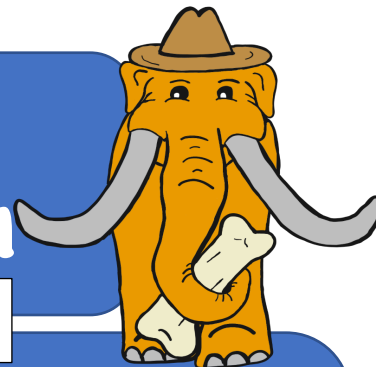


Science Saturday @ HOME

A Closer Look At Fossilization



This Activity Requires Adult Help!!



Gathering Supplies:

Sponge Scissors
Wax - Old candles work well
Aluminum container for melting wax in
Pot for stove Water

How Does A Bone Become A Fossil?

If you look closely at a bone fragment, you can see a hard outside edge and then a bunch of tiny holes inside the bone. The part of the bone with all the tiny holes might remind you of a sponge and in fact scientists call that part **Spongy Bone**! The harder outside is called **Compact Bone**.



When a bone becomes buried under layers of dirt a process called **permineralization** can begin. Water will seep into the soil from rain, rivers, lakes or oceans. That water will carry tiny pieces of minerals in it. As the water seeps into the bone, the minerals in the water began to fill the tiny holes inside the bone. Very slowly the bone begins to turn into a fossil. The filling and even replacement of organic material with minerals can happen to plants, bones and even shells. When the organic material is completely replaced by minerals, the bone is turned from a fossil into a stone. This is called **petrification**. You have probably heard of petrified wood. This process takes many thousands, even millions, of years. **Permineralization** is the most common form of fossilization and gives some fossilized bone a very heavy feel.

Using a sponge, lets take a closer look at what happens to a bone when it is fossilized. We don't have millions of years to wait for the minerals in water to form the fossil so we will be using hot wax.

MAKE SURE AN ADULT DOES THIS ACTIVITY WITH YOU!

Try This!

1. Have an adult help you melt some wax into an aluminum container. Place the aluminum container with the wax into a stove top pan and fill to about half way up the container with water. Medium low to low heat will slowly melt the wax.
2. While the wax is melting cut a soft sponge in to the shape of a bone. Notice the feel of the sponge and take a close look at the holes that make up the sponge.
3. Once the wax is melted, help your adult place the sponge in the wax. Watch what happens to the sponge for a few minutes. Your adult may need to use a plastic fork to push the sponge into the wax if the sponge just wants to float on top.
4. Have your adult remove your fossilized sponge from the wax and place on to a piece of aluminum or wax paper. Let the sponge cool and the wax harden.
5. It is now safe to pick up your fossil sponge. What do you notice about the holes on the outside of the sponge? You can try breaking a section of the sponge to look at the holes inside the sponge. Did they become filled with wax too?
6. Think about how the melted wax is similar to the minerals that get into bone. It may have only taken a few minutes for you to make a wax fossilized sponge but it takes much much longer for nature to do this underground.