

Digging Deep: Fossil Hunt (K – 2nd grades) **Post-Visit Activities**

We hope that you enjoyed your visit to the Children's Science Explorium!

To help reinforce the concepts covered during today's field trip, we have prepared the following wrap-up activities for you to incorporate into the classroom.

Vocabulary List and Student Definitions (early elementary level)

- **Fossil:** the parts of living things that have become rocks
- **Plant:** something that is alive and makes its own food
- **Animal:** something that is alive and moves around for its food
- **Bone:** hardest part of most animals' bodies; they form our skeleton
- **Leaf:** part of a plant that makes food; found above the ground.
- **Matrix:** the rock surrounding a fossil
- **Paleontology:** study of fossils
- **Tool:** something that makes a job or task easier
- **Shell:** hard, outer covering of some animals
- **Skeleton:** the frame that makes up an animals shape
- **Extinct:** all of this kind of plant or animal has died

Student Activities

Ways Fossils Form

1. Molds and Casts
 - a. During the program, *Digging Deep*, your students saw a variety of fossils, including molds and casts. With this activity your students will use a mold to create a cast fossil.
 - b. Using plaster of Paris or modeling clay, create a *fossil shell, leaf*, or other item collected from nature.
 - i. Take a nature walk with your students and ask them to find something natural that might become a fossil. The item they select should be on the ground and non-living (either dead or inorganic). Remind students to look for something that has something interesting to its appearance – not just a smoothed rock.
 1. Shells, fern fronds, leaves, etc all make great fossils
 - c. Back in the classroom, prepare plaster of Paris for your students – it dries quickly! (You may wish to prepare the plaster of Paris as you go, rather than in one large batch.)
 - i. The plaster of Paris may be prepared in Dixie cups, deli containers, or any other relatively sturdy and disposable container. This is a great way to incorporate recycled products into your lessons.
 - d. The children should put their item in the plaster of Paris and allow it to settle in to create the cast fossil. For light objects, like leaves or fronds, some pressure may be required.
 - e. Discussion: What items made good “fossils?” Which items didn't do so well?

How Paleontologists Find Fossils

2. Paleo Cookie Dig

- a. Prepare a tray of no-bake cookies bars, such as Rice Krispie Treats with up to four non-melting ingredients such as raisins, macaroni, lima beans, seeds, M&Ms, or sprinkles. The rice cereal serves as the *matrix*; the other non-melting ingredients represent different kinds of fossils.
- b. Have students use tools, like toothpicks, to carefully pick apart their cookie to uncover their fossils.

- i. Extensions:

1. Why do some students have more of one particular kind of “fossil” than others?
 2. Are any students completely missing a type of fossil in their treat? Why do they think that might be?
 3. For more advanced students, you can prepare the treats in layers: one non-melting ingredient in the bottom layer, another in the second layer, a third in the top layer. Use a different flavor or rice cereal for each layer; regular, chocolate, and berry are all available. The children can then perform “core drilling” samples with drinking straws to determine which fossils are oldest, which fossils may have lived at the same time, etc.

- c. Explanations:

- i. Layers of sediment (dirt, stones, dead plants and animals, etc) pile up at the bottom of rivers, lakes, and oceans, creating new layers. As each layer forms, the pressure increases, pressing the grains together, and forming rocks.
 - ii. Plants and animals that settle at the bottom of these same rivers, lakes or oceans also become part of the sedimentary rock. We know these as fossils. Many of the plants and animals of fossils lived millions of years ago and are now *extinct*.

3. Virtual Dino Dig

- a. (Recommended for second grade): visit

<http://www.paleobiology.si.edu/dinosaurs/interactives/dig/main.html>

4. Read Digging up Dinosaurs by Alikei and lead a whole group discussion.