

# Zilker Botanical Garden

## Activity Guide – Salt Dough Fossils

**Ages:** 3-12

**Approximate Length:** 30 minutes for activity, 2-4 hours to bake

**Objective:** Make your own fossils at home while developing a better understanding of how fossils are formed, as well as the two main types of fossils that paleontologists discover.

### Materials:

1. 2 cups flour
2. 1 cup salt
3. ¾ cup water
4. Uncooked pasta (varying shapes are helpful, but not necessary)
5. Dinosaur toy (not necessary)
6. Paint for decorating (not necessary)
7. Conventional oven (not necessary)

### Concept Terms:

1. **Fossil** - the remains or traces of organisms that died more than 10,000 years ago!
2. **Body Fossil** - fossilized remains of an animal or plant, like bones, shells and leaves. Fossilized dinosaur skeletons, petrified wood and whole body fossils (mammoths caught in ice or insects trapped in amber) are all body fossils.
3. **Trace Fossil** – fossils that record the activity of an animal. These include footprints, body prints (where the impression of a dinosaur is left behind, but no bones were fossilized), eggs, and coprolites (fossil poo!).
4. **Permineralization** – the process in which minerals, carried by water, fill in spaces within organisms that have died and replace the organic cell walls of that organism. This effectively turns organic materials into stone fossils over time.

### Background:

1. Fossilized remains of prehistoric organisms have been found on all seven continents – even Antarctica!
2. As paleontologists continue search for fossils across the globe, a new dinosaur is found almost every week!
3. Most fossils are formed through permineralization, which means for an organism to become a fossil, most of the time it's important that the organism's final resting place is close to a source of water so that it can be buried under mud and silt.
4. After the organism is buried, minerals from the water, mud and silt begin to replace the organic tissue to create an inorganic fossil.
5. Tiny organisms and eggs can be fossilized in a matter of weeks, while large dinosaurs could take hundreds or thousands of years to fossilize.
6. Since we don't have that kind of time, we're going to be making some fossils out of salt dough and imagination!

### Instructions:

1. Mix the flour, salt, and water together to form your dough. You can roll out your dough as one sheet or divide it into smaller "cookie" sized discs to make more individual fossils.
2. Decide whether you want to make body fossils, trace fossils, or a combination of both!
  - a. You can make a body fossil by imagining your uncooked pasta as the fossilized body of a dinosaur and creating a skeleton and pressing the pasta into your dough
  - b. You can make a trace fossil by making footprints or body impressions in the dough with your favorite dinosaur figurines, sculpting an impression of a footprint or body of a dinosaur with a fork or spoon.
3. Take your fossils and place them on a greased baking sheet.



4. Turn your oven to 200 degrees and bake until dry. The exact amount of time you bake them may depend on the size and thickness of the fossils. Thin, flat fossils may only take 45 minutes, while thicker fossils may take 2-3 hours. If you don't have an oven handy, you can let them dry out in the sun over the course of 2-3 days.
5. Once your fossils have been baked, you can paint them if you want in order to highlight the differences between your fossil and the surrounding dough!
6. Check out the next page of this activity guide to test your knowledge on body vs. trace fossils! Answers are listed below.

A - Trace fossil (this is an impression, not the actual structure of an organism)  
B - Trace fossil (eggs!)  
C - Body fossil  
D - Trace fossil (another impression)  
E - Trace fossil (coprolites - dino poo!)  
F - Body fossil  
G - Body fossil (frozen in ice!)



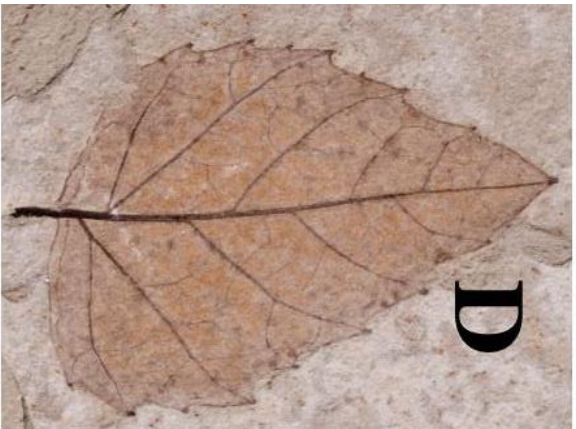
**A**



**B**



**C**



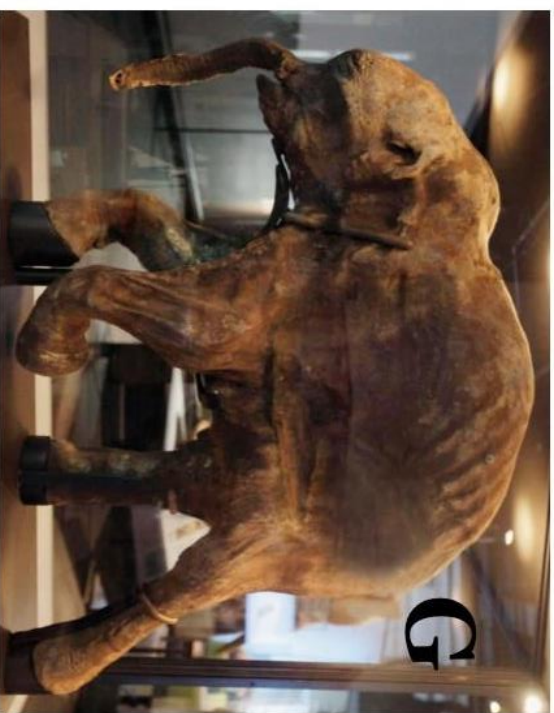
**D**



**E**



**F**



**G**

**Are these body fossils  
or trace fossils?**