

For Teachers

This lesson is meant to challenge students in their problem-solving and critical thinking skills, rather than on their ability to conduct an effective archaeological survey. The survey techniques that your students will come up with may not closely resemble those of the professional research team, but it will be an engaging way for them to work collaboratively to solve a problem.

For your reference, please see below for some useful definitions and concepts in archaeology that will help you tailor your lessons towards your learners and provide you with a cheat sheet to help you answer questions that may arise.

Cheat Sheet:

Archaeology is the study of the human past through material remains. Archaeology is one of the four branches of anthropology. Anthropology is the study of humans. More thorough definitions from the Archaeological Institute of America are provided below.

Archaeologists study objects to learn more about the past. These objects may include artifacts or various biological material such as human and other animal remains. Archaeologists are interested in the objects only because they are informative about past human behavior and culture. We are interested in the information that these objects can yield, rather than in the objects themselves.

Excavation is the systematic process by which archaeologists recover material. This involves digging in the ground of an archaeological site and carefully documenting the findings and methods used to complete the study.

Your students will be designing and executing an “on-the-ground survey” to locate fossil material on the school grounds. Archaeological survey can be used for a number of different purposes. In the scenario outlined for your students, they will be using archaeological survey to locate a potential fossil find, and perhaps plan an excavation to find more of these fossils. **A well-thought out survey procedure may look something like this:**

- (1) Archaeologists line up several meters apart from one another, facing the same direction.
- (2) Researchers walk in a straight line, at a slow pace, paying very careful attention to the ground. Archaeologists are looking out for cultural material such as artifacts, bone...etc.
- (3) If a team member finds any material of interest, they may place a flag next to the material so that they can later return to that location and figure out what it is that they found.
- (4) Once the area of interest has been covered, the archaeologists can observe the things that were flagged, and make an informed decision about whether or not they would like to excavate there. If there seems to be a ton of cultural material in certain areas, it may be a good idea to excavate in that area. If the archaeologists did not find much of anything, maybe they will move on to another plot of land to survey.

This process varies tremendously based on the vegetation (jungles are harder to survey than fields), and on the objectives of the project. A project that is focused on hominin remains will have to

move slowly and carefully, whereas a team looking for Maya ruins in the jungles of Guatemala might be looking for large pyramids that are hidden by the trees.

For elementary and middle school students, some degree of organization, planning and careful observation is a good goal.

Definitions:

Anthropology - The study of human beings, including their behavior, biology, linguistics, and social and cultural variations. In the United States, anthropology is divided into four sub-disciplines: archaeology, biological/physical anthropology, cultural anthropology, and linguistics. All the sub-disciplines study aspects of past or present humans. Archaeologists generally study the physical and material remains of ancient societies, while cultural anthropologists study living cultures. Physical anthropologists study human skeletons and other bodily remains. Biological anthropologists deal primarily with the evolution of humans and primates. Linguists study languages, especially their development and their function within human culture (From <https://www.archaeological.org/education/glossary>)

Archaeology - The scientific excavation and study of ancient human material remains (From <https://www.archaeological.org/education/glossary>)

Artifact - A portable object manufactured, modified, or used by humans. (From <https://www.archaeological.org/education/glossary>)

Context - The position and associations of an artifact, feature, or archaeological find in space and time. Noting where the artifact was found and what was around it assists archaeologists in determining chronology and interpreting function and significance. Loss of context strips an artifact of meaning and makes it more difficult (sometimes, impossible) to determine function. (From <https://www.archaeological.org/education/glossary>)

Ecofact - Archaeological finds that are of cultural significance, but were not manufactured by humans. These include bones and vegetal remains that can tell us about past diet or environments. (From <https://www.archaeological.org/education/glossary>)

Excavation - The digging up and recording of archaeological sites, including uncovering and recording the provenience, context, and three-dimensional location of archaeological finds (From <https://www.archaeological.org/education/glossary>)

Hominin - "Early human or pre-human beings: a member of the sub-family Homininae usually identified by bipedal adaptations. They are represented today by one species, Homo sapien sapiens. Past Hominins include Australopithecines, Homo habilis and Homo erectus. (From <https://www.archaeological.org/education/glossary>)

Site - Any place where human material remains are found; an area of human activity represented by material culture (From <https://www.archaeological.org/education/glossary>)

Survey – Field research in which archaeologists search for archaeological sites, material and other information that may inform their excavation procedure.

Unit - A (usually) 1mX1m square hole that archaeologists dig to sample an area. By excavating carefully plotted and planned units, archaeologists hope to gain a representative sample of what artifacts are at the site, and what information they may be able to glean from further excavation.