



## **Lesson: Types of Fossils**

**Grade level: K-8**

**Preparation time: 10-15 minutes**

**Activity duration: 30 minutes - 2 hours**

### **Learning objectives:**

- Students will understand that body fossils provide direct evidence of past life.
- Students will understand that trace fossils provide indirect evidence of past life.
- Students will classify fossils into body and trace fossil categories.

### **Lesson background:**

- Once we have established that a specimen is a fossil, we can further classify these fossils as either **body fossils**—fossilized body parts such as bones, teeth, claws and eggs, or **trace fossils**—footprints, teeth marks, impressions, nests, burrows and dung. These are important classifications for scientists to make and understand when thinking about what we can observe about a fossil and what can be inferred from that about the animal itself or its behavior. In this activity, students classify the fossil specimens provided as trace or body fossils and provide an explanation for their classification.

### **Lesson materials included:**

- Specimens: 1, 2, 4, 5, 6, 8, 10, 12, 14, 17, 18, 19
- Magnifying glasses

## Lesson procedure:

1. With your class, discuss the differences between trace fossils and body fossils. Talk about what might be classified as a body fossil and what might be classified as a trace fossil and why. Discuss what kinds of information you might be able to learn from each kind of fossil.
2. Set up the fossil specimens listed above with the appropriate matching cards around a table or around the room.
3. Have students take out a sheet of paper and pencil.
4. Explain that students will be observing a series of fossil specimens. They need to decide if each fossil is a body or trace fossil, and explain why they think so.
5. Divide the students up among the twelve fossil specimens. Allow 1-2 minutes per station and tell students when to move on to the next. Or, allow students to take their time and make this into a longer activity.
6. After students have had a chance to observe every specimen, have them return to their seats.
7. As a class, go through the specimens together and discuss observations and conclusions about whether each is a body or trace fossil and why. Use the information about each specimen to aid you in this discussion.
8. As each fossil is discussed, ask the group what kinds of information a paleontologist could learn from that particular fossil. For example, from a dinosaur bone a paleontologist might be able to learn about:
  - a. the type of dinosaur (from the shape)
  - b. the size/life stage of a dinosaur (from the size)
  - c. possible injuries the dinosaur had (from pathologies - marks indicating injured bone)
  - d. age (from the internal structure of the bone if histology is done). PPathologies and histology are more advanced concepts but are included here because some students might mention them.

Optional extension: Have the students create separate trace and body “fossil collections” by drawing the specimens on separate labeled pieces of paper. Include descriptions about what each fossil is and what we can learn from it.