience for students.

Materials

For each group you'll need:

- **Fossil Find** sheet
- Bone site carton (see preparation below)
- Tape
- String
- Small brushes, whisk brooms, or old toothbrushes



Preparation of Bone Carton

You will need:

- A small cardboard box (with low sides)
- Sand
- Chicken skeleton with all the meat boiled off (ask parents to contribute whole or partial skeletons)

Directions: Place a thin layer of sand in the bottom of the carton. Break up a skeleton or partial skeleton (try to separate bones at the joints) and arrange the bones in the sand. Cover the skeleton with sand.

Vary what you do for each bone site. Provide:

- a skeleton with missing bones
- an additional leg/arm
- bones of another species (such as fish bones)
- eggs shells, acorns

To cut down on your preparation time, you may consider having groups assemble the dig sites and then trade with other groups.

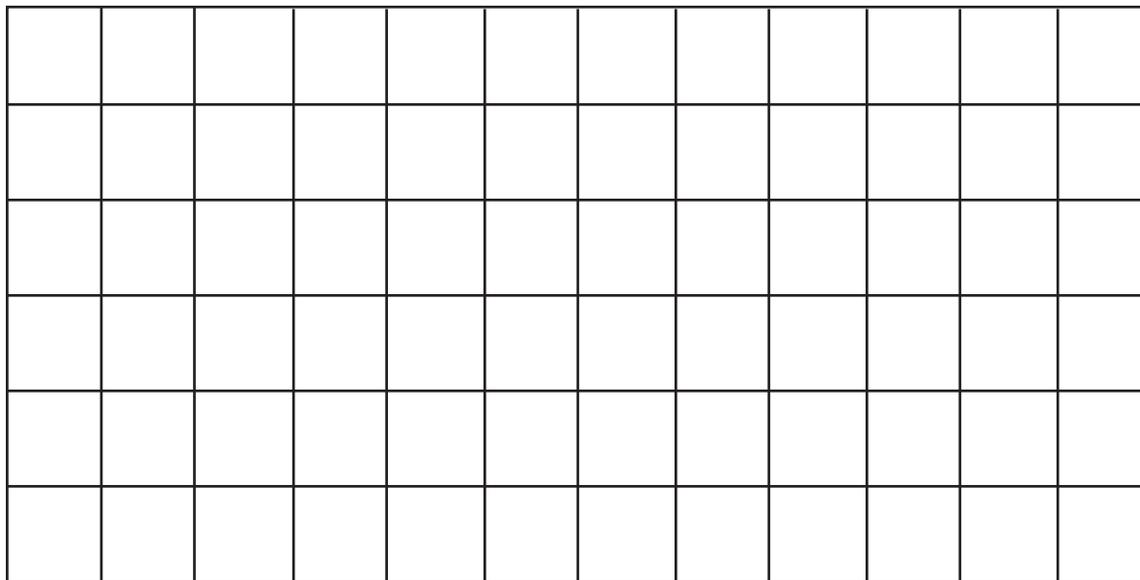
Procedure

1. Have students share what they now about digging for fossils. If students' knowledge is limited you might refer them to some of the books listed on the reference list. Tell students that when paleontologists find a fossil site, they often make a grid over the site using string and then record the position of each bone on grid paper. Explain that the position of the bones might hold clues as to how the animal behaved or died. Tell students that they are going to excavate a fossil site and reconstruct a skeleton.
2. Distribute **Fossil Find** sheets, and bone site cartons to the groups. Review the directions with them, making sure they know what they are to do.
3. When students have completed the activity, have them display their completed skeleton and share their observations and findings.
4. Have groups compare skeletons and confirm or revise their hypotheses. Discuss with students what paleontologists can learn about dinosaurs, what things they might hypothesize, and what they cannot learn (based on the evidence they have gathered).

Fossil Find

Name _____ Date _____

1. Using the brushes (and without moving of any of the bones) carefully brush away the sand to expose the skeleton. Using the string and tape make a grid so that you can diagram the fossil site. Use the grid below. Include *everything* you find at the site in your diagram.



2. Carefully remove the skeleton. Using the tape, work together to piece the skeleton together.
3. Using only the skeleton and what you know of animals and their behavior, work as a group to answer the following questions. Have one person in your group record your findings.
 - a. What did you find? What parts were missing? What duplicate or additional parts did you find? How did you figure out which parts belonged to your skeleton?

- b. How did the animal move (swim, fly, walk)? Was the animal bipedal, or quadrupedal?

c. What kind of skin covering did it have? What color was it? (Use only information from your dig.)

d. How tall/long was the animal? What did it weigh?

e. Was the animal a carnivore or herbivore? What food did it eat? Where did it find food (i.e., a swamp, high tree branches, close to ground). How did you figure this out?

f. Where did the animal live?

g. What can you tell about the animal's behavior? For example, can you tell whether it lived alone or in groups? Did it lay eggs or give birth to live young?

h. What else did you find at the site? In what ways might the objects you found be connected to the animal? What conclusions can you draw?

i. Why might a diagram of the bone site be important? What clues might it hold about the animal?

j. Describe how the animal may have looked when it was alive. On a separate sheet of paper, have a member of your group make a sketch of how the animal may have looked.

k. Which questions were you unable to answer? How might you use your knowledge of how modern animals look, behave, and move to formulate hypotheses that may help to answer some of these questions?
