

Stratigraphy - Layers of Time in the Earth

Richard Beene Archeological Site

Have you ever found a penny on the ground and wondered who dropped it, and when? And if you wondered that, have you also wondered what might lie hidden in the ground below the penny? If you have, then you were curious about **stratigraphy**, which is the study of the layers of earth found in a specific geographic area, or in this case, an archeological site. Archeologists can learn a great deal about how a site was formed by studying these layers. Generally, younger layers are deposited on top of older layers.

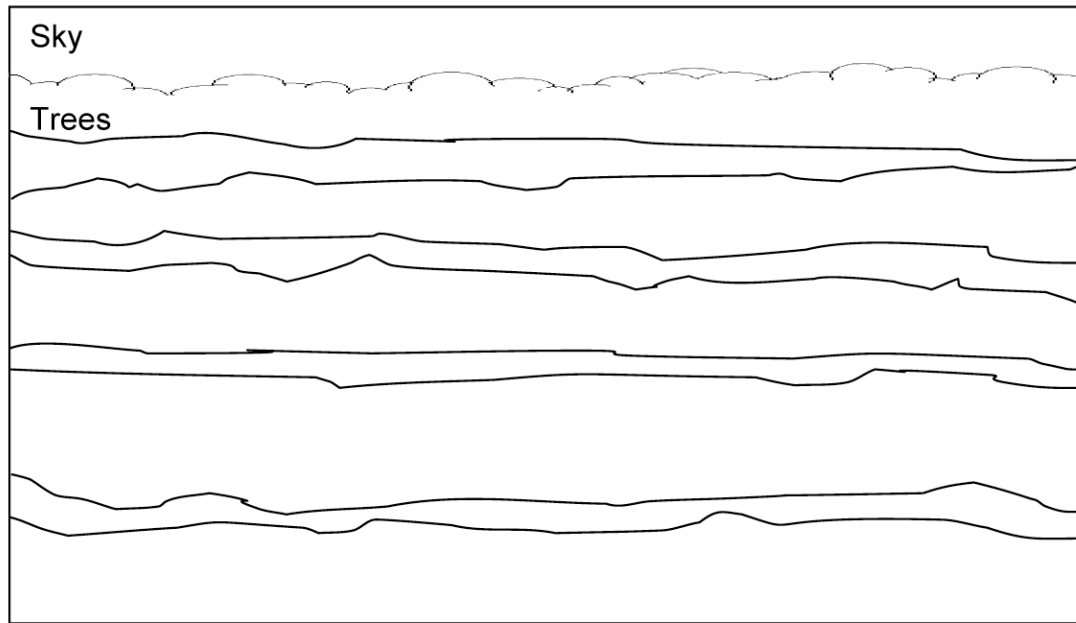
People who lived long ago dropped objects on the ground, too. Beginning almost 10,000 years ago, groups of hunter-gatherers camped during different time periods at a place south of San Antonio along the Medina River. There they left behind artifacts such as chipped-stone tools, mussel shells, animal bones, and fire-cracked rocks used for cooking. They would have discarded many torn or broken things made from wood, hide, and plant fiber, such as baskets, mats, and bows and arrows. These perishable items eventually rotted away, or decayed, and became part of the soil. Over time, the river would flood and spill over the top of the riverbanks, covering the campsite with mud, gravel, and sand. This process was repeated over and over again through time. People came, camped, and left their trash behind. The river flooded and covered the site over with mud, helping to seal, or preserve, some of the campsite remains. These deposits, created both by people and nature, became the layers of earth (strata) that archeologists study.

Archeologists named this place the Richard Beene site, and dug down 46 feet (14 meters) into the earth looking for traces of ancient peoples. That's almost 6 times the distance from your floor to your ceiling! They studied the artifacts and other traces, such as hearths, to understand how people used the site. The archeologists also took samples of organic materials, such as wood charcoal, for radiocarbon dates to help them learn the age of the different deposits. They identified the different layers of silt left by floods. All this evidence helped archeologists understand what happened at the site over thousands of years.

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Richard Beene Archeological Site near San Antonio, Texas

The diagram below represents some of the layers, or strata, that have built up over time at the Richard Beene site. Color the diagram to highlight the different strata. First, color the sky blue and the trees green. Next, color all the narrow layers in the diagram brown to represent silt, or mud, deposited during major floods on the Medina River. Then choose 4 different colors of map pencils or markers, and color each of the small boxes next to the time periods a different color. Then color the wide layers in the diagram, matching their colors to the correct colored boxes. Remember, younger layers of earth are deposited on top of older layers. After completing the diagram, answer the questions below.



- 500-1400 years ago
Late Prehistoric
- 2500-1400 years ago
Late Archaic
- 2500- 4500 years ago
Middle Archaic
- 4500-10,000 years ago
Early Archaic
- Silt deposited by major
floods on river

1. What is stratigraphy? _____
2. How did the Medina River affect the stratigraphy of the Richard Beene site? _____
3. What were archeologists looking for at the Richard Beene site? _____
4. Why do you think people camped at this site over and over again during different time periods? _____