

Geology: Dino Fossils



MAIN IDEA

Explore how dinosaur tracks can still be discovered by scientists today, despite dinosaurs going extinct millions of years ago, by making your very own imprint fossil. This is a great activity for children five and under.

SCIENCE BACKGROUND

Dinosaurs left behind many clues that allow paleontologists, scientists who study fossils, to get a glimpse of life on Earth millions of years ago. Besides their skeletons, dinosaurs left behind footprints, eggs and coprolites (dino dung) that allow scientists to understand the daily lives and behaviors of these prehistoric creatures millions of years later.

Imprint fossils are formed in nature when something, such as an animal's foot, gets smushed into wet sand, mud, dirt or clay and then covered in other material-like rocks and minerals as it dries, keeping the print from washing away.

ACTIVITY PROCEDURE

Step 1: In your mixing bowl, use your hands to mix together one (1) cup of damp coffee grounds, one-half ($\frac{1}{2}$) cup of cold coffee, one (1) cup of flour and one-half ($\frac{1}{2}$) cup of salt. Ensure that your mixture is combined completely; it should look like muddy clay.

Step 2: Play with the texture of the mixture by making different imprints on the muddy clay. This is just for fun!

Step 3: Once ready to make your fossil, place a sheet of wax paper (or aluminum foil) on a table (or other hard, flat surface) and then put a handful of your muddy clay on your wax paper.

Step 4: Using your hands (or a rolling pin), form your clay into a one-half ($\frac{1}{2}$) inch thick blob. It can be any shape you want.

MATERIALS

Bowl

Cold coffee – $\frac{1}{2}$ cup

Damp, used coffee grounds – 1 cup

Flour – 1 cup

Salt – $\frac{1}{2}$ cup

Wax paper or aluminum foil

Optional: Miscellaneous toys or other natural items (leaves, rocks, etc.)

Optional: Rolling pin

ACTIVITY PROCEDURE (CONTINUED)

Step 5: Choose an object or objects that you would like to have as your final imprint (hands, toys, rocks, sticks, leaves), and create your imprint design by placing it on the clay, pressing on it gently and then carefully removing the object.



Step 6: Once you have created your imprint, let it dry at room temperature over 2 to 3 days and observe as it turns into a fossil!

EDUCATIONAL STANDARDS

Kindergarten – Big Idea 9: Changes in Matter

SC.K.P.9.1- Recognize that the shape of materials such as paper and clay can be changed by cutting, tearing, crumpling, smashing, or rolling.

Grade 1 – Big Idea 6: Earth Structures

SC.1.E.6.1- Recognize that water, rocks, soil, and living organisms are found on Earth's surface.

ADDITIONAL RESOURCES

Giant Dinosaur Footprints saved in Queensland, Australia

<https://www.youtube.com/watch?v=G4hW9abYBRs>

Paleontology for Kids: OLogy by AMNH

<https://www.amnh.org/explore/ology/paleontology>

The Geography of Fossil Tracks

<https://ucmp.berkeley.edu/science/trackways/trackways3.php>

Where Dinosaurs Walked

<https://www.smithsonianmag.com/travel/where-dinosaurs-walked-8-places-prehistoric-footprints-180956982/>

Why Dinosaur Footprints Don't Erode

<https://www.youtube.com/watch?v=AMmtofiymHE>

