

Fossil Paw Print

Many of the clues for when people first domesticated wolves come from fossils! Fossils are signs of ancient life left in rock—often bones that mineralized, but sometimes impressions in sand, mud, or dirt that hardened into stone. These impressions can come from animal skin, feathers, scales, or footprints!

Fossils take tens of thousands of years to form. Rather than wait that long, we will do a much shorter simulation of that process. Let's make coffee dough fossils!

The materials:

- 1 cup used coffee grounds
- ½ cup cold coffee
- 1 cup flour (1-1 gluten free replacement flour can work but is less sturdy)
- ½ cup salt
- Wax paper
- Mixing bowl
- Rolling pin
- Optional: plastic toy dogs, wolves, or humans
- Optional: tray

This recipe will create enough dough for about 1-2 large displays of a paw print and handprint, or 4-6 displays of just a pawprint or other small prints. Increase the ingredient amounts to fit the needs of your group!



Directions

Step 1:

Create the dough! Start by combining 1 cup of flour with $\frac{1}{2}$ cup of salt. Stir together in a mixing bowl.



Step 2:

Make it feel very, very old. Add 1 cup of used coffee grounds and $\frac{1}{2}$ a cup of cold coffee. Kids: ask adults to help provide these ingredients for you, and make sure you have allowed the grounds and coffee to completely cool before mixing them in!



Step 3:

Mix it all together. You can use a spoon to start, but don't be afraid to knead the dough with your hands for the best outcome! Roll into a ball when finished.



Step 4:

Place dough on wax paper. Flatten dough by hand or with a rolling pin. If sharing the dough amongst several participants, this is the time to divide it up! Make sure every participant has a piece of wax paper to keep their dough on.



Step 5:

Now you are ready to make your fossil impressions! There are many ways to do this. We will start with creating a dog's pawprint and a human handprint, side by side. If such a fossil was found in the fossil record, it would be a great clue that humans had already domesticated dogs by that time period!

To make a pawprint, hold your hand in a fist and press the bottom side (the side your pinky finger is on) down into the dough. Press hard!



Then take your four fingers and push your fingertips into the dough above the fist impression. This makes the pawprint complete!



To make the human handprint, simply use your own!



Alternate methods:

To make a smaller pawprint, if conserving the fossil dough, try making the print using three fingers to make the main pad (two together to make the wider base and one more atop those two prints to complete the pad) and the tip of your pinky finger to make the four toes.



You can also use toy figurines to leave track marks! For this activity, it is best to use toy dogs or people, but if you'd like to extend the activity to talk about other prehistoric creatures, you can use any of your choice!



Step 6:

Allow time to dry. Depending on humidity levels and the thickness of your dough, drying can take anywhere from 24-72 hours. Place in sunlight if possible!



CAUTION: Dried dough will be fragile, but has the ability to last a very long time. It can be kept for years. Unlike clay, however, this dough will fall apart easily if disturbed too much. Especially if gluten free flour was used! Move gently and do not set heavy things on top of the dried fossils. For students looking to take home their fossil, it is recommended to wrap in the wax paper and handle with care.



For added fun, have participants create museum labels for their fossils! You can even build an entire classroom exhibit around these amazing “prehistoric discoveries” your participants have made.