The Mammoth Site Dig Cup Activity

Before you dig, here are some safety considerations:

1. Please read through all of the directions before starting.
2. This dig cup will be messy, make sure you are working on it in an easy to clean space approved by your parent/guardian.
3. Dig with a little bit of water to help minimize the dust.
4. Throw the remains of your dig cup in the garbage. Sand and plaster are not good for plumbing and could cause damage.

Dig Cup Instructions

In your dig cup, you will find real fossils and replica projectile points.

Needed/useful materials:

- Plastic or metal spoon
- Toothpick (optional)
- Small paintbrush or old toothbrush
- Plate, cookie sheet, or mat of some kind
- A cup or bowl of water
- Paper and a writing utensil to take notes

1. Place your dig cup on a plate or a mat. This will help contain the mess of excavation. Make sure you have permission to dig where you are working.
2. Take a look at your dig cup. Can you see layers to the dig cup? In geology, the layers of rock and sediment are called stratigraphy. These are useful in paleontology because they can be used to help estimate where fossils will be found. Draw a quick sketch of your dig cup, noting the different layers.
3. Using your spoon, slowly scrape away at the dig cup. In paleontology, slow work is best because it reduces the chances of destroying bones. Paleontologists call the rock surrounding fossil the matrix.
4. As you dig, add a little bit of water to your dig cup. This will help reduce dust and make it easier to dig. Water breaks down rock and exposes fossils in the field through a process scientists call erosion.

5. After you have scraped with your spoon for around 5 minutes, or if you see something unusual, carefully brush away loose material with your paintbrush. While you are doing this, record what the matrix looks and feels like. Scientists record data about the rocks a fossil is found in because it can give us information about what the environment would have looked like.
6. If you see something unusual, work around it to see how big the object is. Shape is very important for identifying fossil material.
7. When at a dig site, paleontologists try very hard to make sure they gather as much data as possible before removing a fossil. With your block, if you find fossil, carefully remove it. A tooth pick is good for removing smaller amounts of rock, or matrix from around a fossil.
8. When working in the field, paleontologists often try to identify what a fossil is before they remove it. Can you identify what your fossils might be? Send pictures of what you found and what you think it is to The Mammoth Site Facebook page. We can help if you are stumped, or tell you how close you were.
9. After you have removed your fossil, it might still have matrix on it. To remove that, get a bowl of water and place your fossil in it. Gently scrape with a finger or one of your excavation tools to remove the weakened matrix.
10. Post pictures of what you found and tag The Mammoth Site! Use #MammothSiteSTEAM!

After you get your fossils cleaned up, think about how you want to display them! To keep them safe, you will probably want to make sure they aren't mixed in with heavier objects that can hurt them. Small plastic containers and tackle boxes make great ways to organize and store your fossil collections.