

Sandwich Stratigraphy

Estimated Time: 30 minutes

SUMMARY

Stratigraphy is the science of layers – in the case of archaeology, scientists determine which artifacts are older or younger based on their position in the layers of dirt at an archaeological site. This fun “snack-tivity” is a great demonstration of how archaeologists study the layers of an archaeological site to determine how the site was formed and what people living there in the past did and when.

WHAT YOU’LL LEARN

- An archaeologist determines how an archaeological site was formed based on the layers they uncover.
- The stratigraphy at an archaeological site helps archaeologists understand who lived there, in what order, and how they might have interacted with their environment.

Materials Used	
<ul style="list-style-type: none"> ● Pen or pencil ● 3 slices of bread ● 3 tablespoons jam or jelly ● 2 tablespoons of peanut butter or other spread ● Raisins ● Pretzel stick ● Chocolate sprinkles ● Colored sprinkles or small candy pieces (like Nerds) 	<ul style="list-style-type: none"> ● 2 plates ● Plastic knife ● Plastic spoon ● Large clear straw
	<p>Resources Used (background information)</p> <ul style="list-style-type: none"> ● http://www.museum.state.il.us/muslink/nat_amer/post/htmls/il.html ● https://cahokiamounds.org/

WHAT TO DO

1. Begin by setting one slice of bread on your plate. This is the area that an archaeologist will one day study.
2. Tell your child, “on our site, there was a flood!” and spread a layer of peanut or spread on the bread.
3. Next, tell your child, “Right after the flood, a group of Archaic people, Native Americans who lived in Illinois between 10,000 and 3,000 years ago, camped in the area and built a fire. They used this fire to cook food, stay warm, and dry their clothes. The fire leaves behind charcoal and rocks that break because of the heat”. Slice the raisins in half, arrange in a circle on the sandwich and fill in the circle with chocolate sprinkles. These raisins and sprinkles represent the fire that Archaic people constructed.
4. Get another slice of bread and show your child. Say, “The Archaic people left this site and after a while, a layer of dirt formed over their campsite covering the fire pit that the Archaic people built”. Set the bread on top of the field to represent this new layer of soil.
5. Say, “eventually, a group of Native Americans, known by archaeologists as the Woodland people came to this same location. These people lived in Illinois around 2,000

years ago. They built shelters to keep warm and safe.” Take a pretzel stick or your plastic knife and create small dents in the bread to represent holes dug for posts for the shelters.

6. Now say, “this Native American group had several people who made pots out of clay that they then used for cooking and storage. They used these pots every day and sometimes these pots broke the same way we sometimes break plates, bowls, or glasses. These people discarded their broken bits of pots—what archaeologists call pottery sherds.” Dig another small hole or a few holes and set the colorful sprinkles or the Nerds in the holes.
7. For this next layer you will need to use jelly. When you spread the jelly, this may cause some of the pottery sprinkles to move out of their spots. This is a demonstration of redistribution, which actually happens on real sites when a flood occurs. Tell your child, “The Woodland people left the site because it is so close to the river and floods often.” Spread a layer of jelly over the site.
8. The last layer is a piece of bread. Ask your child what this bread might represent. (Hint – remember what the last layer was?) This is more dirt blowing in the wind and covering the site or soil formation from the decomposition of organic materials like leaves and grass.
9. Now it is time to become archaeologists! You have researched the area, read what you could on the history of the site, investigated other excavations that have occurred in the area, and you are convinced that Native American people once lived in this area! Tell your child they will now conduct a test to sample the soil, known as a shovel test. This is a technique that archaeologists use to locate archaeological sites. They systematically dig small holes, approximately 50 cm in circumference if they recover artifacts, or objects people made.
 - a. Take the clear straw and push it randomly through the sandwich. This is your shovel test! You can do this in several places, asking your child to observe the layers and see if there are sprinkles or candies in the sample. If you hit a sample that has sprinkles or candy, it is a great candidate for a larger scale investigation through systematic excavations.
 - b. Create a test excavation at a potential site where you located the candy or sprinkles by cutting a square into the sandwich and removing the layers. Make observations at each layer – which habitation is older? What might have happened at this site?
10. For your final excavation, divide, and eat your sandwich!

TIPS

- If your child is allergic to any of the ingredients, feel free to substitute with something appropriate.
- After doing one sandwich together, have your child try to create a site on their own for you to excavate!
- A healthier version of this activity might have large slices of cucumber or zucchini as the bread, veggie dip or hummus as the peanut butter and jelly, and finely chopped carrots and radishes for the raisins and sprinkles.