Special Award: Georgia Archaeology
2003 Georgia Science and Engineering Fair

Sponsored by Society for Georgia Archaeology & Georgia Council of Professional Archaeologists
Award: $50 cash in junior division and $50 cash in senior division

Background and Guidelines

Most people think that archaeology is just digging up old things. While archaeology involves excavation, it is a much more complex and intriguing science! Because of its complexity, only archaeologists who have a degree in Anthropology or related field and extensive field training should conduct actual excavations. While you might assist a trained archaeologist, we strongly encourage you NOT to excavate without the direct and continual supervision of an archaeologist.

Archeology is the science of recording, interpreting and recreating past life. The position and relationship of material remains in the soil is of key importance to archeologists. They carefully record contexts within which artifacts are located prior to removing the artifacts. Then artifacts are bagged, labeled, and identified. Finally, the story of the site is told in a written report. Reporting is the way archeological information is shared.

Nevertheless, digging and excavating a site is destructive. Once a site is excavated it will not exist in the same way ever again. Even with careful record keeping, some information may be missed because of human error or shortcomings in current methods. Therefore, some sites and portions of sites are left intact in order to preserve them for future generations.

When artifacts are collected without careful records, information of the past is not shared, but lost forever. A part of the puzzle is removed and the picture of that moment of history cannot be completed. This collecting or "looting" robs present and future generations of an understanding of our common history. Therefore, no excavation or removal of artifacts should be done unless under the supervision of a professionally trained archeologist.

Human cultures have existed for tens of thousand of years. Our own culture is only the most recent of the many cultures that have existed in the past. Our lives in the present are greatly influenced by the cultures of the past. Learning about lifeways of earlier people, including our recent ancestors of the 18th and 19th century as well as those people living thousands of years before us, teaches us about ourselves and how we came to be the way we are. Studying the past teaches us about the present.

Project Ideas:

1. Compare clay sources with local pottery: locate present clay source and compare to sherds found locally in pre-existing family collections.
2. Bioturbation: how are artifacts moved around in the soil by natural causes? Do tunneling and digging activities by animals and insects affect an artifact's location in the soil? (Also tree tips, natural disasters, etc.).
3. Study pollen analysis as related to soil stratigraphy: (Done on a "non-site" location.) Find a well-stratified area and determine what climates of the past were like by what plant pollens are present in the varying layers.
4. Atlatl re-creation: How does changing the variables of atlatl construction (varying weights and varying shaft length) affect throwing distance and accuracy?

5. Pot burst in the Southeast: How are pieces scattered (or not) if a pot is broken in an open versus wooded area.
6. What effect does soil type and environment have on artifact preservation? Does soil acidity affect bone preservation? What does it do to historic metal (pewter, iron, silver, gold) artifacts?
7. Research animal versus plant materials as bindings (for hafting stone tools on to shafts, etc.). Read about what parts of animals were used in the past. Collect and make plant materials (vines, bark rope, etc.). Which plants work best? How might they compare to animal materials?
8. Research house design/materials during prehistoric periods and historic periods. Study shape, size, configuration, architectural materials, orientation, roof and wall styles, etc. What works best for the southeast? How have these designs changed through time?
9. Investigate natural food sources (plant, animal, water). What types of resources are available in what physiographic regions? How many miles would a family or group of 25 need to travel to meet their needs throughout one year: in 8,000 B.C; in A.D. 1300; in A.D. 1700; in A.D. 1840; in A.D. 2000?
10. Study the best containers prehistoric people would use when traveling versus when living a sedentary life. What were they made of and what shapes were they? Did these change through time? How do containers differ in the colonial period and how are they different now? Why?
11. What stone tool types (scrapers, drills, awls, etc.) or material types (chert, quartz, metavolcanic, etc.) work best for varying tasks of butchering/tanning? Visit a butcher shop and leather store to obtain items to use in the analysis of tool performance based on tool material; tool shape; and tool size.
12. Zooarchaeologists study animal bone found on sites to learn about the animal diet and environment of people in the past. Research and study how the types of animal bone, the bones from various parts of an animal, the gender of the animal, the type of animal (whether domestic or wild), and the percentage of meat on each of various parts of animals and various animals are studied and why this information is important to archaeologists.
13. Ethnobotanists study seeds and wood from sites to learn about the plant diet and environment of people in the past. Discover how they use the technique of flotation (both the physical process and the addition of certain chemicals to process soil samples. Research what types of seeds are likely to survive on archaeological sites in the southeast. Discover the various environments indicated by certain types of seeds.
14. Archaeologists often excavate privies to find artifacts thrown away in them. They also study the organic material in them. Research the types of seeds and pollen that might survive in such an environment. What would this tell about people living on the site? Research the types of parasites often found in these locations. Which parasites would indicate what types of diseases or medical conditions suffered by people using the privy in the past?
15. The majority of archaeological sites are multi-component, that is different people lived in the same area throughout prehistory and history. Discover why this is so. Analyze what geographical, environmental, topographical, geologic, and other factors determine where people will settle.
16. Archaeologists often uncover old medicine bottles from sites. Research 5-10 types of 18th or 19th century medicines and discover the percentages of alcohol, herbs, minerals, and other components in each. What purposes did each component serve? What effect would each have on the consumer?
17. How has advancing technology been used to date historic archaeological sites? Consider the evolution of the method of bottle manufacture; the changes in ceramics (both firing, pastes, glazes, and decoration); changes in the way nails are manufactured;

changes in the way buttons are made, the materials they are made of, and the styles, etc. Consider the availability of new materials such as different kinds of metal, paper, or plastic.

18. How has advancing technology been used to date both prehistoric and/or historic sites? Research, compare, and contrast different dating techniques such as: C-14; amino acid dating, neutron activation; dendrochronology; OCR; etc. Discover the differences in relative and absolute dating.
19. Why is looting of archaeological sites so harmful? What does your community or state do to protect archaeological sites? What about the federal government and federal regulations? What can you do to help protect sites?
20. Discover documentary (historical accounts, diaries, photographs, etc.) evidence about an old house site in your community and the people who lived there in the past. Interview people in the community who may know about the history of the house and families associated with it. If you have permission from the land owner, make a map (to scale) of the house (or house ruins), outbuildings, yard, and associated plants. Try to use the documentary evidence, oral history, and map to search for clues about life on that archaeological site.
21. If you know of an archaeological site in the community, or know someone who has a collection from a site, fill out a state site form for it. A site form can be obtained from the University of Georgia Site Files in Athens (part of the Anthropology Department). If you have permission from the landowner who owns the site, visit the site and make a map of it for the site form. (Don't collect any artifacts. Just draw them on your map if you see any.) Make a copy of the form to keep and send the original to the Site Files.
22. If you have the opportunity to work with a professional archaeologist help him or her in the interpretation of a site. Study things such as settlement patterns and inter and intra site patterning. Compare the site to other sites on a local and regional level. Try to find patterns of human behavior.

Web Resources:

Society for Georgia Archaeology website: www.georgia-archaeology.org/sga
Native Technology: www.PrimitiveWays.com
Geology: www.gly.uga.edu and www.chara.gsu.edu/~weinman
Georgia history/prehistory: www.cr.nps.gov/archeology.htm and www.cr.nps.gov/seac/seac.htm
Radiocarbon dating: www.c14dating.com