

Observing Fossils

Suggested Grade Levels: **K-8**

Description: **Students practice their observing skills by drawing fossils and describing what they see, feel, and smell.**

Standards Targeted:

- **Fossils provide evidence about living things that inhabited Earth long ago. [LS4.A]**
- **Fossils can be compared with one another and to living organisms according to their similarities and differences. [LS4.A]**

Skills Targeted: **Observe and Describe**

Goals:

- 1. To encourage students to make close observations of anatomical features**
- 2. To demonstrate how different organisms have different defining characters**
- 3. To illustrate the value of peer collaboration in collecting evidence**

Objectives—By the end of this activity, students will be able to:

- 1. Make careful observations of fossils**
- 2. Identify important anatomical characters on fossils**
- 3. Use drawings and descriptions to identify specific fossil groups**

Time Needed: **15-30 minutes**

Materials:

- **Enough small fossils for each student or pair to have one (or use photos of fossils)**
- **Paper and pencils**
- **(Optional) Small magnifying glasses or 10x hand lenses**
- **(Optional) Rulers**

Step-By-Step Instructions:

- 1. Tell students that today they are going to be paleontologists—people who study fossils to learn about ancient life.**
- 2. Remind them that fossils are the remains of ancient life that are preserved inside rocks.**
- 3. Explain that the first step, once a fossil is found, is to observe it carefully and describe it. This way, the paleontologist can identify the important characters of the fossil that**



determine what kind of animal or plant it is. The paleontologist can also share this information with others, which is a very important part of science.

4. Distribute the fossils (or photos of fossils) to each student or pair. If you have them, also distribute hand lenses and rulers.
5. Tell the students to first look at the fossil carefully. Don't be afraid to pick it up and look at all the sides. What can they see? What can they feel? They might even smell the fossil. (Tasting is not recommended, though!)
6. Have students draw two views of their fossil, one from the top and one from the side. (How "top" and "side" are defined may vary by fossil type—the key point is to observe the fossil from two distinctly different angles.)
7. Ask students to indicate how big their fossil is, either by measuring it with a ruler and labeling their drawing, or by also drawing another object, like a pencil eraser, next to the fossil.
8. Encourage students to include in their drawing the key details that they think make this fossil unique, such as its overall shape, the number of parts, and aspects of its ornament, like ribs and bumps.
9. Students should next write out a description of their fossil that includes a list of the key details they have identified.
10. Once students have completed their descriptions, explain that an important part of science is sharing your observations with others and working together to learn more about nature.
11. Have students pair up with another student (or pairs group up with a second pair) and share their fossils, drawings, and descriptions. Do they agree on the key details? Working together, can they identify some more key details for each of their fossils?
12. Variation A: [If a variety of different fossils were used] Once students have completed their descriptions, have the students put all their fossils back into one pile in a central location in the room. Then have students swap their drawings and descriptions. Can each student locate the fossil (or type of fossil) in the pile based solely on the drawing and description? If not, how might the description or drawing be expanded to help?



Resources:

The Paleontology Portal: <http://www.paleoportal.org/>

Website with vetted educational materials, including nearly 1,000 photographs of fossils

University of California Museum of Paleontology Online Exhibits:

<http://www.ucmp.berkeley.edu/exhibits/index.php>

Extensive website with many images and background information for every major fossil group; also has extensive K-12 educational resources, online activities, modules, etc.

Royal Ontario Museum Image Database: <http://images.rom.on.ca/public/>

Searchable database from the ROM in Toronto

Friends of the University of Michigan Museum of Paleontology Specimen Database:

<http://strata.geology.wisc.edu/mibasin/>

Website with lots of photographs of fossils, many of which can be found in Northwest Ohio

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Eldredge, Niles, Gregory Eldredge, and Douglas Eldredge. 1989. *The Fossil Factory: A Kid's Guide to Digging Up Dinosaurs, Exploring Evolution, and Finding Fossils*. Roberts Rinehart, Lanham, MD.

Katz Cooper, Sharon. 2007. *Learning from Fossils*. Heinemann Library, Chicago.

Squire, Ann O. 2002. *Fossils: A True Book*. Children's Press (Scholastic Inc.), New York.

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