

TEACHING TOOLS: GEORGIA PREHISTORIC ARCHAEOLOGY
TEACHER RESOURCE KIT

Prepared for:

Georgia Department of Transportation
Office of Environment/Location
3993 Aviation Circle
Atlanta, Georgia 30336-1593

Prepared by:

TRC
3772 Pleasantdale Road, Suite 200
Atlanta, Georgia 30340

GDOT Project # EDS-545(3), McDuffie County
P.I. # 262400

Project # 36099

March 2004

TABLE OF CONTENTS

ACKNOWLEDGEMENTS.....	2
INTRODUCTION.....	3
TEACHING TOOLS: GEORGIA PREHISTORIC ARCHAEOLOGY.....	5
Unit One: The Science of Archaeology	5
Lesson 1 What is Prehistoric Archaeology.....	5
Lesson 2 Archaeological Sites and Artifacts	8
Lesson 3 Kinds of Sites	11
Lesson 4 Choosing a Site	15
Lesson 5 Artifacts	17
Lesson 6 Art and Decoration.....	20
Unit Two: Archaeological Methods	22
Lesson 7 Digging a Site.....	22
Lesson 8 Clean, Catalog, Measure, and Record	26
Lesson 9 What’s the Point?.....	29
Lesson 10 Make an Impression	31
Lesson 11 Taphonomy: The Missing Pieces.....	34
Lesson 12 How Did They Do It?.....	38
Lesson 13 Making a Chipped Stone Tool.....	40
Lesson 14 How Old Is It?	43
Lesson 15 Protecting The Past	47
Lesson 16 So You Want To Be An Archaeologist?	50
Unit Three: Georgia’s Prehistoric Past	52
Lesson 17 Georgia’s Prehistoric Past.....	52
Lesson 18 The Paleoindians	55
Lesson 19 Early and Middle Archaic People	58
Lesson 20 Late Archaic People	61
Lesson 21 Early and Middle Woodland People	64
Lesson 22 Late Woodland People	69
Lesson 23 Mississippian People	72

ACKNOWLEDGEMENTS

This teaching kit was funded in large part by the Georgia Department of Transportation, and in part through time and materials donated by TRC. It was prepared through the group effort of many individuals. A template for the kit and some of the text and illustrations related to archaeological theory and methods come from an earlier teaching kit prepared by TRC archaeologists in Maine: Richard Will, James Clark, and Julia Clark. Their kit was a starting point from which this one evolved, with text and activities changed, and new text and illustrations added as appropriate to our experience with archaeology in Georgia. Those responsible for creating the new version of the teaching kit include Larissa Thomas, William Stanyard, Brian Thomas, George Price (who carried out the flintknapping), and our indispensable graphics specialist, Vince Macek.

We applaud the commitment of the Georgia Department of Transportation to making archaeology accessible to the public, and we are pleased that we could take part in this endeavor. We hope that this teaching kit is useful to teachers across Georgia, and inspires students to learn more about their state's past.

INTRODUCTION

A great amount of archaeology has been done in Georgia over the last century. Most of the artifacts that have been carefully excavated and studied are tucked away in museums and other repositories. Most of the reports on archaeological discoveries and their interpretation are written for audiences of scientists—not audiences of students or interested adults. People of all ages and from all walks of life, however, are interested in what archaeologists do and how they interpret the past. Although the Indiana Jones film *Raiders of the Lost Ark* greatly exaggerates most of the danger and (and certainly much of the romance) in archaeology, it does convey the excitement of archaeological discovery. Uncovering treasure, whether it consists of a chest of jewels or a 10,000 year old spear point, is exciting. It is fun! Even more so, the artifacts discovered in Georgia's prehistoric sites comprise a unique record, and our only window into the lives of people who did not leave behind any written documents for us to study. That record contains more than just a time capsule of prehistoric Native American lifeways, it is a record of human ingenuity and creativity that cuts across cultural boundaries to offer a clearer sense of ourselves. It is also a poignant reminder that we share a universal bond with people who have lived before us.

Artifacts are kept in museums and other permanent curation facilities where they can be properly cared for, and where they can be safely stored for future generations of scientists to restudy with new techniques and new theories. Most of the artifacts excavated from prehistoric sites in Georgia are made from stone and pottery, because more perishable materials, such as wood or leather, have simply not survived the ravages of time. Many of the artifacts in such collections are very rare and fragile. They are not the kinds of objects that professional archaeologists feel comfortable passing around to children, or even to adults. Consequently, these artifacts are not accessible to the average person. One of our goals in developing this teaching kit was to provide museum-quality casts of artifacts for students to hold and observe first-hand. The technology of casting artifacts makes it possible to create exact copies that are nearly indistinguishable from the real specimens. Along with these casts, the kit contains modern materials that represent items used by prehistoric Indians, as well as stone tools and flakes made by modern flintknappers; these items will also give students a concrete understanding of the things used by prehistoric people in their daily activities. Each artifact in the teaching kit is labeled with a catalog number. The catalog that accompanies these materials describes each object or material, with information that can augment classroom presentations and activities.

There are few articles and books on prehistoric archaeology and the prehistory of Georgia written for ordinary people who are not professional archaeologists. Writing about archaeology and prehistory is difficult for archaeologists who are generally accustomed to using vocabulary and concepts well-known to other archaeologists, but unintelligible to everyone else. We, the creators of this teaching kit, have experience as professional archaeologists, but we also have experience as classroom teachers. Given our background, we have attempted to present scientifically accurate information in a readable and easily accessible format. The teaching kit is targeted to eighth grade students, since eighth grade is when Georgia Studies is covered in the Social Studies curriculum.

There are two kinds of written materials in the teaching kit. The first is this Teacher Resource Kit. This resource kit contains 23 lessons and associated activities that cover a wide range of archaeological concepts and topics. Each one references the subjects, strands, core skills, and topics

addressed within Georgia's 2003 Quality Core Curriculum for eighth grade. The lessons cover the methods archaeologists use to learn about the past, as well as information about the Indians who lived in Georgia through the ten thousand of years of prehistory. The second set of written materials in the teaching kit is the set of reproducible student handouts that accompany each lesson. These are meant to be photocopied and distributed in the classroom.

We hope that these materials are useful and informative, and generate further interest in Georgia's past. We appreciate the opportunity to share our enthusiasm for archaeology, and with any luck, we will convince others of the need to preserve, protect, and learn from these important, non-renewable resources. Georgia's past did not begin with Columbus, or De Soto, or Oglethorpe; the Indians who lived here for thousands of years are the true colonists, and the story of their societies is just as vital to learn.

TEACHING TOOLS: GEORGIA PREHISTORIC ARCHAEOLOGY

TEACHER RESOURCE KIT

Unit One: The Science of Archaeology

Lesson 1

What is Prehistoric Archaeology

OBJECTIVES	
1. Students will be able to differentiate between historic and prehistoric cultures. 2. Students will use ethnographic analogy to recognize kinds of evidence human activities leave behind. 3. Students will use observations and comparisons of contemporary cultures to understand prehistoric cultures	
QUALITY CORE CURRICULUM	
Depending on what educators choose to emphasize, this lesson can be used to address the following Subjects, Strands, Core Skills, and Topics, as well as others not specifically referenced for this grade level:	
SUBJECT/STRAND:	CORE SKILLS/TOPIC:
Social Studies/Georgia Studies	6. American Indians
Social Studies/Georgia Studies	53. Information Processing
Social Studies/Georgia Studies	73. Time and Chronology
Social Studies/Georgia Studies	74. Time and Chronology

VOCABULARY:

anthropology: *the study of human beings, including our physical characteristics and our unique non-biological characteristics embodied in beliefs and behavior, called culture.*

prehistoric archaeology: *a subdiscipline of anthropology involving the study of the human past through its material remains, focusing on the period of time before the use of writing.*

prehistory: *the period of time for a given culture before the use of writing.*

hunters and gatherers: *people who supported themselves by hunting, trapping, and fishing of wild animals and fish, and collection of wild plants foods.*

environment: *the total of all the physical, biological, and social elements of an individual's or a group's surroundings.*

resource: *something within the environment (natural and cultural) that can be drawn upon when needed.*

ethnographic analogy: *interpretation of prehistoric behavior based on observation of contemporary (or recent) groups with similar social organization, technology, or environment.*

adaptation: (1) the process by which an organism adjusts in order to live within its environment long enough to successfully reproduce; (2) the lifeway of an individual or group that allows it to survive in its environment.

site: a distinct clustering of artifacts and other remains left behind by human behavior.

artifact: any portable object used, modified, or made by humans.

MATERIALS:

Reproducible Student Handout #1 “**What is Prehistoric Archaeology;**” writing paper; ethnographic film (optional).

BACKGROUND:

Anthropology is the study of humans and human behavior. Archaeology is the branch of anthropology that studies human behavior by exploring how people create, modify, manipulate, and discard material objects. In the Americas, prehistoric archaeology is concerned with people that lived before A.D. 1540, the year that the Spanish explorer Hernando DeSoto arrived in what is now the southeastern United States and began to describe how the native people lived. Prehistoric Native Americans did not preserve their history in writing, relying instead on oratory, song, dance, and iconography to convey information and preserve their traditions. Since there is no written record, archaeologists rely on material remains to reconstruct and understand the legacy of Georgia’s prehistoric occupants. Those remains consist of artifacts and features (trash pits, storage pits, hearths, etc.) that are collectively known as the archaeological record.

Not all types of cultural behavior result in tangible objects that can be excavated from the ground, however. In that sense, the archaeological record does not represent the full range of activities that have occurred. For example, the musical notes of an ancient song, or the terms used to express kinship relationships among members of a prehistoric group, cannot be exhumed no matter how much an archaeologist might wish to find them. The archaeological record is uneven in quality as well. Some environments preserve archaeological remains much better than others. Woven sandals may survive well in a dry cave in the Southwest. However, they would quickly decompose in the acidic and biologically active soils found in many areas of the Southeast.

These and other drawbacks notwithstanding, by diligently examining and recording the archaeological record according to established anthropological techniques and theories, archaeologists have found many ways to obtain valuable information and gain insight into the distant past. In order to paint a more complete picture, other scientific disciplines are also employed in archaeological research. For example, people lived in dynamic environments that have changed considerably since the last Ice Age, when people first arrived in Georgia. Concepts from geology, botany, zoology, and soil science help archaeologists understand changes in environmental conditions, which is critical for learning how and why human behavior changed through time. Imagine a theater production without any stage sets. A member of the audience might comprehend some aspects of the play by listening to the words and observing the actions of the actors. When scenery and props are added, however, the production becomes much more robust, and a deeper meaning may be attached. It is even possible that perceptions and interpretations are changed completely.

PREPARATION:

Students read and discuss Reproducible Student Handout #1 “**What is Prehistoric Archaeology.**”

ACTIVITY: *Ethnographic Analogy*

- (1) Individually or in small groups students observe people in an activity for a set period of time (about 15 minutes to half an hour). They can take notes about what happens. They can observe other students, kitchen staff, parents or siblings at home, etc.
- (2) Students then return to the classroom and consider what physical traces could be left behind by the observed activity. They can generate a list or illustrations of these traces.
- (3) Students then present the traces they came up with to the rest of the class. The class then tries to figure out what the behavior was that created the traces.
- (4) Teacher explains that this is how archaeologists often infer the behaviors of prehistoric peoples. *Optional:* If ethnographic films are available, students can make observations from a film. These provide the additional challenge of dealing with a different culture.

EVALUATION:

1. Were other students able to figure out the behaviors or activities?
2. What kinds of traces were easier to figure out?
3. Would you make different observations if you knew you were looking only for physical traces?

EXTENSION:

1. Students can address the concept of adaptation as the relationship between the needs of an organism (humans in this case) and their environment and resources. Materials in “**Teaching Tools**” can be used to illustrate kinds of resources used by Georgia’s Native peoples. Also, consider how the presence of other humans in the environment relates to adaptation.
2. Students make a list of 20 resources they use every day. How do they get them? Would a prehistoric person need the same things? How would they get them?

TEACHING TOOLS: GEORGIA PREHISTORIC ARCHAEOLOGY

TEACHER RESOURCE KIT

Unit One: The Science of Archaeology

Lesson 2

Archaeological Sites and Artifacts

OBJECTIVE	
Through a series of observations, students will identify artifacts, sites, and features. Students will use these observations to make determinations about behavior.	
QUALITY CORE CURRICULUM	
Depending on what educators choose to emphasize, this lesson can be used to address the following Subjects, Strands, Core Skills, and Topics, as well as others not specifically referenced for this grade level:	
SUBJECT/STRAND:	CORE SKILL/TOPIC:
Social Studies/Georgia Studies	6. American Indians
Social Studies/Georgia Studies	53. Information Processing
Social Studies/Georgia Studies	58. Information Processing
Social Studies/Georgia Studies	81. Maps and Globes

VOCABULARY:

site: a distinct clustering of artifacts, features, structures, and other remains left behind by human behavior.

artifact: any portable object used, modified, or made by humans.

cultigen: a plant species changed from its original characteristics by deliberate selection and cultivation by human farmers.

feature: an artifact such as a house or storage pit that cannot be removed intact from a site.

diagnostic: an artifact that can be assigned to a particular time period based on its unique form or style.

MATERIALS:

Reproducible Student Handout #2 “Archaeological Sites and Artifacts;” graph paper and a compass and measuring tape, writing paper; large sheets of paper.

BACKGROUND:

The prehistoric archaeological record contains more than tools, pottery, and other items made by people. In interior parts of Georgia, the abundance of deer bone at archaeological sites of all ages indicates that it was an important source of meat and raw material throughout the prehistoric era. Bone from caribou, rabbit, turkey, duck, and a wide variety of other animals also

occurs, indicating that these animals were hunted as well. On the coast and along major rivers, fish and shellfish were caught, processed, consumed, and discarded in large numbers.

The presence of carbonized plant remains reminds us that prehistoric people did more than consume animal flesh. Many different types of wild plant foods (nuts, fruit, seeds, tubers, and leaves) were gathered to produce a well balanced diet. In the latter part of the prehistoric period, Native Americans also grew a few types of domesticated plants; these cultigens include maize (corn), squash, sunflowers, and beans. In most cases, they supplemented a diet that was derived from the traditional method of hunting, fishing, and gathering.

Evidence of human behavior that has been incorporated into the site itself is also very important to archaeological interpretation. Areas with concentrations of burned rock and wood charcoal where meals were once cooked; pits that were used for storage and/or trash disposal, and preserved molds of poles that had been driven into the ground to frame houses and other structures are just a few types of “features” that yield valuable information.

The sediments and soils that encapsulate archaeological materials can preserve spatial relationships among and between artifacts. Knowing the original position of an artifact and those that are associated with it is crucial. For example, the charcoal from a hearth can be radiocarbon dated. If a specific style of stone spear point is found in that hearth, presumably it is the same age as the radiocarbon date. However, the archaeologist must make certain that the spear point has not been subjected to plowing, root action, animal burrowing, or some other type of disturbance that has moved it into the hearth’s proximity by chance.

Where the archaeological materials are deposited in relation to one another in terms of vertical layering is the study of stratigraphy. Archaeologists also must record and analyze the horizontal relationships of artifacts and features within stratigraphic layers to understand how a site was arranged and what took place there within a single occupation. Archaeologists spend an enormous amount of time carefully recording the exact horizontal and vertical locations of archaeological remains in relation to the sediments and soils that contain them. Stratigraphic analysis provides the theoretical and methodological framework for understanding archaeological context. Scientists would not be able to reconstruct the three-dimensional qualities of their archaeological sites without understanding the stratigraphy.

PREPARATION:

Students read and discuss Reproducible Student Handout #2 “**Archaeological Sites and Artifacts.**”

ACTIVITY: (NOTE: This may be done in three class periods.)

- (1) Teacher and/or students define **artifact**. Students then make a list of the artifacts in the classroom or some section of the room (desk, reading area, etc.). The list will probably be quite long, illustrating the large number of possibilities.
- (2) Teacher and/or students define **site**. Students then divide into smaller groups and go to some other area of the school (library, gym, art room, cafeteria, etc.) and make a list of the artifacts there.
- (3) Students return to classroom with lists. They present their list to the rest of the class who try to figure out what site is represented. They can discuss what types of artifacts

make it easier to identify the site; these would be “diagnostic” artifacts. Keep track of how many artifacts it took to identify the site.

- (4) Students and/or teacher define **feature**. Either as a class or in smaller groups students go out to the playground. Using large pieces of graph paper and a compass and measuring tape, students make a map on a coordinate grid of all the marks on the ground in the playground (areas of scuffed dirt, etc., but not playground equipment).
- (5) Students return to classroom and analyze the map. Is it possible to tell what pieces of equipment are represented by the marks? What else can you determine from these features?

EVALUATION:

1. What artifacts made it easier to figure out the function of a site? How many did you have to know before you figured it out?
2. Was it easier to make conclusions based on artifacts or features? What if you can use both?

EXTENSION:

1. Compare the artifacts in “**Teaching Tools**” to those in the classroom. How do they differ? Are there any similarities?
2. Brainstorm about the possible uses for the various artifacts in “**Teaching Tools.**”

TEACHING TOOLS: GEORGIA PREHISTORIC ARCHAEOLOGY

TEACHER RESOURCE KIT

Unit One: The Science of Archaeology

Lesson 3

Kinds of Sites

OBJECTIVES	
1. Students will be able to identify various types of sites created in Georgia prehistory. 2. Students will relate different types of behavior to different material traces. 3. Students will compare prehistoric midden sites with contemporary dumps.	
QUALITY CORE CURRICULUM	
Depending on what educators choose to emphasize, this lesson can be used to address the following Subjects, Strands, Core Skills, and Topics, as well as others not specifically referenced for this grade level:	
SUBJECT/STRAND:	CORE SKILL/TOPIC:
Social Studies/Georgia Studies	6. American Indians
Social Studies/Georgia Studies	41. Ethnic Groups
Social Studies/Georgia Studies	53. Information Processing
Social Studies/Georgia Studies	58. Information Processing
Social Studies/Georgia Studies	63. Problem Solving
Social Studies/Georgia Studies	73. Time and Chronology

VOCABULARY:

midden: an accumulation of debris and domestic waste products resulting from human habitation or use, often containing large amounts of shell or other food waste.

flakes: chips of stone resulting from the production of stone tools. Stone tools were made by chipping off pieces in such a way to create the size and shape desired.

chert: a very fine-grained rock composed of varieties of silica.

projectile point: chipped stone artifact hafted on a spear, dart, or arrow shaft, and hurled in some way.

palisade: a type of fence composed of closely-set posts, used in the Mississippian period to enclose the central area of the civic-ceremonial center and protect people from attack.

fish weir: a V-shaped trap constructed of stones in shallow parts of creeks and rivers to concentrate fish so that they can be easily collected in nets and baskets.

MATERIALS:

Reproducible Student Handout #3 “**Kinds of Sites;**” sheet plastic; rubber gloves; trash cans (with trash) from several classrooms.

BACKGROUND:

Not all kinds of human activity involve the production or use of material culture, and not all kinds of material culture preserves well in the ground over long periods of time. Fortunately for Georgia archaeologists, a vast number of prehistoric artifacts were produced and have been preserved; almost 35,000 prehistoric archaeological resources have been recorded in the state, and newly discovered sites continue to be discovered. Each site contains a unique record of human activity, but the majority have not received intensive scientific scrutiny. However, it is still possible to make a few generalizations about Georgia's prehistoric archaeological record.

(1) Most sites are not easily recognized, and must be identified by careful investigation of the soil by a trained archaeologist.

(2) Many archaeological sites have been damaged or destroyed intentionally or unintentionally by flooding, construction, clear cutting, and cultivation.

(3) The archaeological record primarily consists of stone tools, debris from stone tool manufacture, and fired clay pots. Unfortunately, artifacts produced from bone, shell, antler, and other organic media are highly susceptible to decay and are rarely preserved.

Types of Prehistoric Archaeological Sites in Georgia.

1. *Campsites.* One of the most common types of archaeological sites in Georgia is the temporary campsite. Such sites are found throughout all time periods, but are more common in the earlier portion of the prehistoric period when people pursued a more mobile lifestyle. Because they represent short-term occupation, campsites generally have few or no features; if they do contain features, they are likely to be fire hearths (as evidence by fire-cracked rock) for cooking and warmth. Typical artifacts at campsites include chips of stone (called flakes) from the manufacture or maintenance of stone tools, as well as broken and worn out tools that have been discarded. Campsites are thought to reflect short-term stays by groups that were hunting or collecting other resources in a given area. Campsites can occur in almost any location: on hilltops, in rock shelters, or along creeks and rivers.

2. *Base camp and village sites.* Base camps were occupied by fairly large numbers of people, primarily during the spring, summer, or fall. They were often established along streams and rivers, or in the coastal zone. Occupied for several weeks or months, they were used as staging areas from which to launch forays into the surrounding territory to exploit the available resources.

In general, base camps became larger and more permanent through time, and by the Late Woodland period, they were occupied by some group members for most or all of the year. Although these villages were supported by hunting, fishing, and gathering, tending crops increased in dietary importance after A.D. 1000.

Village sites are rich in refuse, because they represent larger numbers of people inhabiting a location for relatively long periods of time. Villages also contain more features, including structural remains, as people constructed more substantial shelters at such sites. Some villages in the late prehistoric period are associated with civic-ceremonial centers (see below).

One specific type of village site found on the coast is the shell midden. Shell middens are locations where, among other activities, prehistoric people discarded great masses of shellfish after

their meaty contents were extracted. Some of these heaps are very large and deep as they were used over extended periods of time. These prehistoric dumping spots contain all sorts of discarded stone, ceramic, and bone artifacts in addition to large collections of well preserved food remains.

3. *Special purpose sites.* Several different kinds of archaeological deposits occur in Georgia that can be identified as areas where only one or a very few specific types of activities occurred. Perhaps the most recognized type of special purpose site is the rock quarry. These are locations that were visited to collect high quality rock for stone tool production. Indicators of prehistoric quarries include large outcroppings of fine-grained stone with extensive, nearby prehistoric deposits of stone chips that were created during the manufacture of projectile points and knives. Other types of special purpose sites include fish weirs, overland trails, and rock art sites.

4. *Civic-ceremonial centers.* Civic-ceremonial centers date to the Mississippian period (A.D. 1000–1540) in Georgia, and include mound centers like Etowah and Ocmulgee. Some of the earthen mounds were platforms for residences of the chief and other important personages; temples and community buildings were also built on mound summits. Other mounds contained burials. Such sites have associated village areas, and often were palisaded for protection. The Mississippian period is characterized by the development of powerful chiefdoms in which leaders had authority to command the labor of ordinary people to build mounds, to supply food to the chief, priest, and other important individuals, and to fight in small-scale guerilla warfare against rival chiefdoms.

Graves containing human bones are not only found in mound sites; they are also found in villages (including shell midden sites) and rockshelters. The bones can tell us much about the health and diet of prehistoric people. Archaeological grave sites are considered sacred locations by contemporary Native Americans who have requested that scientists refrain from further study of them. Recent federal legislation and existing state law require, or at least provide a legal mechanism, for the return of Native American remains where tribal affiliation can be identified.

PREPARATION:

Students read and discuss Reproducible Student Handout #3 “**Kinds of Sites.**”

ACTIVITY:

- (1) Spread out sheets of plastic in the classroom or outdoors if weather permits and give each student a pair of rubber or disposable latex gloves.
- (2) Collect trash cans from various rooms in the school. Aim for a variety of grades or room uses.
- (3) Dump the trash out on sections of plastic. The teacher should keep track of where each bunch of trash came from. Students sort through the trash and list what is present. They then make suggestions about what behaviors are represented by the garbage.

EVALUATION:

1. Can you determine which classroom each trash can came from? How do you know this?
2. What kinds of things can you determine about our culture from the trash?
3. What kinds of things can't you determine?

EXTENSION:

Arrange a field trip to the local landfill or transfer station. Students record the kinds of things they see and the relative numbers of each thing. Students come up with suggestions about what you would conclude about our culture from our garbage.

TEACHING TOOLS: GEORGIA PREHISTORIC ARCHAEOLOGY

TEACHER RESOURCE KIT

Unit One: The Science of Archaeology

Lesson 4

Choosing a Site

OBJECTIVES	
1. Students will explore the factors determining how prehistoric peoples in Georgia chose locations for living and working. 2. Students will choose a task or activity and then choose an appropriate site where it could be carried out.	
QUALITY CORE CURRICULUM	
Depending on what educators choose to emphasize, this lesson can be used to address the following Subjects, Strands, Core Skills, and Topics, as well as others not specifically referenced for this grade level:	
SUBJECT/STRAND:	CORE SKILL/TOPIC:
Social Studies/Georgia Studies	2. Geographic Regions
Social Studies/Georgia Studies	5. Geographic Factors
Social Studies/Georgia Studies	6. American Indians
Social Studies/Georgia Studies	59. Information Processing
Social Studies/Georgia Studies	73. Time and Chronology
Social Studies/Georgia Studies	79. Maps and Globes
Social Studies/Georgia Studies	80. Maps and Globes

MATERIALS:

Reproducible Student Handout #4 “Choosing a Site”; topographic maps of area, town, or state.

BACKGROUND: (See *Background for Lessons #1 and #3.*)

PREPARATION:

Students read and discuss Reproducible Student Handout #4 “Choosing a Site.”

ACTIVITY:

- (1) Each student or group of students decides on a task or activity that would have taken place in prehistoric Georgia. For example: deer hunting, shell fishing, nut collecting, maize (corn) horticulture, etc.
- (2) The students outline the requirements of a good site for their chosen activity, and also consider attributes that could prevent, or make difficult, locating the activity in a given

location. Some issues to consider include topography, vegetation, water sources, animal habitat, raw material sources, and soils.

- (3) The students then propose an appropriate local (within the county or surrounding region) for their chosen activity based on map information (preferably a USGS topographic quadrangle) or their knowledge of local geography. They describe the attributes of the site, particularly those that make it an attractive setting for the activity.
- (4) The students present their sites and activities to the class.

EVALUATION:

1. How did the site you picked out compare to the ideal site you described?
2. Were some characteristics more important than others?
3. Did any factors play a role that were not entirely practical (i.e., it was a pretty spot)?
4. Do locations of this type exist in all three physiographic regions of Georgia (mountains, piedmont, and coastal plain); if so, how do they differ?

EXTENSION:

Give each group of students a modern “site” such as a manufacturing facility, airport, mall, or county courthouse, and its location on a map. The students are to develop ideas as to why the “site” is located where it is. Relevant issues may include transportation arteries, land prices, demographics in the area, access to needed resources, and zoning among others. After each group has discussed the reasons they believe their “site” is located where it is, the class should discuss how modern factors in site selection differ from prehistoric ones.

TEACHING TOOLS: GEORGIA PREHISTORIC ARCHAEOLOGY

TEACHER RESOURCE KIT

Unit One: The Science of Archaeology

Lesson 5

Artifacts

OBJECTIVE	
1. Students will examine artifact casts in “Teaching Tools” to determine how they were used and what other materials were used with them. 2. Students will choose possible tool materials from nature.	
QUALITY CORE CURRICULUM	
Depending on what educators choose to emphasize, this lesson can be used to address the following Subjects, Strands, Core Skills, and Topics, as well as others not specifically referenced for this grade level:	
SUBJECT/STRAND:	CORE SKILL/TOPIC:
Social Studies/Georgia Studies	6. American Indians
Social Studies/Georgia Studies	62. Problem Solving
Social Studies/Georgia Studies	64. Problem Solving
Social Studies/Georgia Studies	73. Time and Chronology

VOCABULARY:

***artifact:** any portable object used, modified or made by humans.*

***ground stone:** a stone artifact that has been modified by pecking and grinding it with another rock.*

***chipped stone:** a stone artifact that has been modified by the removal of flakes of stone by striking it with a rock or other hard object (antler, bone, metal).*

***flake:** a chip of stone removed in making a chipped stone tool*

MATERIALS:

Reproducible Student Handout #5 “Artifacts;” “Teaching Tools.”

BACKGROUND:

The majority of prehistoric artifacts found in Georgia are manufactured from stone. Stone is enduring; it was a primary source of raw material for making a wide variety of tool classes; and it preserves well in the ground.

Chipped stone artifacts. There are essentially two kinds of stone implements: those manufactured by pecking, grinding, and polishing the raw material into shape and those produced by chipping or flaking the stone into form. Chipped stone tools, such as scraping tools, projectile

points, spear points, knives, and the flakes chipped off and discarded during manufacture, are the most common prehistoric artifacts found in Georgia. They are recovered from archaeological sites from all time periods. And for that reason, archaeologists have spent a great deal of time learning about their manufacture, classifying them, and interpreting their use by prehistoric peoples. Generally speaking, stones that chip well do not peck or grind well. Chipped stone implements were manufactured from stones selected for their fine-grained texture and lack of internal structure. Flint (or chert as archaeologists call it) is a classic example of a rock with these properties. There are deposits of different kinds of chert in various parts of Georgia, as well as other types of stone used for chipped stone tools, like quartz.

Pecked, ground, and polished stone artifacts. Implements made by pecking, grinding, and/or polishing stone (like Teaching Trunk specimen no. 3.1) are commonly referred to as “ground stone tools.” They were manufactured from rocks that were soft enough so that pecking or grinding with another stone could shape them into a desired tool form. Yet, the stones selected for such tool making were sufficiently tough that a polished working edge could chop through hard, fibrous material such as wood. Pecking with a hard, round stone, or grinding with an abrasive rock like sandstone, was likely a very tedious task. Finishing a ground stone implement was very time consuming and these kinds of tools were probably in service for many years before damage caused by repeated use could not be repaired by pecking or grinding new working edges into shape.

Ceramics. Beyond stone tools, the second most common prehistoric artifact type is pottery. Pottery first appears in Georgia around 2500 B.C. on the coast. Ceramic vessels were a technological improvement over previous liquid cooking methods, which included use of heated stones placed in wooden vessels or sealed baskets, or—in some areas—soapstone bowls, which were time-consuming to manufacture and difficult to transport. Pottery could be made almost anywhere, as suitable clay is readily available across the state. Archaeologists normally find ceramics as broken potsherds, after broken vessels were discarded. But it is often possible to determine the original vessel form from certain broken pieces.

Other artifacts. Georgia’s Native peoples assuredly manufactured and used implements of more perishable materials such as bone, antler, shell, wood, fiber, and the like. Unfortunately few of these kinds of artifacts have been preserved in Georgia’s acidic soils. One exception is in shell middens where the acidity is buffered by the calcium in the shell. Another exception is in caves and rockshelters where the relatively dry environment protects artifacts from damage caused by repeated wetting and drying, and organisms involved in decomposition of organic material.

PREPARATION:

Students read and discuss Reproducible Student Handout #5 “**Artifacts.**”

ACTIVITY:

- (1) Take out the artifacts and other materials from the kit and explain that some are casts of real artifacts (of stone or ceramic), some are modern reproductions of chipped stone artifacts using real chert, and others are modern examples of materials used or consumed by Indians.
- (2) Have each student or group of students select something from the kit, then describe how the artifact or material might have been made and used in order to come up with a list of all materials in use in relation to this artifact. They may need to use their imagination to try to envision how the Indians carried out certain tasks. For example,

what tools were used to make the artifact or to process the material, what were those tools made of, what materials were the artifacts used on and what were they made of, or how was the material processed and consumed, etc?

Here is an example to provide as a template: Turkey feather—to hunt the turkey a man in the Mississippian period takes his sister's sons into the woods to a clearing where he has seen turkeys often in the past. Each carries a wooden bow (perhaps of elm), and a quiver of arrows—the quiver perhaps made of leather with a sinew cord suspending it over the shoulder, and the arrows made of cane with small triangular chipped stone projectile points as tips and feathers as fletching on the ends. After they shoot the turkey, one of them slings it over his shoulder and carries it back to the village. There, one of the women takes the turkey, plucking the feathers and collecting them in a woven basket made of bear grass, saving the feathers to be used on arrows and clothing. She then takes a knife made from a chipped stone blade inserted into a bone handle and secured with gluey plant resins and bound with a piece of sinew. The knife is used to butcher the turkey, preparing it to be roasted over a fire. The turkey is mounted on a wooden frame over the fire, which is constructed from thin posts set into the ground and cross pieces lashed together with sinew or hide cords. Once the turkey is cooked, pieces were probably eaten right off the carcass, as serving vessels (ceramics, anyway) were mainly shaped to cook and serve soups, stew, porridge, and other liquid meals.

- (3) Have the students go out and collect or bring from home natural materials or objects they think could be made into tools (stone, wood, clay, plant fibers, bone etc.). Each student presents what they brought in and explains and/or demonstrates how it could be used.

EVALUATION:

1. How many types of materials could the students think of as useful to the Indians in some way?
2. Are some materials more versatile than others?
3. What are some materials that tools in the kit are not made from?
4. Can you think of reasons why some kinds of materials used by prehistoric people are not found today?
5. Describe several of the things brought in by the class.
6. Which are better for making tools? Why?

EXTENSION:

Some things preserve well through time and some things do not. The issue of preservation is very important to archaeologists. Have students make observations in an area where there are a variety of artifacts (trash) lying around (perhaps under outdoor bleachers, or in an area of illegal dumping). Evaluate which are in good condition, which are falling apart, or missing pieces. Have them compare this to prehistoric tool technology and the variable preservation of artifacts.

TEACHING TOOLS: GEORGIA PREHISTORIC ARCHAEOLOGY

TEACHER RESOURCE KIT

Unit One: The Science of Archaeology

Lesson 6

Art and Decoration

OBJECTIVES	
1. Students will associate styles of art and decoration to culture groups. 2. Students will group themselves based on styles of decoration and discuss the significance of such groupings.	
QUALITY CORE CURRICULUM	
Depending on what educators choose to emphasize, this lesson can be used to address the following Subjects, Strands, Core Skills, and Topics, as well as others not specifically referenced for this grade level:	
SUBJECT/STRAND:	CORE SKILL/TOPIC:
Social Studies/Georgia Studies	58. Information Processing
Social Studies/Georgia Studies	73. Time and Chronology
Fine Arts/Visual Arts	19. Historical and Cultural Context

MATERIALS:

Reproducible Student Handout #6 “Art and Decoration;” old magazines, yearbooks, photographs; **“Teaching Tools.”**

PREPARATION:

Students read and discuss Reproducible Student Handout #6 **“Art and Decoration.”**

BACKGROUND: (See Student Handout #6)

ACTIVITY:

- (1) Students pick out three outfits they have worn to school recently (including clothes, shoes, jewelry, hair styles) and record aspects of their style. Encourage them to think broadly: how are garments cut, what materials are used, patterns and colors present, brand labels visible, size and characteristics of ornamentation, etc.
- (2) Next, provide the students old yearbooks or photographs of students from past decades, or pictures of people from another culture. What styles of decoration do you see? How are they different from the students’ styles? Are there differences among each group, and if, so are they meaningful?
- (3) Now have students look at artifacts in **“Teaching Tools.”** What explains the shape and other characteristics of the artifacts? Is style as important as function? Are there

different ways of achieving the same function with different styles? Are some artifacts more likely to be made according to stylistic considerations as opposed to functional ones? Can you think of possible prehistoric examples and modern examples?

EVALUATION:

1. In our society, what styles set people apart? Are these people really different? If so, how?
2. Do the styles have any meaning in and of themselves, or are they defined arbitrarily by particular people in particular time periods?

TEACHING TOOLS: GEORGIA PREHISTORIC ARCHAEOLOGY

TEACHER RESOURCE KIT

Unit Two: Archaeological Methods

Lesson 7

Digging a Site

OBJECTIVES	
1. Students will gain a basic understanding of how an archaeological site is laid out and how information is recorded. 2. Students will lay out a grid over a given area and record everything located within units of that grid with horizontal measurements.	
QUALITY CORE CURRICULUM	
Depending on what educators choose to emphasize, this lesson can be used to address the following Subjects, Strands, Core Skills, and Topics, as well as others not specifically referenced for this grade level:	
SUBJECT/STRAND:	CORE SKILL/TOPIC:
Social Studies/Georgia Studies	54. Information Processing
Social Studies/Georgia Studies	81. Maps and Globes
Mathematics/Problem Solving	2. Vocabulary

VOCABULARY:

***grid:** a pattern of horizontal and vertical lines forming squares of uniform size used as a reference for locating points*

***datum:** a location on a site grid from which all measurements are made.*

***plowzone:** the top layer of soil that has been churned up by plowing, mixing and moving artifacts and erasing evidence of features.*

***horizontal and vertical control:** the careful recording of the location of an artifact or feature in horizontal and vertical relationship to the datum point.*

MATERIALS:

Reproducible Student Handout # 7 “**Digging a Site;**” large nails, one compass and two long tape measures per group, string, graph paper, baggies, recording forms, provenience slips, camera, magazine pictures, and “**Teaching Tools.**”

BACKGROUND:

Preparing a Site, Establishing a Grid System, and Digging Holes: Establishing a grid system before an excavation is necessary for keeping track of where all archaeological materials originate; the place where an artifact is are found is known as its “provenience.” The grid is created

with a tape and compass, or surveying equipment, to overlay a pattern of uniformly sized squares across the site. The grids at prehistoric sites are often parceled into one-meter squares. The grid system must be tied in to a permanent reference point referred to as the site's "datum." The datum point permits relocation of the grid system long after the excavation has been completed, when perhaps another archaeologist chooses to conduct additional field studies.

Each grid square must be assigned a unique designation so that the associated artifacts and records can be distinguished from those originating from another grid unit. This goal is usually accomplished by identifying one corner of each unit with a two-part designation that relates to compass bearings. For example, unit N50 E75 is 50 m north and 75 m east of the square designated N0 E0. The locations of all squares are recorded onto a field map so that excavated areas can be accurately plotted in relation to natural landform features, roads, houses, etc.

In most places across the state, the land has been cleared and/or cultivated some time in the past. Clearing and plowing mixes archaeological materials as deep as the plow or clearing implement reaches. Artifacts that are found beneath the plowzone may be in their original location. Therefore, it is very important to record their precise provenience. This is accomplished by electronic measurement with a base station, which is a surveying device that is placed at a site datum. A surveying transit placed at a site datum may also be used. Another method for recording the location of an artifact precisely within three-dimensional space involves the more traditional and "hands on" approach. Using the northeast corner of our previously identified imaginary excavation square, a tape measurement (in centimeters) south of the north wall of N50 E75 and a measurement west of the east wall would locate the specimen horizontally within the unit. A third measure of depth below the ground surface is also needed. That is accomplished with the base station or transit. It can also be obtained by tying a string to the northeast corner of the unit at the ground surface. A line level is placed on the string, which is held level to the ground surface and above the artifact; the distance between the string and the artifact, measured with a tape measure, is its depth.

Even with great care, field personnel will miss archaeological materials during excavation. There are no exceptions to this observation, even for people who have been excavating archaeological deposits for decades. Therefore, all sediments removed from a grid square are screened through ¼-inch mesh hardware cloth (wire mesh) to retrieve items that were not otherwise detected. In some situations, mesh is reduced to window-screen size so that even the smallest of archaeological materials may be recovered.

What to Record: The locations of artifacts are carefully measured; features are mapped, variations in the color and texture of soils and sediments are recorded to help differentiate stratigraphic units, and disturbances produced by natural and human activity are noted. Forms to record all of these different pieces of information must be completed before new ground is excavated. Photographs, videotapes, audiotapes, and on-site use of computers all enhance the ability of archaeologists to make as complete a record as modern technology permits. It is always useful to record more than to record less. The records, which accompany archaeological specimens back to the laboratory, are the single most important source of information that future archaeologists will have at their disposal. The data in those records will allow them to re-examine the evidence, pose new questions, and perhaps develop new perspectives on sites that have been previously investigated.

PREPARATION:

Students read and discuss Reproducible Student Handout #7 “**Digging a Site.**”

ACTIVITY:

- (1) Break students up into groups of four to six. Let each group pick a small area on the school grounds that will be their site.
- (2) Each group then lays out a grid on their area. Decide ahead of time how big an area they will cover. An even number of square meters between 6–10 meters squared is a good starting point. The students may want to sketch out their grid on paper first.
 - a. Pick and set a datum. This point should be higher than the rest of the area, or level with it. It should be in an approximate corner of the grid.
 - b. From the datum, set the other three corner points. The first can be set using the compass and one tape. The student on the compass will position the person with the tape along a straight directional line (north, east, south or west) of the datum. The next corner can be set using triangulation. For a 1-m excavation unit, the diagonal length is 1.41 m (using $c^2=a^2+b^2$ to compute the hypotenuse of a right triangle). That distance is taped out from the datum, while the side length is taped out from the second point. The final point can be plotted by measuring from the two nearest corners.
 - c. With the corners set, the squares within the grid can then be measured in. The northeast corner is then designated as N1 E1. All measurements will be taken in relation to this point. However, make sure the datum is marked on the site map.
 - d. To make measurements easier, strings can be tied to nails to delineate each 1-m unit.
- (4) Now that the grid is laid out, “digging” can begin. Since the students will not actually be digging the site, they will record only horizontal locations. Students can break up into groups of two or three. Each group will choose a square. They will map and collect any artifacts on the surface small enough to go in baggies. Everything bigger can just be mapped in. Each group will need a piece of graph paper, a ruler, a measuring tape, a handful of plastic baggies, and some provenience slips. Information recorded on these slips should include the **site, date, recorder’s name, square (N10 E4, for example)** and **measurements from the north and east walls** of the square. Anything too big for the baggies should be mapped in the same way and marked on the graph paper. The groups should follow this procedure for as many squares as time permits. Students can come up with their own method for designating objects on the map, and make up a key so others can read their map.
- (5) Back in the class room, the data from the various squares is put together onto one larger site map. The groups should then share their maps with the other groups, and see if they can determine what each site was.

EVALUATION:

1. Have students hand in their maps and bags with provenience slips. Check that the data match and that the maps make sense.
2. Take a Polaroid or digital camera image of each area before the “dig.” Then once they have been completed, have groups exchange artifacts and records and put the artifacts back where they came from. Compare to the photo to see how accurate the measurements were.

EXTENSIONS:

1. Magazine Puzzle: each student picks out a picture from a magazine and cuts it into equal squares. They then exchange their puzzle. See how many pieces the other students need to put together before they can tell what the picture is of.
2. Dig Boxes: create a box filled with sand and artifacts from “**Teaching Tools;**” allow students to grid off and dig.
3. Visit an archaeological excavation in progress. Allow enough time for students to watch the digging for a while so they can walk around and observe the various stages.

SPECIAL NOTE: PLEASE EMPHASIZE TO STUDENTS THAT ACTUAL PREHISTORIC ARCHAEOLOGICAL SITES ARE VALUABLE NON-RENEWABLE RESOURCES. SITES SHOULD NOT BE EXCAVATED BY PEOPLE WITHOUT PROFESSIONAL TRAINING.

TEACHING TOOLS: GEORGIA PREHISTORIC ARCHAEOLOGY

TEACHER RESOURCE KIT

Unit Two: Archaeological Methods

Lesson 8

Clean, Catalog, Measure, and Record

OBJECTIVES	
1. Students will sort a group of objects using various types of categories and evaluate the utility of such categories. 2. Students will sort a collection of random objects and/or artifacts in “Teaching Tools” using a variety of systems they develop.	
QUALITY CORE CURRICULUM	
Depending on what educators choose to emphasize, this lesson can be used to address the following Subjects, Strands, Core Skills, and Topics, as well as others not specifically referenced for this grade level:	
SUBJECT/STRAND:	CORE SKILL/TOPIC:
Social Studies/Georgia Studies	58. Information Processing
Social Studies/Georgia Studies	60. Information Processing
Social Studies/Georgia Studies	81. Maps and Globes
Mathematics/Statistics and Probability	45. Data Interpretation, Data Display, Prediction, Conclusion

VOCABULARY:

catalog: a record of all the material collected from a site, including lists and descriptions of each object.

cataloging: the process of recording and describing archaeological material.

MATERIALS:

Reproducible Student Handout #8 “*Clean, Catalog, Measure, and Record*,” “*Teaching Tools*,” one or several objects from each student, a big table, reproduced artifact catalog and site map/grid locations.

BACKGROUND:

Archaeologists often spend more time cleaning, cataloging, and analyzing archaeological materials than they do recovering them. Various materials require special treatment once they have been recovered, and before analysis can begin. For example, food bones excavated from shell middens must be dried and brushed so that mold will not begin to grow on them; doing so also insures that important surface details on the bones are not obscured by clinging dirt. Additionally,

specimens are assigned accession numbers that may be permanently affixed to them with ink. The accession numbers usually contain two parts representing the site identifier and the artifact's provenience. Once the accession numbers are marked on the artifact, it can be handled and analyzed without losing that important information.

There are many different ways that archaeologists can generate meaningful archaeological data from the study of artifacts and other archaeological materials. The selection of analytical techniques depends on the nature of the materials recovered from the site, the types of research questions that interest the archaeologist, and the availability of time and funding. Many types of artifact studies involving measurement can be readily accomplished in the archaeological laboratory. Other types of studies, such as the identification of plant and animal remains recovered from archaeological deposits, often have to be completed by specialists who do their research elsewhere.

PREPARATION:

Students read and discuss Reproducible Student Handout #8 “**Clean, Catalog, Measure, and Record.**”

ACTIVITY:

- (1) Have every student pick one or several items from their belongings (nothing too precious, since everyone will handle it). Have them put these items on the table.
- (2) Ask the students to sort the objects. They should come up with a way of sorting, such as color, size, function, age, etc. It is best if they can do this several times, using new categories each time.
- (3) After each sorting, have the students discuss each group and decide how useful that way of sorting was. That is, did it make meaningful groups?
- (4) Next, have students take all the artifacts in “**Teaching Tools**” out of their bags and put them out on the table. Do the same exercise with these artifacts. Compare students’ groupings to those of the archaeologists (age, function, raw material).

EVALUATION:

Do all the different ways of sorting objects result in meaningful groups or categories? Which ways seemed the most informative? (Answer these questions for each group of objects.)

EXTENSIONS:

Collect the following artifacts and label them with the accession numbers given using permanent ink. (Other artifacts can be used as long as the spatial distribution makes sense.)

- | | |
|-----------------------|---------|
| 1. Bottle glass | N29 E25 |
| 2. Pencil | N28 E29 |
| 3. Bottle glass | N30 E25 |
| 4. Aluminum can | N28 E25 |
| 5. Taillight fragment | N30 E26 |
| 6. Pen cap | N28 E27 |
| 7. Penny | N28 E25 |
| 8. Pen | N29 E29 |
| 9. Bottle glass | N30 E29 |

- | | |
|-----------------------------------|---------|
| 10. Lottery piece | N28 E25 |
| 11. Small plastic toy or fragment | N30 E28 |
| 12. Straw | N28 E26 |
| 13. Gum wrapper | N29 E25 |
| 14. Cup lid | N28 E26 |
| 15. Bottle cap | N30 E27 |
| 16. Auto glass | N30 E28 |
| 17. Napkin | N28 E26 |
| 18. Bottle cap | N28 E26 |
| 19. Coffee stirrer | N28 E25 |
| 20. Bottle cap | N29 E25 |

3. N30 E25	5.	15.	11. 16.	9. N30 E29
1. 20. 13.				8.
4. 7. 10. 19. N28 E25	12. 14. 17. 18.		6.	2. N28 E29

Provide the artifacts to the class, along with the site map above (or just an artifact catalog with grid locations for added difficulty), which plots the artifacts by accession number recovered from each excavated unit.

Ask the class to reconstruct the distribution of artifacts across the site, and then determine where the following features, just outside of the excavated area are most likely to be located: a road, a convenience store, and a library. Discuss the reasons for differences in the types and numbers of artifacts in different areas.

TEACHING TOOLS: GEORGIA PREHISTORIC ARCHAEOLOGY

TEACHER RESOURCE KIT

Unit Two: Archaeological Methods

Lesson 9

What’s the Point?

OBJECTIVES	
1. Students will gain an understanding of the importance of detailed measurements and descriptions to archaeological analysis. 2. Students will describe, draw, and measure artifacts, and use the information to identify the artifacts.	
QUALITY CORE CURRICULUM	
Depending on what educators choose to emphasize, this lesson can be used to address the following Subjects, Strands, Core Skills, and Topics, as well as others not specifically referenced for this grade level:	
SUBJECT/STRAND:	CORE SKILL/TOPIC:
Social Studies/Georgia Studies	6. American Indians
Social Studies/Georgia Studies	59. Information Processing
Social Studies/Georgia Studies	63. Problem Solving

VOCABULARY: (SEE DIAGRAM BELOW FOR ADDITIONAL VOCABULARY)

metrics: the system of weights and measures based on the meter and gram, using multiples of ten of these basic units.

caliper: an instrument with two hinged legs or a sliding attachment (vernier caliper) used to measure irregular surfaces more accurately than can be done with a straight ruler

MATERIALS:

Reproducible Student Handout #9 “What’s the Point?;” drawing paper, graph paper (optional), measuring tools (rulers, scales, calipers, protractor); “Teaching Tools.”

BACKGROUND: (See Background for Lesson #5)

PREPARATION:

Students read and discuss Reproducible Student Handout #9 “What’s the Point?”

ACTIVITY:

(1) Each student is given or picks out a chipped stone artifact from “Teaching Tools.”

- (2) Students first write as detailed a description of the artifact as they can. They then make a drawing of the artifact, again with plenty of detail.
- (3) Students then take measurements of their artifact. Those with projectile points can use the measurements on the back of the handout or can be asked to come up with them independently. Students with other artifacts can decide on a set of measurements they think is useful. It may help to mark the measurements on the drawing.
- (4) Then each student or group of students presents a description and measurements to the rest of the class. Without seeing the drawing, students try to determine which artifact is being described.

EVALUATION:

1. Collect student descriptions, drawings, and measurements and compare for accuracy and consistency.
2. Did certain parts of the description or certain measurements make an artifact easier to identify? Why might that be?

EXTENSION:

Have students select an object common to the class, such as a sneaker. Brainstorm a variety of measurements that could be recorded for the object, such as weight, length of shoe laces needed, number of lace holes, color, etc. Have each student record the measurements and list them on a large table. What sorts of variations appear? What similarities exist? Do the measurements selected reveal anything new about the object? How does this apply to prehistoric artifacts?

TEACHING TOOLS: GEORGIA PREHISTORIC ARCHAEOLOGY

TEACHER RESOURCE KIT

Unit Two: Archaeological Methods

Lesson 10

Make an Impression

OBJECTIVE	
Students will experiment with making clay pots using different techniques and decorations.	
QUALITY CORE CURRICULUM	
Depending on what educators choose to emphasize, this lesson can be used to address the following Subjects, Strands, Core Skills, and Topics, as well as others not specifically referenced for this grade level:	
SUBJECT/STRAND:	CORE SKILL/TOPIC:
Social Studies/Georgia Studies	6. American Indians
Social Studies/Georgia Studies	72. Time and Chronology
Social Studies/Georgia Studies	74. Time and Chronology
Fine Arts/Visual Arts	2. Artistic Skills and Knowledge: Creating, Performing, Producing
Fine Arts/Visual Arts	19. Historical and Cultural Context

VOCABULARY:

***temper:** material (grit, fiber, shell) included in pottery clay which gives added strength and workability. It also helps prevent cracking and shrinking during firing.*

***vessel:** a pottery container (see diagram below), whose main parts can be labeled as rim, neck, body, and base.*

***impression:** a pattern made on the surface of clay by pressing something into it when still wet.*

MATERIALS:

*Reproducible Student Handout #10 “**Make an Impression!**”; self-hardening clay, sand, crushed shells, fabric, tools for making decorations (can be just about anything), Elmer’s glue.*

BACKGROUND:

In Georgia, people were making and using clay pots by about 2,500 B.C. In some areas of Georgia at that time, and until about 1000 B.C., people used stone bowls made of soapstone instead of pottery. Prior to that time, it is likely that skins, bark, and woven materials were used to make storage and cooking containers. Such items are susceptible to decay, however, and they are generally not preserved in the archaeological record. Pottery sherds are diagnostic of the period in

which they were produced, because the styles of decoration and vessel forms changed over time. Most sherds found in archaeological sites are quite small (the size of square on a checkerboard or smaller), but with much patience and glue, collections of sherds excavated together have provided glimpses of what complete pots looked like, and how they were decorated.

To make pottery, Indians used local clay mixed with a tempering agent that consisted of fibers, shell, crushed stone, or sand. The temper helped to make the clay more workable, and strengthen the finished product. The clay was never “thrown” on wheels. In fact, the wheel was never invented anywhere in North America. All pots were hand constructed. One of the most common methods involved rolling clay into long ribbons that were then coiled on top of one another and pinched together. Telltale evidence for this construction method is commonly visible on the edges of prehistoric pot sherds. Some vessels were pinched and hand molded.

Pots were either left plain or various portions of them were impressed with decoration when the clay was still damp. Decorative methods involved pressing and stamping, dragging, or poking different items into the wet clay. These items included carved wooden paddles, woven fabric, the ends of small pointed sticks, paddles wrapped with cord, edges of shells, and even fingernails. After being allowed to thoroughly dry, pots were heated in open-air fires or underground heating facilities, to further harden them. How long the pots lasted before breaking is also unknown. With care, they may have survived several years or more.

Summary of Pottery Attributes through the Prehistoric Period in Georgia.

Georgia Piedmont and Mountains				Georgia Coastal Plain and Coast			
Time Period	Surface Decoration	Vessel Forms	Temper	Time Period	Surface Decoration	Vessel Forms	Temper
Late Archaic (1850–1000 B.C.)	Plain Simple-stamped Incised Punctate	Bowls	Fiber	Late Archaic (2200–1000 B.C.)	Plain Simple-stamped Incised Punctate	Bowls	Fiber
Early Woodland (1000–300 B.C.)	Fabric-impressed Simple-stamped Check-stamped	Conoidal based jars	Sand/ Quartz Limestone	Early Woodland (1000–300 B.C.)	Punctated Incised Dentate-stamped Plain Simple-stamped	Bowls (and some jars)	Sand/ grit
Middle Woodland (300 B.C.–A.D. 500)	Check-stamped Simple-stamped Plain	Conoidal and rounded based jars	Sand/ grit	Middle Woodland (300 B.C.–A.D. 500)	Complicated stamped	Conoidal jars	Sand/ grit
Late Woodland (A.D. 500–1000)	Complicated stamped Plain Incised	Jars and bowls	Grit	Late Woodland (A.D. 500–1000)	Plain Cord-marked Brushed Burnished Net-marked	Jars and bowls	Grit
Mississippian (A.D. 1000–1540)	Complicated stamped Plain Burnished Red filmed	Diverse forms	Grit/ sand	Mississippian (A.D. 1000–1540)	Check-stamped Complicated stamped Plain	Diverse forms	Grog Shell

PREPARATION:

Students read and discuss Reproducible Student Handout #10 “**Make an Impression.**”

ACTIVITY:

- (1) Set up the clay. Students each take a portion of the clay to make a pottery vessel and carefully knead in temper.
- (2) Students then make a vessel, choosing a technique available in Georgia prehistory: pinching or coiling.
- (3) Once the vessels are formed, students then decide on decoration. They can make any kind of decoration anywhere on the pot, but suggest they consider practical applications of decoration as well. Students can also try to duplicate the decorations on the sherds in “**Teaching Tools.**”

EVALUATION:

1. How easy was it to make a pot?
2. How easy was it to emulate the decoration of prehistoric Georgia ceramics?

EXTENSION:

After the vessels have air dried for several days, break a vessel or two to see how easy or difficult it is to glue the broken pots back together.

TEACHING TOOLS: GEORGIA PREHISTORIC ARCHAEOLOGY

TEACHER RESOURCE KIT

Unit Two: Archaeological Methods

Lesson 11

Taphonomy: The Missing Pieces

OBJECTIVES	
1. Students will gain a basic understanding of the concept of taphonomy, and will be able to distinguish between natural and cultural processes that affect archaeological sites and materials. 2. Students will keep track of a simulated archaeological deposit and identify the processes that alter it.	
QUALITY CORE CURRICULUM	
Depending on what educators choose to emphasize, this lesson can be used to address the following Subjects, Strands, Core Skills, and Topics, as well as others not specifically referenced for this grade level:	
SUBJECT.STRAND:	CORE SKILL/TOPIC:
Social Studies/Georgia Studies	6. American Indians
Social Studies/Georgia Studies	63. Problem Solving
Social Studies/Georgia Studies	73. Time and Chronology
Science/Earth Science	13. Geology

VOCABULARY:

***taphonomy:** the study of processes by which animal bones and other fossil remains are transformed after deposition.*

***taphonomist:** a person who studies taphonomic processes.*

***diagnostic:** an artifact that can be assigned to a particular time period based on its unique form or style.*

***projectile point:** chipped stone artifact hafted on a spear, dart, or arrow shaft, and hurled in some way.*

MATERIALS:

Reproducible Student Handout #11 “Taphonomy: The Missing Pieces;” “Teaching Tools;” old stuff (including perishables).

BACKGROUND:

It would be comforting to believe that archaeologists always find artifacts exactly where they were left by Native Americans thousands of years ago. Unfortunately nothing could be further

from the truth. Changes, which act to both preserve and destroy the archaeological record, begin to occur at the very moment a site is created. They continue until the time the site is scientifically studied. Understanding the role of these changes in altering the contents of an archaeological site is extremely important for interpreting prehistoric human behavior.

The study of natural and cultural processes that affect the archaeological record is called “taphonomy.” This concept was first proposed by a Russian paleontologist in 1941 to refer to the study of the transition from the biosphere to the lithosphere. Paleontologists recognize that many different things happened to organisms, such as clams or even dinosaurs, at the time of their deaths until the time that they became fossilized in stone. Similarly, archaeologists understand that once objects like spear points or broken clay pots enter the archaeological record, many things occur that affect whether they will survive in place until an archaeologist can recover them. An incredible amount of experimental and observational data have been collected on processes that affect archaeological materials during this transition. We briefly examine a few of the processes that affect archaeological sites in Georgia .

Natural processes. Both geological and biological processes can significantly affect archaeological site preservation. A sites location and physical attributes also play a role in the site formation process. Here are some examples.

1. Imagine several prehistoric Native American families stopping along a river edge for a few days. They make a campsite, catch fish and process them, refurbish tools, and after awhile, they move on. Heavy rains follow and cause severe flooding. There are two alternative consequences for the archaeological site left behind by the fishermen. First, fast moving water may sweep over the site and wash away all of the archaeological materials. Some of the items may be redeposited down river at spots where they may eventually be buried and later recovered by archaeologists as secondary sites—spots that contain archaeological remains that have been moved from their original locations. Obviously, such sites will not contain the important contextual information that might have been recovered if the artifacts had been found in place. Second, those same flood waters may be moving more slowly, allowing fine sediments to fall out of suspension on top of the recently abandoned fishing camp. In this scenario, flooding has provided a “cap” over the archaeological remains that may protect them from disturbances, and their contextual integrity has a good chance of remaining intact.
2. In this second hypothetical example, a prehistoric group stops and camps on a ridgetop overlooking a broad river valley during a hunting trip. Camps are set up; the hunt is successful, and meat is consumed and dried for later use; the families pack up and move on. The time is 10,000 years ago. In the intervening millennia, later groups come back to this spot from time to time, adding additional bits of trash (artifacts) to the ridgetop. Through the nineteenth century, forests grow on the site, sending tree roots deep into the soil. Since the site is on a ridgetop, very little soil builds up over the artifacts—some soil develops from the accumulation of leaf litter, but soil is also washed off by erosion. In addition, during several periods in the past, the forests have provided a haven for families of chipmunks who burrow into the ground, make their nests, and raise their young. It has also been habitat for earthworms who make their way through the soil, moving things around as they go.

At long last, a lucky archaeologist discovers the ancient campsite. We can expect that there has been a considerable amount of vertical displacement of archaeological remains at such a location. Artifacts that were once deposited beside one another may be shifted up and down in the ground from the penetration of tree roots and burrowing activity of rodents and earthworms. Some of the archaeological remains also will have moved laterally as roots and rodents push them in one direction or another. And, of course, since this an open-air site, any organic artifacts (a wooden knife handle, a piece of cloth, a woven reed basket, etc.) left at the site would have disintegrated. The task of sorting out the actions of roots and rodents on our imaginary site is almost impossible. Experimental studies have documented that such processes can mix the soil considerably. In this scenario, all that the archaeologist is able to do is to acknowledge that such natural activity is likely to have occurred, and be mindful that specific locations of archaeological materials in the campsite may not be the direct result of cultural activity. In this situation, it is also impossible to assign artifact to a specific occupation.

Cultural processes. Cultural activity acts on archaeological sites in much the same way as natural activity; it can preserve and it can destroy. A couple of examples are provided below.

1. Among other things, shell middens contain all kinds of refuse that has accumulated from the day-to-day activities of prehistoric peoples. This type of cultural activity has been extremely important for preserving archaeological materials. Oyster shells exposed at the surface during any time period are subjected to weathering agents such as heating in summer, cooling in winter, and rainwater throughout the year. The effect on shells is to cause them to slowly break down and release calcium carbonate into solution. Calcium carbonate has a high pH value which means that it possesses the ability to neutralize or reduce the natural acidity of soils that are common in Georgia. In these situations, organic remains that usually perish not long after deposition—bones for example—are often preserved for long periods of time. Thus shell middens tend to yield rich collections of food remains that provide important information on dietary habits. Tools made of bone, shell, and antler are also preserved at these types of sites, and they illustrate the breadth and complexity of prehistoric technology.
2. Now imagine a beautiful piece of land on one of Georgia's barrier islands. Let us suppose that a house is to be built on this lot. The owners of the property hire an architect and building contractor, and a backhoe arrives one sunny morning. The backhoe operator begins to excavate the foundation. As the hole increases in size, so do the mounds of shells dumped off to the side. In a few hours, the backhoe has succeeded in destroying 2,000 years of human prehistory. Although few new homes are now being built on barrier islands, many sites have already been damaged or destroyed; take for example the "Indian Mound Cottage" on Jekyll Island, which was built around the turn of the century on a shell midden site. Whether in coastal areas, around the City of Atlanta, or anywhere else across the state, a great deal of modern construction and activity results in ground disturbances that can destroy archaeological sites. In some cases, destruction is entirely by accident, such as in the example above. In other cases, sites are destroyed through purposeful vandalism, whereby looters mine sites for artifacts to collect or sell. Fortunately, enforcement of both federal and state legislation, the efforts of the State Historic Preservation Office, and the work of state and local preservation groups has greatly mitigated the amount of archaeological site destruction in Georgia in the last thirty years.

PREPARATION:

Students read and discuss Reproducible Student Handout #11 “**Taphonomy: The Missing Pieces.**”

ACTIVITY: (NOTE: This is a two-part activity that can be done together or separately.)

Part A:

- (1) Spread out the artifacts in the “**Teaching Tools.**” Students examine various artifacts and decide what the artifact would have looked like when it was in use. This may often involve pieces of a more complex object that are no longer there.
- (2) Have students list what is missing and one or several taphonomic processes that may have caused this.

Part B:

- (1) Get together a collection of old materials, such as soft drink cans, old school supplies, some perishable material (apple core, cracker, etc.)
- (2) Students locate an area on the school grounds where there is a moderate amount of activity and spread out the old stuff. Mark the corners of the area where they were placed with large nails hammered into the ground. Keep a record of everything that was put out, including a sketch map showing the location of each item relative to the marker nails.
- (3) Check every day or so to see what is still there and what is not. Record any movement of the items. Students should discuss the processes that displace or remove material, or preserve it. In the classroom, keep a running chart of the objects, what happens to them, and distinguish between natural and cultural taphonomic processes.

EVALUATION:

1. In relation to the material in “**Teaching Tools,**” what kinds of materials are likely to be preserved in most archaeological sites in Georgia? What materials generally are not preserved? What types of site settings might better preserve organic material?
2. In terms of the experiment with modern items, explain the taphonomic processes that were impacting the materials. Which were cultural, and which were natural? If the items had not been collected after the experiment, what would the site look like in 1000 years?

EXTENSION:

1. Students may want to bury some material and let it stay there for a longer period (several months), then dig it up again and make the same determinations about the taphonomic processes at work. Choosing several areas where different types of forces are in play could be even more informative.
2. Have students bring in examples of natural and cultural processes that affect objects. (Examples: rust, animal gnawing, burned objects.)

TEACHING TOOLS: GEORGIA PREHISTORIC ARCHAEOLOGY

TEACHER RESOURCE KIT

Unit Two: Archaeological Methods

Lesson 12

How Did They Do It?

OBJECTIVES	
1. Students will gain an elementary understanding of the role of experimental archaeology in understanding prehistory. 2. Students will conduct a variety of experiments to determine how prehistoric people in Georgia could have done things.	
QUALITY CORE CURRICULUM	
Depending on what educators choose to emphasize, this lesson can be used to address the following Subjects, Strands, Core Skills, and Topics, as well as others not specifically referenced for this grade level:	
SUBJECT/STRAND:	CORE SKILL/TOPIC:
Social Studies/Georgia Studies	6. American Indians
Social Studies/Georgia Studies	62. Problem Solving
Social Studies/Georgia Studies	64. Problem Solving

VOCABULARY:

***experimental archaeology:** the study of past behavioral processes through experimental reconstruction under carefully controlled scientific conditions.*

***fire-cracked rock:** any rock that has been heated to a point where it fractures and breaks as a result of thermal expansion, often followed by rapid cooling.*

MATERIALS:

Reproducible Student Handout #12 “How Did They Do It;” Experiment A: clay, classroom objects; Experiment B: rocks, sticks, bones, plants, etc.; “Teaching Tools.”

BACKGROUND: (See Background for Lessons #5 and 10)

PREPARATION:

Students read and discuss Reproducible Student Handout #13 “How Did They Do It?”

ACTIVITY: (This activity presents two possible experiments that can be conducted separately.)

Experiment A: Pottery Impressions

- (1) Each student is given a small piece of wet clay or modeling clay.
- (2) They then choose something in the classroom with which to make an impression on their piece of clay, without letting other students see what they chose (you may want to divide the class in half and spread them out for this).
- (3) Students then exchange pieces of clay and try to determine what was used to make the impressions. Try to get students to use a range of materials, some simple to figure out, others that are more challenging.
- (4) Students can also try to match decorative techniques used on prehistoric Georgia ceramics

Experiment B: Tools

- (1) Students make two collections of natural materials: one of objects to be used as tools, another of materials to be processed (whittled, mashed, chopped, cut, etc.)
- (2) Students in groups try out each possible tool on the material to be processed, and record what it does, and how well it works. They can put several objects together to make more complex tools if they wish.
- (3) Based on these observations, see if the students can figure out what the tools in “**Teaching Tools**” would best have worked on. Some of the tools students try out will likely not be represented in the kit, such as wood.

EVALUATION:

Students can write up lab reports summarizing their experiments.

EXTENSION:

Have groups select an object from the room. Have the groups modify the object in some fashion. Trade the objects with other groups and see if the manner in which the object was modified can be discovered and recreated.

TEACHING TOOLS: GEORGIA PREHISTORIC ARCHAEOLOGY

TEACHER RESOURCE KIT

Unit Two: Archaeological Methods

Lesson 13

Making a Chipped Stone Tool

OBJECTIVES	
Students will examine chipped stone artifacts in “Teaching Tools” for evidence of flaking technology.	
QUALITY CORE CURRICULUM	
Depending on what educators choose to emphasize, this lesson can be used to address the following Subjects, Strands, Core Skills, and Topics, as well as others not specifically referenced for this grade level:	
SUBJECT/STRAND:	CORE SKILL/TOPIC:
Social Studies/Georgia Studies	6. American Indians
Social Studies/Georgia Studies	63. Problem Solving

VOCABULARY:

***flintknapper:** a person who makes chipped or flaked stone tools, often as part of experimental archaeology to better understand the process by which prehistoric stone tools were made.*

***hammerstone:** a stone used to strike a core (another rock) to remove flakes.*

***billet:** a piece of bone or antler, or sometimes metal, used to more carefully remove flakes from a core or larger flake.*

***pressure flaking:** removing very small flakes from a stone tool by pressing on the stone rather than striking it.*

***percussion flaking:** removing flakes by striking a core or tool with a hammerstone or billet.*

***preform:** an unfinished tool that is partially shaped in preparation for final shaping into the desired form.*

MATERIALS:

Reproducible Student Handout #13 “Making a Chipped Stone Tool”; “Teaching Tools.”

BACKGROUND:

Chipped stone technology involves the reduction of a piece of stone into a desired tool form by removal of flakes from its edges. The process can be thought of as a series of related steps. Four areas of knowledge are necessary for the successful production of chipped stone implements. They are: identifying suitable stone for tool making, selecting appropriate tools for shaping the stone, determining the amount of force necessary to hit the stone and break it with the striking implement,

and determining the appropriate angle at which force is applied to the stone's edge. Although prehistoric people did not take classes in mineralogy, physics, or geometry, they certainly were well versed in these basic sciences, because chipped stone tools could not have been manufactured without knowledge derived from their application. Much time was probably spent learning how to make chipped stone tools. It was not a skill that could be acquired over night. The key to modern success at replicating stone projectile points and spear points is practice, practice, and more practice. Prehistoric success likely involved similar amounts of patience and dedication. And, making such implements did not depend on brute strength. Instead, it was based on an ability to predict what would happen when two rocks were knocked together. There are many capable men and women flintknappers today.

Stone for making chipped stone implements was obtained from quarry locations or gathered as cobbles from rivers. Fine-grained rocks, like those previously mentioned, produce a type of break when struck referred to as "conchoidal fracture." Rocks with conchoidal fracture were broken up with a very high degree of predictability similar to the way that a jeweler can predict what a raw diamond will look like after it has been cut.

"Percussion flaking" is the name for the technique used to strike the edges of stones destined to become types of chipped stone tools. It involved the indirect application of force by striking a stone's edge with a hand-held tool specifically made for that purpose. Several different kinds of materials were used for making striking tools. Rounded stones, referred to as "hammer stones," were used initially to break quarried stone or river cobbles into manageable sizes destined for further reduction. Hammer stones are distinctive in form and common in archaeological sites. They usually fit comfortably in the hand and are roughly spherical in shape. Various surfaces have tiny peck marks or signs of abrasion that has resulted from repeated striking against another stone. In addition to hammer stones, billets made of antler and wood were used to further modify pieces of stone into desired tool forms. Antler and wooden billets were small batons that fit comfortably in the hand. Some antler billets have been found in archaeological sites. No wooden billets have preserved archaeologically. However, modern experimentation shows that wooden billets made of particular types of hardwoods (such as dogwood) would have functioned well. Choice of a hammer stone or antler billet depended on understanding subtle differences in the breakage qualities of the different rock types, and also depended on the stage of progress toward a finished tool.

Raw material selection and the use of an appropriate striking implement were only part of the tool manufacturing process. Two stones, or a stone and piece of antler, bashed together all day might achieve little more than physical exhaustion and bruised hands. The amount of striking force and the angle at which the stone tool's edge is hit is critical to successful tool making. The edge of an unfinished projectile point or spear point cannot chip properly if too little percussion force is applied. Striking too hard causes an unfinished tool to shatter. An almost vertical blow causes the shaped stone to snap in two. A shallow impact on the edge creates crushing rather than successful flake removal. But the right combination of force and angle causes a flake to detach as planned.

Percussion flaking skills were not always sufficient to finish some kinds of chipped stone tools. Another technique, called "pressure flaking," literally involved pressing stone flakes off edges of nearly finished tools to straighten already sharp edges or to resharpen worn ones. It also helped shape delicate features like the stems and notches used for hafting projectile points. Pressure flakers were also fashioned from materials such as antler and wood. They tapered to narrow tips that could be hand held while applying force to nearly finished tool edges. Pressure flaking was used in the

final stages of projectile point and spear point manufacture. However, it was not always a necessary step for completing other types of tools.

For some kinds of tools, such as ones used to scrape animal hides (scrapers), the tools were generally fashioned by chipping and shaping the edge from one side only. This technique is known as “unifacial” flaking. Another technique involves striking stone on opposing edges to thin it and to reduce surface irregularities on both sides. This method is referred to as “bifacial” flaking, and mastery of that technique is essential for making chipped stone projectile points, spear points, knives, and other bifacial tools.

PREPARATION:

Students read and discuss Reproducible Student Handout #13 “**Making a Chipped Stone Tool.**”

ACTIVITY:

- (1) Have students sort out all the chipped stone artifact replicas from “**Teaching Tools.**”
- (2) Students examine the chipped stone tools and note evidence of flaking.
- (3) Have students discriminate between large percussion flake scars that appear toward the center of tools, and small pressure flake scars that occur on the edges.
- (4) Students examine the flakes from “**Teaching Tools**” that are sorted according to stages in the manufacturing process, and compare them to the *preform* (unfinished tool) from which they came (Teaching Trunk specimens 5.1–5.3).
- (5) What differences can be observed among the flakes from the different stages and the unfinished and finished tools?

EVALUATION:

Discuss how chipped stone tools are made from a “reductive” process rather than an “additive” process, as ceramics are, for example. How does the fact that they are formed by removing material rather than adding material affect the range of forms and styles a chipped stone tool can take? How does this production method influence the most common artifact type (flakes) found at prehistoric archaeological sites in Georgia? Do you think archaeologists can tell anything about the tools that were made just by looking at flakes?

EXTENSION:

Invite a flintknapper to class to demonstrate the art of chipped stone tool production. The Society for Georgia Archaeology (P.O. Box 693, Athens, Georgia 30603) can make some recommendations.

TEACHING TOOLS: GEORGIA PREHISTORIC ARCHAEOLOGY

TEACHER RESOURCE KIT

Unit Two: Archaeological Methods

Lesson 14

How Old Is It?

OBJECTIVES	
1. Students will gain a basic understanding of the methods available for dating archaeological materials and be able to carry out relative and cross dating. 2. Students determine the ages of deposits illustrated on a worksheet.	
QUALITY CORE CURRICULUM	
Depending on what educators choose to emphasize, this lesson can be used to address the following Subjects, Strands, Core Skills, and Topics, as well as others not specifically referenced for this grade level:	
SUBJECT/STRAND:	CORE SKILL/TOPIC:
Social Studies/Georgia Studies	6. American Indians
Social Studies/Georgia Studies	54. Information Processing
Social Studies/Georgia Studies	58. Information Processing
Social Studies/Georgia Studies	72. Time and Chronology
Social Studies/Georgia Studies	73. Time and Chronology
Social Studies/Georgia Studies	74. Time and Chronology
Science/Earth Science	13. Geology
Science/Earth Science	14. Geology

VOCABULARY:

chronology: the temporal relationships between a group of artifacts, sites, or cultures.

stratigraphy: the analysis of the vertical relationship between a series of horizontal layers in the ground, usually as a means of determining relative dates and temporal sequences of artifact deposition.

radiocarbon dating: an absolute dating (gives a date in years before present) method that measures the decay of the radioactive isotope of carbon (^{14}C) in organic material such as charcoal or bone.

organic remains: the remains of any carbon-based life form, including any plant or animal remains.

MATERIALS:

Reproducible Student Handout #14 “How Old Is It?”; stratigraphy worksheet (see below); stratigraphy worksheet; “Teaching Tools.”

BACKGROUND:

Dating Archaeological Remains. One of the first questions often asked of archaeologists is, “How old is it?” There are several general methods for dating prehistoric remains including relative dating, cross dating (which is a kind of relative dating), and absolute dating.

1. Relative dating is based on the Law of Superposition, which states that the oldest items will be found in the deepest of a series of related layers of rock, soil, or some other deposit, while the youngest items will be located in layers closest to the surface. Consequently, within the same archaeological site, the oldest artifacts are expected to come from the bottom, and the most recent should be located near the top. The law works reasonably well so long as there have not been major disturbances to archaeological deposits (or that effects of these disturbances can be reconciled), and so long as sufficient sediment has accumulated between human occupations to permit differentiation of layers during excavation. Both concerns pose real difficulties for archaeologists. Prehistoric archaeological sites have been disturbed by a variety of natural and cultural processes. In many settings, sedimentation rates are slow to non-existent, and very little soil has accumulated since the site was occupied. The hill and ridge tops of north Georgia are good examples, where the absence of sedimentation, slow soil formation, and large-scale erosion caused by clearing and cultivation have caused many sites to become an amalgamation of multiple prehistoric assemblages.

2. Cross dating works well for relating items of similar age even when the absolute age is unknown. The method is based on the belief that things of similar appearance may be of similar age. In paleontology, many kinds of fossils have unique forms that, when discovered at different locations, are all presumed to be comparable in age. This relative dating method permits paleontologists to cross date fossil beds from around the globe, and to estimate whether any paleontological site containing the index fossil also contains younger or older fossil layers than found at another location. For example, if site “A” contains a particular index fossil near the bottom and site “B” contains the same index fossil near the top, then it may be concluded that many of the fossils from site “B” below the layer containing the index fossil will date older than any of the fossils from site “A” where the index fossil was found at the bottom. When an absolute date, such as two million years ago can be assigned to the particular index fossil found in site “A,” then it can be argued that most of the paleontological specimens from site “B” are more than two million years old.

The logic of the paleontological example works equally well in archaeology as long as similarly shaped artifacts can be demonstrated to be produced for only a short period of time, and that they cannot be mistaken for other artifacts that are not at all temporally related. For example, a type of spear point called Clovis used more than 11,000 years ago in Georgia (and elsewhere throughout North America) was manufactured using a specific technology that produced a “diagnostic” form—see Teaching Trunk specimen No. 1.1. Whenever one of these diagnostic spear points is found in Georgia, archaeologists employ cross dating to argue that the artifact is more than 11,000 years old, even when no other independent means for dating it is available.

3. Absolute dating includes a group of methods for assigning an actual age to an artifact, feature, or archaeological deposit in general. The most widely used among these methods is called “radiocarbon” or “¹⁴C” dating. See Student Handout #14 for a brief description of how radiocarbon dating works.

PREPARATION:

Students read and discuss Reproducible Student Handout #14 “**How Old Is It?**”

ACTIVITY:

Hand out the stratigraphy worksheet for the students to work on. NOTE: There are features and a disturbance that slightly complicate the picture.

EVALUATION:

1. Link the stratigraphy exercise to the concept of cross-dating, by asking students about dating the same artifact types at different sites, using the ^{14}C dates depicted in the stratigraphic profile. For example, if a large Savannah River stemmed point (artifact F) is found on another site, what approximate date would you give it? If that other site had a grooved groundstone celt in the same stratum with the point, what would the date for the celt be?
2. Students can hand in their stratigraphic worksheets.

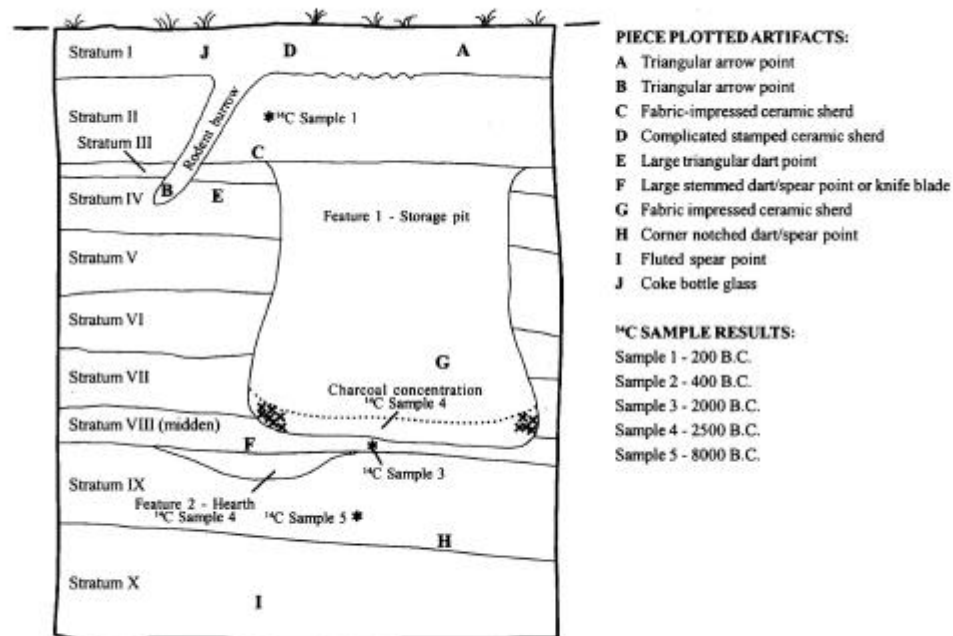
EXTENSION:

For more advanced students, this lesson can be incorporated into a unit on radioactivity and nuclear half-lives.

Stratigraphy and Dating

Below you will find a drawing of a stratigraphic profile from an archaeological site. A profile like this can be found at sites along rivers where periodic flooding deposits new layers of soil on the surface, burying artifacts that are left during each occupation of a site. Over time, layer after layer is built up, and very old artifacts can be buried several feet below the current ground surface.

The drawing depicts different soil zones, recognized by archaeologists because of different soil colors, textures, and organic material content. The drawing shows a midden (an organically enriched soil layer with lots of artifacts from intensive garbage accumulation), features, and the strata (layers) that have developed through time on the site with repeated flooding. The drawing also shows artifact locations and the locations of ^{14}C samples. After studying the drawing, answer the questions below.



Questions:

1. Is artifact B older than artifact D, younger, or about the same age? Explain your answer.
2. Is artifact B older or younger than 200 B.C.?
3. Please provide a date range for the discard of artifact C.
4. Which is older: artifact E or G?
5. Can artifact F best be dated with ^{14}C sample 2, 3, or 4?
6. Which is the oldest artifact?
7. Was there more frequent flooding from 8000–2000 B.C., or from 2000–200 B.C.?
8. Would an archaeologist want to obtain a ^{14}C date from the plowzone? Explain your answer.

TEACHING TOOLS: GEORGIA PREHISTORIC ARCHAEOLOGY

TEACHER RESOURCE KIT

Unit Two: Archaeological Methods

Lesson 15

Protecting The Past

OBJECTIVES	
1. Students will be able to recognize the importance of protecting our archaeological heritage. 2. Students will create posters to educate their community about protecting the past.	
QUALITY CORE CURRICULUM	
Depending on what educators choose to emphasize, this lesson can be used to address the following Subjects, Strands, Core Skills, and Topics, as well as others not specifically referenced for this grade level:	
SUBJECT/STRAND:	CORE SKILL/TOPIC:
Social Studies/Georgia Studies	6. American Indians
Social Studies/Georgia Studies	68. Civic Participation
Fine Arts/Visual Arts	1. Artistic Skills and Knowledge: Creating, Performing, Producing

MATERIALS:

Reproducible Student Handout #15 “Protecting the Past;” poster board, markers, crayons, paint, etc.

BACKGROUND:

Archaeologists often say that archaeological sites are a non-renewable resource. What they mean is that once one is destroyed, there is no way to get another one back that is just like it. And sites are not interchangeable. You cannot necessarily learn the same thing from one site that you would learn from another. Each archaeological site represents a unique set of human behaviors that occurred in a unique location for a specific period of time.

So, what happens when a site is destroyed before archaeologists are able to learn anything from it? It is as if you take a history book and start ripping pages out at random. The story becomes more incomplete and incomprehensible with every page that is removed. There are many different ways that sites are damaged or destroyed. However, archaeologists and other citizens have taken measures to protect archaeological sites, ensuring that information is protected, and that we continue to have tangible reminders of our past.

One of the ways that archaeological sites are damaged is through looting. Greedy and/or ignorant people dig in archaeological sites, sometimes to collect artifacts for themselves, but more often to obtain objects to sell. Their digging not only removes artifacts from the site, but they also destroy the contextual integrity of the archaeological deposits. They erase evidence of features like pits, house floors, and even human burials. Looters often seek areas with Native American burials because they want to find the valuables that were interred with the deceased. Looters also take artifacts from underwater sites, like shipwrecks, and sites that were formerly on dry land before a river channel changed its course or the sea level rose. Selling artifacts is an especially pernicious problem, because it stimulates a market for artifacts, encouraging others to loot sites. Fortunately, states like Georgia now have laws making it a crime to knowingly disturb human remains. It is also against the law to loot sites on state or federal land. Furthermore, in Georgia, one must notify the Department of Natural Resources, Historic Preservation Division before excavating an archaeological site to recover artifacts (as an archaeologist or a looter), even if the site is on private land and the landowner has given permission, unless the excavation is being carried out by a professional archaeologist to help someone comply with another law, called the National Historic Preservation Act.

But even with laws on the books criminalizing looting, sites continue to be looted. It is difficult to enforce these laws because it is necessary to catch the individuals in the act, and many archaeological sites are located in remote areas, out of public view. Another problem is that many people do not understand that looting is a crime, and they fail to report looters to the authorities when they learn of such activity. Because the damage from looting is irreversible, and because the penalties can be severe, it is important to spread the word about protecting sites.

Another major threat to archaeological sites is development. Most land development involves extensive grading, trenching, excavation, and other activities that obliterate evidence of archaeological sites. Practically everything around us that gets built has the potential to damage or destroy sites: housing developments, shopping centers, roads, etc. To combat the loss of important archaeological sites, a federal law was passed in 1966 called the National Historic Preservation Act. One part of this law, Section 106, dictates that whenever a project is planned on federal land, or using federal money, or even requiring a federal permit, it is necessary to take into account the effects of the proposed project on cultural resources—including historic buildings as well as archaeological sites. The way this works for archaeological resources is that the project planners must have professional archaeologists investigate the area to be impacted to determine if there are any sites present and to evaluate whether those sites are significant—the standard that is used is whether or not they are eligible for the National Register of Historic Places. If there are significant archaeological sites, the project planners have the option of redesigning the project to avoid the sites, or they can have the sites excavated to retrieve information from them before they are destroyed, thus “mitigating the adverse effects” to the sites.

The Section 106 process has been an important way sites have been protected over the last three decades. The typical types of projects that have required compliance with Section 106 of the National Historic Preservation Act have been highways (since state departments of transportation receive money from the Federal Highways Administration); residential developments, reservoirs, and other facilities that will impact wetlands (and thus need a permit from the U. S. Army Corps of Engineers); power plants, transmission lines, and pipelines (either constructed by a federal agency like the Tennessee Valley Authority or requiring a permit from the Federal Energy Regulatory Commission); and areas on military bases (federal land) that are planned for use in training

activities or any type of construction. Unfortunately, there are many types of projects that do not involve federal land, funding, or permits, and thus no archaeological investigations are required. For example, large residential development projects that do not require a wetlands permit from the U.S. Army Corps of Engineers and that do not receive money from the Department of Housing and Urban Development, do not need to comply with Section 106.

Outside of Section 106 projects, there are very few circumstances in which archaeological surveys are required. Some exceptions include counties that have enacted requirements for archaeological surveys in designated areas as a part of a rezoning application. For example, DeKalb County requires archaeological investigations in the Soapstone Ridge District, which was a center of soapstone quarrying and bowl production around 1500 B.C. Bartow County requires archaeological investigations in the Etowah Valley District, which contains a rich archaeological record spanning the prehistoric period. Cobb County require archaeological investigations in areas the might contain Civil War sites.

Historic preservation laws are important, but only in conjunction with public support for the protection of archaeological resources. Laws can be weakened through amendments or changing interpretations, or they can be eliminated completely unless the public gets involved in the political process and shows their support for historic preservation. There are on-going legislative and regulatory battles at the state and federal level that will influence the extent to which archaeological resources are protected. Public opinion on these matters will certainly play an important role in the outcome.

PREPARATION:

Students read and discuss Reproducible Student Handout #15 **“Protecting the Past.”**

ACTIVITY:

- (1) Design and create a poster that can educate your community about the importance of protecting and preserving archaeological sites and artifacts. Incorporate information and illustrations. Try to make it eye-catching as well as informative. You may want to include the phone number and address of the Historic Preservation Division (within the Georgia Department of Natural Resources), which acts as Georgia’s State Historic Preservation Office (SHPO), for people who want more information.
- (2) Find places in your school or town to put the posters so lots of people will see them.
- (3) Talk about it! Share what you have learned with schoolmates, family, and friends. You are an ambassador for preservation of our archaeological heritage.

EVALUATION:

Have a contest to judge the posters.

EXTENSION:

For more advanced students: Research the laws that protect the archaeological resources in your community, on a federal, state, and local level.

TEACHING TOOLS: GEORGIA PREHISTORIC ARCHAEOLOGY
TEACHER RESOURCE KIT

Unit Two: Archaeological Methods

Lesson 16

So You Want To Be An Archaeologist?

OBJECTIVE	
Students will correspond with and ask questions of a career archaeologist.	
QUALITY CORE CURRICULUM	
Depending on what educators choose to emphasize, this lesson can be used to address the following Subjects, Strands, Core Skills, and Topics, as well as others not specifically referenced for this grade level:	
SUBJECT/STRAND:	CORE SKILL/TOPIC:
Social Studies/Georgia Studies	66. Civic Participation

MATERIALS:

Reproducible Student Handout #16 “So You Want To Be An Archaeologist?”

PREPARATION:

Students read and discuss Reproducible Student Handout #16 “So You Want To Be An Archaeologist?”

ACTIVITY:

- (1) Teacher obtains a list of archaeologists in the state from Georgia Department of Natural Resources Historic Preservation Division (Office of the State Archaeologist, 156 Trinity Avenue SW, Suite 101, Atlanta, Georgia 30303-3600, 404-656-2840).
- (2) Students brainstorm a number of questions regarding archaeology as a career.
- (3) Students write a letter to an archaeologist chosen from the list. Make sure that the students choose archaeologists in different employment settings: private consulting, federal government agency, state government agency, and university.
- (4) Students share responses with the class.

EVALUATION:

1. Letters to archaeologists.
2. Responses from archaeologists.

EXTENSION:

1. Visit an archaeological excavation going on in your area. Learn about opportunities for volunteer participation through the Society for Georgia Archaeology (P.O. Box 693, Athens, Georgia 30603; www.georgia-archaeology.org/sga).
2. Make an appointment to visit the nearest university with an anthropology department. Get a tour of its labs and visit some classes.

TEACHING TOOLS: GEORGIA PREHISTORIC ARCHAEOLOGY
TEACHER RESOURCE KIT

Unit Three: Georgia’s Prehistoric Past

Lesson 17

Georgia’s Prehistoric Past

OBJECTIVES	
1. Students will recognize and identify the major periods of Georgia prehistory. 2. Students create an illustrated timeline and describe in detail one of Georgia’s prehistoric cultural periods.	
QUALITY CORE CURRICULUM	
Depending on what educators choose to emphasize, this lesson can be used to address the following Subjects, Strands, Core Skills, and Topics, as well as others not specifically referenced for this grade level:	
SUBJECTSTRAND:	CORE SKILL/TOPIC:
Social Studies/Georgia Studies	6. American Indians
Social Studies/Georgia Studies	41. Ethnic Groups
Social Studies/Georgia Studies	54. Information Processing
Social Studies/Georgia Studies	72. Time and Chronology
Social Studies/Georgia Studies	73. Time and Chronology
Social Studies/Georgia Studies	74. Time and Chronology
Language Arts/Writing	64–69 and/or others

VOCABULARY:

***prehistory:** the period of time for a given culture before the use of writing.*

***culture:** everything that people create, think and do as members of a society.*

***archaeological culture:** a constantly recurring group of artifacts assumed to be representative of a particular human culture.*

MATERIALS:

Reproducible Student Handout #17 “*Georgia’s Prehistoric Past*”; long paper, pens, markers, crayons etc.

BACKGROUND:

The interpretation of Georgia’s prehistory is one of increasing understanding of the cultures of past peoples. A good analogy to the process of archaeological interpretation is that of obtaining a prescription for new eye glasses. The optometrist seats the patient with eyes focused forward through a machine on a chart containing rows of letters and numbers. At first the chart is

terribly out-of-focus and completely unreadable. Various lens combinations are tried for the patient to look through and to evaluate whether the chart becomes more or less readable. Soon, the right combination of lenses is achieved so that the patient can read all of the letters and numbers on the chart with ease. With increasing age, the patient may repeat this procedure to improve vision quality. Clarity in interpretation of the archaeological record progresses similarly. Various sorts of analyses have provided a lens for viewing the past. Some have enhanced perceptions of prehistoric peoples; others have occasionally reduced clarity. The overall process, however, has been to improve our perceptions of prehistoric people in Georgia. And, like additionally needed visits to the eye doctor for new glasses, each new generation of archaeologists has offered insights to our understanding of past human behavior.

Georgia archaeologists have divided the long record of prehistoric cultural history into four major periods that are further subdivided into cultural units characterized by specific artifact forms and cultural adaptations across large portions of the state. The table in the handout depicts the major and minor archaeological cultural divisions recognized in Georgia. It is important to note that these distinctions and their assigned time periods have been defined by archaeologists, not by prehistoric peoples. The boundaries drawn between these divisions signify important changes in the record of past human behavior that archaeologists believe relate to significant cultural differences and/or changes through time. The chronology is based on dates expressed in ¹⁴C years before present (B.P.) and in the Christian system of chronology (B.C. and A.D.). It is not possible to link modern-day Native American tribal affiliations to the prehistoric cultural periods that are defined by archaeologists. This is because Native American societies were very fluid; they developed and changed over thousands of years, to the extent that the ancestors of the Cherokee, for example, were living a very different lifestyle and had a different social structure in 3000 B.C. than did their descendants in A.D. 1750. Indian groups also moved and changed quite a bit as a result of the arrival of Europeans, which brought diseases, warfare, a new economic order centered on trade (especially in deerskins), demands for land, and other pressures. Thus, it is too simplistic to say that the people living in north Georgia in 3000 B.C. were Cherokee, just as it would be to say that the people living in the modern location of Hungary in 3000 B.C. were Hungarians.

PREPARATION:

Students read and discuss Reproducible Student Handout #17 “**Georgia’s Prehistoric Past.**”

ACTIVITY:

- (1) Students create an illustrated timeline of Georgia prehistory using the information in this unit. They can include environment, resources, lifeways, and artifacts from “**Teaching Tools.**”
- (2) Each student then picks a period that interests them. In the form of a short story, the students describe being transported to that period in a time machine. What do they see and do when they get there? Encourage creativity.

EVALUATION:

Collect stories and timelines. It may be helpful to leave the timeline up while you work on the other units.

EXTENSION:

Using reference material, augment the timeline of Georgia’s prehistory to include events in other parts of the world. This activity can be an opportunity to critique the concept of “advanced” versus “primitive” societies. Topics to discuss include the following:

1. Technological and artistic innovations arise out of specific social, cultural, and environmental contexts—people in one context might have no need for innovations from another cultural context. The so-called primitive groups (in America, Africa, and Australia, for example) encountered by European explorers were not unintelligent because they did not have written language, guns, or standardized money; they simply had not developed the need or basis for these things within their own history. By the same token, members of so-called advanced societies are often handicapped in new environmental or social settings where they do not have adequate knowledge of conditions, resources, tools, or social practices to survive. For example, the Pilgrims nearly starved during their first winter in America, and would have without the help of Native Americans.
2. Elaborate art and monumental architecture usually came to societies at some social cost—the labor and resources to create such works were drawn from ordinary people for the benefit of leaders.
3. So-called advanced societies often have behaved in morally questionable ways. For example, Europeans took away Indian lands through underhanded treaties, they enslaved Africans (and some others as well), and they wreaked havoc on the natural world (the near decimation of the Plains buffalo and other species, deforestation, pollution, etc.).

TEACHING TOOLS: GEORGIA PREHISTORIC ARCHAEOLOGY

TEACHER RESOURCE KIT

Unit Three: Georgia’s Prehistoric Past

Lesson 18

The Paleoindians

OBJECTIVES	
1. Students will detail events associated with the Paleoindian period in Georgia Prehistory. 2. Students will investigate the animals hunted by Paleoindians in Georgia and write a brief research paper hypothesizing on their hunting methods.	
QUALITY CORE CURRICULUM	
Depending on what educators choose to emphasize, this lesson can be used to address the following Subjects, Strands, Core Skills, and Topics, as well as others not specifically referenced for this grade level:	
SUBJECT/STRAND:	CORESKILL/TOPIC:
Social Studies/Georgia Studies	5. Geographic Factors
Social Studies/Georgia Studies	6. American Indians
Social Studies/Georgia Studies	53. Information Processing
Social Studies/Georgia Studies	58. Information Processing
Social Studies/Georgia Studies	60. Information Processing
Language Arts/Writing	64–69 and/or others

VOCABULARY:

***projectile point:** a stone or bone tool that would have been attached to a spear, arrow or some other object that would be shot or thrown through the air.*

***fluted point:** a spear point that has had a roughly rectangular flake taken out from the base towards the tip on each face and is characteristic of the Paleoindian period.*

MATERIALS:

Reproducible Student Handout #18 “*The Paleoindians;*” library or internet resources; writing paper.

BACKGROUND:

People first arrived in the Americas about 25,000 years ago. The first groups traveled into what is now Alaska from the region currently known as Siberia. These people hunted animals inhabiting grassland habitats in areas that are now under the Bering Sea. At that time (about 20,000–25,000 years ago), however, the land between Alaska and Siberia was exposed because ocean water was locked into the continental glaciers that were created during the last Ice Age.

About 20,000 years ago, the glaciers began to melt and the ocean waters rose, flooding the bridge from Siberia to Alaska. Therefore, people could no longer move back and forth. Some groups remained in Alaska, or moved down the western coast of North America, and they became the ancestors of the Native American cultures that followed. They are not the direct ancestors of the Eskimos, however, as Eskimos are related to ocean-going cultures that arrived in the arctic a great deal later (about 3,000–4,000 years ago). Archaeologists refer to the earliest Native American settlers as “Paleoindians.”

Although most archaeologists believe that Paleoindians were living throughout North and South America by at least 15,000 years ago (13,000 B.C.), the earliest indisputable, scientifically documented human occupation in the "New World," occurred about 13,800 years ago in the South American country of Chile. Since this is so far south of Alaska, it is assumed that people were also living elsewhere in the Americas by that time. We know for sure that Paleoindians were living in all parts of the New World from Canada to the southern tip of South America by 11,500 years ago (9,500 B.C.). They are recognized by a special type of large spear point that they made to hunt the very large animals that were used for food, clothing, shelter, and tools (see Teaching Trunk specimen no. 1.1).

Paleoindians lived in a much different environment because it was the end of the Ice Age. Many of the animals they pursued were very large, and are called "mega-fauna," which literally means very big animals. There were two species of elephants that Paleoindians hunted. One type, the mammoth, lived in colder parkland and tundra environments. The other was the mastodon, which lived in the forests of warmer areas. Mastodons lived and were hunted in Georgia. Other types of mega-fauna hunted by Paleoindians in Georgia and elsewhere include very large species of bison, ground sloth, and armadillos, to name a few. These animals were truly giant. The bison were almost 7 feet high at the shoulders, and giant ground sloths were up to 12 feet high when they stood on their hind legs. Some giant armadillos weighed more than a ton! It is important to remember, however, that these early people also hunted animals that still exist today, especially the white-tailed deer. Other animals commonly hunted in Georgia that no longer live in the region include woodland caribou, wolves, panthers, and mountain lions. Paleoindians also fished and collected a wide variety of nuts, seeds, fruits, and grasses. By about 10,000 years ago, almost all of the mega-fauna had become extinct because of a changing environment; human hunting practices also played a role in the extinction process. The climate was becoming more like modern times. Plants and animals established new ecological communities as conditions stabilized, and people adapted to these new conditions by creating different types of tools and organizing their groups in different ways. Archaeologists call this next era the Archaic period.

PREPARATION:

Students read and discuss Reproducible Student Handout #18 “**The Paleoindians.**”

ACTIVITY:

Have students research selected Ice Age animals, such as mastodon, giant ground sloth, tapir, giant beaver, giant armadillo, and Ice Age bison (*Bison antiquus*), as well as other animals still found in Georgia (turtles, deer, etc.). Make sure the students collect information on the size, habits, and habitat of the animal. Students should then take that information and combine it with what they’ve learned about Paleoindian technology to hypothesize about how Paleoindian hunters would go about hunting and processing that

animal. Things to consider: would they hunt alone or in groups? Would they throw their spears or jab the animal? Would other (possibly perishable) tools or materials be needed? Would they consume the animal at the kill site or transport it elsewhere? Besides meat, what else might they use from the carcass, and for what?

EVALUATION:

Collect research papers. Discuss how scenarios differed for different animals.

EXTENSION:

Having thought about the types of things needed to hunt, butcher, and cook animals, and thinking about other things Paleoindians likely did to survive, make a list of the artifacts they would need to carry with them from one site to the next as they moved around the landscape. What did they have to have with them at all times? What could they leave at a base camp while hunting and gathering? What tools would they have made anew at each new camp?

TEACHING TOOLS: GEORGIA PREHISTORIC ARCHAEOLOGY

TEACHER RESOURCE KIT

Unit Three: Georgia’s Prehistoric Past

Lesson 19

Early and Middle Archaic People

OBJECTIVES	
1. To familiarize students with the Early and Middle Archaic period in Georgia Prehistory. 2. Students will write a list of items Archaic people may have taken with them on a hunting and gathering trip.	
QUALITY CORE CURRICULUM	
Depending on what educators choose to emphasize, this lesson can be used to address the following Subjects, Strands, Core Skills, and Topics, as well as others not specifically referenced for this grade level:	
SUBJECT/STRAND:	CORE SKILL/TOPIC:
Social Studies/Georgia Studies	2. Geographic Regions
Social Studies/Georgia Studies	6. American Indians
Social Studies/Georgia Studies	58. Information Processing
Social Studies/Georgia Studies	74. Time and Chronology

VOCABULARY:

***subsistence:** how people support—or feed—themselves, taking into account the resources they consume and the practices they employ to obtain those resources.*

MATERIALS:

Reproducible Student Handout #19 “Early and Middle Archaic People;” writing paper.

BACKGROUND:

In the Early Archaic period (ca. 8000–6000 B.C.), stone tool assemblages were similar to those of the preceding Paleoindian period, although a variety of ground stone tools first appear at this time. The presence of ground stone tools has led archaeologists to conclude that collection, processing, and consumption of plant foods was becoming more important. The Early Archaic lifeway is represented by social, settlement, and *subsistence* (diet) strategies designed to take advantage of the biotic diversity of the environment after the last Ice Age. Environmental conditions were approaching those that the first Europeans encountered in the sixteenth century. Hardwood forests and extensive swamps provided large and small game as well as a variety of plants for medicine, subsistence, clothing, and shelter. Rivers were used as travel corridors and provided fresh water, fish, and shellfish.

Given the greater number of Early Archaic sites, as compared with Paleoindian sites, it appears that population increased dramatically at that time. As a result, the social landscape became more complex. It is thought that Early Archaic societies in Georgia were organized into band-sized communities (population 25–50) whose main territory surrounded a segment of a major river (the Ocmulgee, for example). These bands are postulated to have been organized into larger “macrobands” that gathered on special occasions for community food harvesting, rituals, and socializing. The similarity in certain tool forms throughout and across drainages—projectile points, for example—and the apparent movement of raw materials over long distances support this view of Early Archaic social networks.

Early Archaic settlement patterns are not well understood, but two types of settlements have been especially noted: small, short-term “camps” and large, densely occupied areas that appear to have been base camps or congregation sites, as described above. As in the Paleoindian period, high-quality cherts were the raw material of choice for stone tools. Also, specific point types, such as Palmer-Kirk series (various corner-notched points) and bifurcate styles (points with side notches and a notch in the base, forming a stem with two “bifurcate” lobes), were widely distributed across the Southeast and the Eastern Woodlands (see Teaching Trunk specimen no. 2.1, 2.2, and 2.3). The distribution of these point types suggests that territories were large and/or that the exchange of information, ideas, and material culture took place frequently and over large distances. Nevertheless, there is more diversity of projectile point types than existed in the Paleoindian period, where the same styles were found over large parts of North America. In the Early Archaic, some regionalization had been established.

In the Middle Archaic period (ca. 6000–3000 B.C.), climax hardwood forests were established in the lowlands, and upland pine stands became mature and fairly widespread. Piedmont Middle Archaic sites have been described as small, randomly distributed occupations exhibiting very little variability in terms of the types of tools found at each site. Local raw materials (like quartz) were used almost exclusively, and the vast majority of tools were technologically expedient, meaning that they were not specifically shaped for a purpose—often unmodified flakes were simply used as convenient cutting tools. Compared to chert, quartz is difficult to work, yields a dull edge, and requires frequent resharpening. Chert was probably not used to any great extent because of limited access to or knowledge of source areas. In terms of social organization, small hunting and gathering bands of 25–50 people probably still formed the primary social and economic units. Residences were moved frequently, subsistence was generalized, and social groups were small.

By contrast, large-scale tool production and intensive occupation characterize many Middle Archaic habitations in the Coastal Plain, especially in the latter half of the period. Locally available chert was the preferred raw material for stone tool manufacture. The presence of more intensive Middle Archaic occupations on the coast is likely due to the patchy distribution of both stone and food resources in that region, causing groups to stay in certain areas for longer periods of time, as opposed to groups in the Piedmont who moved around regularly to take advantage of the relatively homogeneous distribution of resources.

Subsistence data is scarce, but it is assumed that a variety of interior plant and animal resources were exploited on both a general (e.g., white-tailed deer) and seasonal (e.g., nuts, fish, and migratory waterfowl) basis. It is probable that coastal and riverine resources—marine shellfish, freshwater shellfish, and fish, for example—were exploited to some degree, but their

economic importance is unknown due to the lack of Middle Archaic components that can be unequivocally associated with these types of remains. This lack of information can be partially attributed to coastal submergence and rising sea levels, which has inundated previously exposed coastline and any sites located there from the Middle Archaic, Early Archaic, and Paleoindian periods.

PREPARATION:

Students read and discuss Reproducible Student Handout #19 “**The Early and Middle Archaic People.**”

ACTIVITY:

- (1) Divide the class into two groups. Each group is to devise a packing list for a hunting and gathering trip by Early Archaic groups in the Piedmont and Coastal Plain. Have one group prepare a packing list for an Early Archaic group in the Piedmont, traveling from their base camp along the Oconee River in the fall to a hilltop grove of hickory trees where they will collect hickory nuts and hunt deer. Have the other group prepare a packing list for an Early Archaic coastal group traveling from their base camp on the marsh side of Jekyll Island up the Brunswick River to a hammock in the marshes where they will hunt nesting ibis, egrets, and herons in the spring.
- (2) After they make their packing lists, each group presents them to the class and explains why each item is needed. They can use their imagination and ethnographic analogy to fill in the gaps in the archaeological record. Have they left anything out? What differences exist between the two packing lists? What accounts for these differences. What items are the same?

EVALUATION:

1. Students compare and discuss lists.
2. Students hand in lists.

EXTENSION:

Divide the class into two groups. Have one group plan a modern day camping trip into the wilderness. Have the other group plan a trip for a Middle Archaic group in the Piedmont. After completion, compare the two lists. Note similarities and differences. Have students suggest reasons for similarities and differences.

TEACHING TOOLS: GEORGIA PREHISTORIC ARCHAEOLOGY

TEACHER RESOURCE KIT

Unit Three: Georgia’s Prehistoric Past

Lesson 20

Late Archaic People

OBJECTIVES	
1. To familiarize students with the Late Archaic period in Georgia Prehistory. 2. Students will write an account of a day in the life of a Late Archaic person.	
QUALITY CORE CURRICULUM	
Depending on what educators choose to emphasize, this lesson can be used to address the following Subjects, Strands, Core Skills, and Topics, as well as others not specifically referenced for this grade level:	
SUBJECT/STRAND:	CORE SKILL/TOPIC:
Social Studies/Georgia Studies	6. American Indians
Social Studies/Georgia Studies	58. Information Processing
Social Studies/Georgia Studies	74. Time and Chronology
Language Arts/Writing	64–69 and/or others

MATERIALS:

Reproducible Student Handout #20 “Late Archaic People;” writing paper; library or internet resources.

BACKGROUND:

The Late Archaic period (ca. 3000–1000 B.C.) saw a population explosion in Georgia and elsewhere in the Southeast. The number of sites dating to this period represents a dramatic increase over earlier periods. The Late Archaic also witnessed several significant changes that anticipated the cultural developments of the following Woodland period. One such development was the first appearance of pottery at some sites on the coast. Seasonal single-household occupations and special activity camps related to those occupations dotted the uplands throughout north-central and northeast Georgia, while large and intensively occupied special-purpose meeting sites (where groups that lived at various times of the year came together during specific seasons) and multi-seasonal village sites are associated with the central Savannah River basin. On the coast, dense Late Archaic shell middens suggest a relatively settled existence, where people occupied villages for large parts of the year.

In terms of subsistence, a wide variety of large and small mammals, reptiles (including sea turtle), birds, and amphibians have been recovered from Late Archaic sites. Shellfish were very

important to Late Archaic populations that inhabited and/or exploited the coast and major drainages; large shell middens have been found at many sites. The bone fishhooks recovered at these and other sites indicate that fishing was also important. A broad spectrum of plants is assumed to have been used for food, medicine, fabric, and construction. There is no conclusive evidence of horticulture in Late Archaic societies in Georgia, but it is possible that the growth of certain useful plants, such as weeds containing edible starchy seeds and possibly squash/pumpkin, was encouraged by clearing trees to let sunlight in, and not disturbing established communities of these plants.

The projectile point most commonly associated with the Late Archaic period in Georgia is called the Savannah River point. These point types are often very large (12+ cm in length is not uncommon) and exhibit a straight stem, straight base, and triangular blade. A number of other point types exist for this period, but they all are characterized by triangular blades, straight or slightly contracting stems, and straight bases (see Teaching Trunk specimen no. 2.5).

The earliest ceramics in the region were tempered with plant fiber—usually Spanish moss. The oldest radiocarbon date (approximately 2500 B.C.) for a deposit containing fiber-tempered pottery comes from a Late Archaic shell midden along the southern portion of the Savannah River in Allendale County, South Carolina. The earliest dated ceramic-bearing deposits on the Georgia coast date to approximately 2200 B.C. Most of the pottery made during this time exhibits plain surfaces. When designs are present they are usually simple and limited to a single simple-stamped, incised, or punctated motif. Vessels are simple bowls with thickened and flanged lips. Later, there is a marked increase in decorated vessels—incising, punctations, and grooving become common.

The most famous and most intensively occupied Late Archaic site yet discovered in Georgia is on Stallings Island, located in the Savannah River in Columbia County. People lived at this site for extended periods of time throughout much of the Late Archaic period. One well-known type of artifact found at Stallings Island is the bone “pin.” These objects are intricately decorated, and highly prized by artifact collectors. Unfortunately, they were “mined” at the site until recent measures were taken to prevent looters from getting to the site. The mining has devastated the site; large “potholes” and mining trenches have destroyed much of the site’s integrity.

This unfortunate circumstance notwithstanding, a great deal has been learned from professional excavations at Stallings Island. Large quantities of projectile points, drills, grooved axes, perforated soapstone slabs (probably used as boiling stones—heated in a fire then placed in liquid to warm it), and other stone, bone, and antler tools have been discovered. Plain and punctated fiber-tempered pottery, which bear the type name Stallings Island, have also been recovered.

While people in the Coastal Plain at sites like Stallings Island were making fiber-tempered pottery, people in the Piedmont were making vessels out of soapstone. The largest source area for this material is on the southeast side of Atlanta, and is called Soapstone Ridge. Soapstone vessels were time-consuming to make, as it was necessary to chip away preforms off of outcrops and boulders and then chisel, scrape, and polish finished bowls. Only one soapstone bowl has been found at Stallings Island or anywhere in the vicinity, despite the existence of several nearby sources of soapstone that were used to obtain raw material for perforated slabs, gorgets (ornaments), and bannerstones, which were weights used on atlatls (dart throwers).

The end of the Archaic period and advent of the Woodland era is an arbitrary demarcation created by archaeologists. The Woodland period is generally defined by the widespread adoption of an improved ceramic technology around 1000 B.C.

PREPARATION:

Students read and discuss Reproducible Student Handout #20 “**The Late Archaic People.**”

ACTIVITY:

Each student is to write a brief story, recounting a day in the life of a Late Archaic person. Each story should include information about what that person does throughout the day—what tools they use, what they eat, where they go, etc. This should be appropriate to the location and time of year that they choose. The stories should also discuss what their shelter and surroundings might look like, what their other family members are doing, etc. Use your imagination!

EVALUATION:

Collect stories. Discuss how the Late Archaic lifestyle differs from that of the Early and Middle Archaic.

EXTENSION:

Have students conduct research (in the library or on the internet) on archaeology in a different part of the world (Central America, Africa, Middle East, Europe, or Southeast Asia, for example) in the time period (ca. 3000–1000 B.C.) of the Late Archaic in Georgia. What similarities and differences existed in subsistence, architecture, social organization, and tool technologies, as compared to the Late Archaic in Georgia?

TEACHING TOOLS: GEORGIA PREHISTORIC ARCHAEOLOGY

TEACHER RESOURCE KIT

Unit Three: Georgia’s Prehistoric Past

Lesson 21

Early and Middle Woodland People

OBJECTIVES	
1. To familiarize students with the Early and Middle Woodland periods in Georgia Prehistory. 2. Students will write an essay considering reasons for different pottery styles in different parts of the state.	
QUALITY CORE CURRICULUM	
Depending on what educators choose to emphasize, this lesson can be used to address the following Subjects, Strands, Core Skills, and Topics, as well as others not specifically referenced for this grade level:	
SUBJECT/STRAND:	CORE SKILL/TOPIC:
Social Studies/Georgia Studies	6. American Indians
Social Studies/Georgia Studies	58. Information Processing
Social Studies/Georgia Studies	63. Problem Solving
Social Studies/Georgia Studies	74. Time and Chronology
Language Arts/Writing	64–69 and/or others

MATERIALS:

Reproducible Student Handout #21 “Early and Middle Woodland People;” writing paper; internet.

BACKGROUND:

The Woodland period is defined by the widespread adoption of an improved ceramic technology around 1000 B.C. Like the preceding Archaic, it is divided into three subperiods—Early, Middle, and Late—based upon major demarcations in general social patterns.

The improvement in ceramic technology that became widely available by 1000 B.C. in the Southeast greatly expanded food storage and preparation capabilities, allowing people to collect and process more nuts and seeds and to store some for use in the winter and spring when few resources were available. Thus, people continued to spend greater lengths of time in base camps, as opposed to short-term hunting or collection camps. During the Early and Middle Woodland periods, people continued to live as hunter-fisher-gatherers; cultigens are rare in Georgia

archaeological sites from these periods, but are occasionally present, suggesting that horticulture played a minor role in subsistence alongside hunting and gathering.

The nature of Woodland peoples' society and belief system are more accessible to modern researchers than those of earlier peoples because they involved activities, architecture, and artifacts that are more visible in the archaeological record and have more overt symbolic content. For example, large mounds associated with burials, ceremonial settings, and the residences of important personages first appear by around A.D. 1. Also, large quantities of ceremonial and prestige goods manufactured from material like stone and unsmelted metal were deposited in and around these mounds beginning at approximately this time. The Woodland period also witnessed intensified participation in long-distance exchange of exotic materials such as copper, mica, obsidian, and marine shell.

Ceramics became more refined and regionally distinct, particularly with respect to temper, paste, and surface decoration. Woodland cultures in the interior of northern Georgia are often discussed and categorized by reference to established ceramic typologies and related developments. Diagnostic projectile point styles attributable to Woodland developments north of the Fall Line in Georgia include small-stemmed specimens, large and small triangular types, and miscellaneous notched specimens.

Early Woodland (ca. 1000–300 B.C.) occupations are thought to reflect a more or less unchanged continuation of Late Archaic lifeways, except for the widespread adoption of a much improved ceramic technology. Different pottery-making traditions emerged in the Piedmont and Coastal Plain. Dunlap Fabric Impressed pottery, which is associated most closely with the Early Woodland in the Piedmont, is tempered with sand or crushed quartz, and the vessel exteriors usually are decorated entirely with impressions of fabric or basketry. The most common vessel form is a large jar with a cone-shaped base. Toward the end of the Early Woodland period, another ceramic type, Cartersville Check Stamped, was manufactured and used in the Piedmont along with the earlier Dunlap Fabric Impressed wares. Cartersville Check Stamped, as the name implies, is characterized by a checked design stamped on the exterior of the vessels with a wooden paddle. Vessel types include large jars and, for the first time, smaller bowls. Cartersville Simple Stamped ceramics began to be produced at about the same time as check-stamped vessels, using paddles carved with parallel lines. Simple stamped ceramics are usually a minority ware at Early Woodland sites in the Piedmont.

The grit-tempered ceramics made on the coast are referred to as the Refuge series, and their predominant vessel form is a bowl with a rounded base. Deep, straight-sided jars were also produced but in lesser numbers. The Refuge phase has been divided into subphases based on changes through time in surface designs. Refuge I dates to ca. 1100–1000 B.C. and is defined by ceramics decorated with punctated and incised designs. Dentate stamping appears approximately 1000–900 B.C., and is defined as Refuge II. Refuge III (ca. 900–400 B.C.) is defined by the manufacture of check-stamped wares. Plain and simple-stamped pottery was made throughout all three subphases.

A diagnostic projectile point type that first appeared in the Early Woodland is the triangular hafted biface (see Teaching Trunk specimen no. 3.2). This tool form, called Yadkin, is larger than later triangular arrow points, and they sometimes have incurving bases. Small, stemmed points were also produced during this time. Lithics occur in low frequencies at Early Woodland

sites on the coast, which may indicate that the lithic sources in the interior were not easily accessible. Another reason lithics are not abundant at these sites, may be the ready accessibility of shell. Shell and bone tools are commonly found at these sites.

Soapstone, a popular raw material in the Late Archaic period, was reduced to a very minor constituent of the overall Early Woodland artifact assemblage. It was used to make utilitarian items such as line weights, gorgets, and works of decorative or ritualistic art.

Early Woodland villages in the Piedmont were built primarily in the floodplains of large to medium-sized rivers. Archaeologically, they occur as isolated entities or in concentrations along river stretches. Hunting, fishing, seasonal foraging (especially in the fall), and lithic reduction were conducted in the uplands, on natural river levees, and at river shoals. Burial mounds, a hallmark of Middle and Late Woodland mortuary practices, appear to be lacking in the Early Woodland. A variety of nuts, especially acorns, were a major dietary staple during the Early Woodland in north Georgia. Nut processing and roasting pits are much more common in the Early Woodland than at any other time in prehistory. Beyond the collection of nuts, Early Woodland subsistence involved a broad spectrum of resources acquired by hunting, fishing, and gathering.

On the Coastal Plain, there was a social transformation at the end of the Late Archaic that resulted in population decentralization. Small groups disengaged from their larger communities, and created dispersed year-round settlements. They settled the uplands near the Fall Line (the geological interface of the Piedmont and Coastal Plain), the lower Coastal Plain interior, and the coast. Upland and interior sites tend to be on well-drained ridges, while coastal sites are often situated near marshes in riverine and estuarine settings. The upland and interior sites are usually small and lack evidence of long-term occupation. The coastal sites usually contain large middens and appear to represent more settled villages. This pattern suggests that coastal and lower coastal plain sites functioned as permanent or semipermanent villages, while interior sites perhaps served as single-household seasonal base camps.

Subsistence for Early Woodland groups on the coast was generalized, and the resource base was very similar to that of the Late Archaic period, except that shellfish appears to have become a less important part of the diet. White-tailed deer, bear, a variety of small mammal species, reptiles, freshwater fish, marine fish, anadromous fish, and mollusks have been recovered from these sites. The decreased emphasis on shellfish may be due to more limited availability because of sea level fluctuations at that time. It also is possible that the larger shell midden sites are currently inundated, as sea level has risen about 3 meters since the early Woodland period.

In the Middle Woodland period (ca. 300 B.C.–A.D. 500), horticulture is thought to have assumed an increasing role in subsistence practices; marsh elder and maygrass cultivation apparently began during this time. Maize and squash may have been added to the diet of some Middle Woodland peoples as well, but it has not yet been found in an archaeological context that did not have the possibility of contamination with later materials. Whenever it was first introduced, maize did not assume importance until the Late Woodland and Mississippian periods. Despite these initial forays into horticulture, subsistence almost certainly still depended largely on broad-spectrum hunting, fishing, and gathering.

Sometime around A.D. 200 and A.D. 450, the Hopewell Interaction Sphere extended into extreme western Georgia. Hopewell was a phenomenon in the Midwest and Southeast that included

trade in such exotic raw materials as marine shell, shark teeth, copper, mica, and galena, as well as artifacts manufactured from these and other materials. Those artifacts probably functioned as prestige items belonging to individuals of status, and included necklaces, ear ornaments, musical panpipes, platform pipes for smoking, small, carefully-made blades, and projectile points. Earthen and stone-mantled mounds incorporating human burials that contain these prestige goods are common at Hopewell centers, including Mandeville and Tunacunnhee in Georgia. This form of preferential treatment in mortuary ritual is a reliable indicator of status, which was probably achieved rather than inherited in Hopewellian societies. Given the differential access to prestige goods seen in Middle Woodland burials, extraregional trade and social interaction may have been directed by a only few individuals in a specific locality or territory, anticipating the more complex political developments and social inequalities that developed during the Late Woodland and Mississippian period.

The two Hopewell mound centers in Georgia, Tunacunnhee in extreme northwestern Georgia, and Mandeville in southwestern Georgia along the lower Chattahoochee River, contain burial mounds and an associated village or habitation area. The Leake Mounds, along the Etowah River in Bartow County, do not appear to be associated with Hopewell given the lack of Hopewell ceremonial goods, but radiocarbon dates obtained from the mound indicate it is contemporaneous with Tunacunnhee.

Little was known about non-mound Middle Woodland burials in the Georgia Piedmont until the recent work at the Hickory Log site in Cherokee County. The large cemetery at that site contained single and multiple interments. Burials were both flexed and extended, and both primary and secondary interments appear to have occurred—meaning the dead were sometimes buried right away, and other times were reburied after being initially placed in some other type of (above-ground) mortuary chamber. Some burials contained substantial amounts of grave goods; others contained none. Grave goods included cut mica, greenstone gorgets, and stemmed projectile points made from Ridge and Valley chert and quartz. Some of the projectile points were quite large and appear to be ceremonial rather than utilitarian. The presence of cut mica notwithstanding, there does not appear to be significant Hopewellian influence on the burial practices at Hickory Log.

Middle Woodland structures have been identified at several village sites in Georgia. They were generally round or oval with individually-set posts. No internal features have been found inside these structures, which are approximately 5–8 meters in diameter. However, pits for storage or garbage are often found in the nearby vicinity.

There is no clear typology for Middle Woodland projectile points in northern Georgia. Many of the same types used in the Early Woodland continued to be used in the Middle Woodland period. The same holds for ceramic types: many of the same types from the Early Woodland period continued to be made, but in different proportions. For example, Cartersville Check Stamped ceramics became more common at the Middle Woodland sites in northern Georgia. In south Georgia and on the coast, a new ceramic type appeared in the Middle Woodland called Swift Creek, featuring intricate complicated stamped surface designs and other decorative elements. Both ceramic types are very widespread, and their geographical distributions overlap considerably.

PREPARATION:

Students read and discuss Reproducible Student Handout #21 “**Early and Middle Woodland People.**”

ACTIVITY:

Each student is to write a short essay presenting their answer(s)—including explanation and justification—to the following question:

“Why did people in north Georgia make pots that looked different (in shape and decoration) from pots made by people in south Georgia and on the coast in the Early and Middle Woodland periods?”

They will need to use analogy in formulating their ideas.

EVALUATION:

Collect essays. Discuss ideas that students come up with—for example, different functions for vessels (different foods or styles of cooking), different groups of people have different styles to set them apart, the groups did not interact much and thus didn’t share ideas, etc.

EXTENSION:

Using the internet as a research tool, each student chooses a Hopewell prestige object, and prepares a brief report describing the artifact, what it is made of, and where it was found (generally). The report should conclude with a consideration of how the artifact likely was made, how it was used, and what meaning it might have had.

TEACHING TOOLS: GEORGIA PREHISTORIC ARCHAEOLOGY

TEACHER RESOURCE KIT

Unit Three: Georgia’s Prehistoric Past

Lesson 22

Late Woodland People

OBJECTIVES	
1. To familiarize students with the Early and Middle Woodland periods in Georgia Prehistory. 2. Students decide on a strategy to deal with increased threat of warfare.	
QUALITY CORE CURRICULUM	
Depending on what educators choose to emphasize, this lesson can be used to address the following Subjects, Strands, Core Skills, and Topics, as well as others not specifically referenced for this grade level:	
SUBJECT/STRAND:	CORE SKILL/TOPIC:
Social Studies/Georgia Studies	6. American Indians
Social Studies/Georgia Studies	58. Information Processing
Social Studies/Georgia Studies	62. Problem Solving
Social Studies/Georgia Studies	74. Time and Chronology
Language Arts/Writing	64–69 and/or others

MATERIALS:

Reproducible Student Handout #22 “Late Woodland People;” writing paper.

BACKGROUND:

In the Late Woodland period (ca. A.D. 500–1000), the importance of the Hopewellian mound centers throughout the Midwest and Southeast declined, and long-distance, large-scale trade networks dissolved into more localized spheres of interaction. The most important technological innovation of the period was the introduction of the bow and arrow, and thus the appearance of very small triangular arrow points (<1–3 cm in length) in the archaeological record around A.D. 600. The same kind of arrow points were made through the time that Europeans arrived. While the bow and arrow was a useful tool that probably made hunting a lot easier, it also gave people an easier way to attack enemies from a distance and raid their villages. Most Late Woodland settlements are small, dispersed, and less integrated than those in the Middle Woodland period, perhaps as people sought safety away from easily targeted villages. It is also possible that the social order of the Middle Woodland period, with leaders holding disproportionate power over ordinary people, collapsed as people rejected leadership they felt was heavy-handed or ineffective. Because Middle Woodland leaders’ power seemed to be derived from or connected to their

involvement in long-distance trade and the acquisition of prestige goods, if that trade network was disrupted, local leaders may no longer have been able to justify their positions within their communities. Since status in Middle Woodland societies appears to have been achieved, the death of key charismatic leaders with no appropriate successors could have disrupted—or even devastated—the exchange sphere.

Whereas many parts of Georgia (especially south Georgia and the coast) in the Late Woodland period contained small, dispersed settlements, very different types of settlements have been found in other areas—both perhaps a response to an increased threat of warfare. Small mound complexes and fortified towns have been found in north-central Georgia with ditches and defensive palisades. A large mound site (Kolomoki) is also found near Blakely in southwest Georgia. In these areas, populations were becoming more centralized, and although towns are easily targeted, a ditch and defensive palisade makes it difficult for attackers to enter. Building more protected towns appears to be a response to a threat, either real or perceived, of aggression, especially during the later stages of the Late Woodland period.

In north Georgia, Late Woodland subsistence practices continued to focus on broad-spectrum hunting, fishing, and gathering, but horticulture was practiced as well. Although cultigens such as squash and corn were being grown in the region by this time, they were not a significant source of sustenance. It was not until late in the period (ca. A.D. 700–900) that maize horticulture began to play a significant role in the region. In north Georgia, maize does not appear to have been economically important until sometime after A.D. 1000.

Ceramics are generally used for identifying Late Woodland components in the region. In north Georgia, they consist of different styles of complicated stamped vessels (decorated with a carved wooden paddle), although plain and incised vessels can be found in some areas. In middle Georgia and elsewhere, plain or simple-stamped (using paddles with parallel lines carved) vessels can be found. On the coast, ceramics associated with the Late Woodland period include vessels with plain, cord marked, brushed, burnished (polished), and net marked surfaces.

In general, lithic tools are uncommon in Late Woodland assemblages on the coast. Shell and bone were used in a variety of ways, however. For example, whelk was an especially important raw material; it was used to manufacture awls, picks, chisels, adzes, abraders, toggles, and ornaments.

PREPARATION:

Students read and discuss Reproducible Student Handout #22 “**Late Woodland People.**”

ACTIVITY:

Divide the students into two groups, each representing Late Woodland people living in north Georgia, versus somewhere near the coast. Present the following scenario to each group: they begin hearing rumors of a neighboring group making threats, and ultimately attacking another neighbor, shooting many residents of a small village with arrows, stealing valuables such as shell beads and bear skin blankets, and desecrating the charnel house where the dead are kept for a time to be honored and prepared for burial.

Each group must decide if they should continue to live in a village or if they should move away into dispersed hamlets. They must weigh the pros and cons and draw up a

justification for their decision, explaining what changes they might make to settlement location, site layout, architecture, daily activities, things that they will keep around to use (food, weapons, other tools?), etc., in view of the new threat. They must explain, for example, how they will tend their crops, go hunting, etc.—what will they do differently and why? Will they retaliate? Does the geography of each setting influence their decision—for example, would it be easier to find small dispersed farming hamlets along rivers in north Georgia, as opposed to hamlets on hammocks or terraces in the Coastal Plain?

EVALUATION:

Each group presents their decision, plan, and justification to the class. Did the groups come to the same decision? How did each group weigh different considerations?

EXTENSION:

Each student writes an essay exploring the following topic: why didn't Indians in Georgia completely embrace farming as a way of life as soon as the concept was developed? Issues to consider/research:

1. Would the early cultigens—squash and starchy seed plants—provide enough calories and nutrients to become staples, and could they support a group throughout the year (could they be stored)? What about corn, which was introduced later?
2. Does farming take less effort than gathering wild foods?
3. Are people generally open to changes in their lifestyle or resistant to change?
4. Did the first variety of corn introduced to the Southeast grow well in the region or was it suited to another region?
5. Is it better to rely on just a few resources and put a lot of effort into them (and potentially get high yields), or is it better to hedge your bets and rely on a broad spectrum of foods, in case one or two particular crops fail that year?

TEACHING TOOLS: GEORGIA PREHISTORIC ARCHAEOLOGY

TEACHER RESOURCE KIT

Unit Three: Georgia’s Prehistoric Past

Lesson 23

Mississippian People

OBJECTIVES	
1. To familiarize students with the Mississippian period in Georgia Prehistory. 2. Students research an artifact, write a report, and create a poster.	
QUALITY CORE CURRICULUM	
Depending on what educators choose to emphasize, this lesson can be used to address the following Subjects, Strands, Core Skills, and Topics, as well as others not specifically referenced for this grade level:	
SUBJECT/STRAND:	CORE SKILL/TOPIC:
Social Studies/Georgia Studies	6. American Indians
Social Studies/Georgia Studies	63. Problem Solving
Social Studies/Georgia Studies	74. Time and Chronology
Fine Arts/Visual Arts	19. Historical and Cultural Context
Language Arts/Writing	64–69 and/or others

MATERIALS:

Reproducible Student Handout #23 “Mississippian People;” writing paper; **“Teaching Tools.”**

BACKGROUND:

The Mississippian period (ca. A.D. 1000–1540) marks the appearance of chiefdom-level societies in the southeastern United States. Society was stratified; a ruling class with inherited status exercised considerable power over the general population, having people build large mounds, palisades, and other public architecture, having them provide foodstuffs (and in some cases durable goods) to the leaders, and having them fight for them in conquering neighboring groups or defending their territory. A typical chiefdom consisted of a fairly large civic-ceremonial center along a major river, surrounded by smaller villages and scattered farmsteads along the same drainage or the nearby area. At the largest Mississippian sites in Georgia, population is estimated around several hundred people; elsewhere in the Southeast even larger towns with several thousand inhabitants existed. Earthen platform mounds were constructed in the civic-ceremonial center, and chiefs and priests lived in buildings on top. Some mounds had large public buildings on them, that appear to have been used in ceremonies and other public events. The mounds were accretional, meaning that new layers were added at different times (and new structures built on top), probably

coinciding with succession of a new chief after the death of the previous one. Some mounds were used as burial places for important members of society. Chiefs enhanced their power by acquiring valuable goods, and redistributing some to members of their chiefdom to create social debts. They also increased their power by conquering neighbors, adding them to their chiefdom, and demanding tribute (akin to taxes) from them. Because of this dynamic, territoriality increased and warfare became more prevalent. A great deal of artwork from the Mississippian period contains violent imagery, reflecting the value leaders placed on being militarily successful, brave, and feared.

Because leadership status was inherited, chiefs devoted considerable effort to the veneration of ancestors, through the construction of shrines, the production of statues (like ones at Etowah) meant to represent ancestors, and likely through public ceremonies that connected current leaders to respected past leaders, and perhaps even to mythical figures important in the group's sense of origin and identity. It has been argued that many Mississippian leaders, early in the period, rose to power and transformed the nature of society by linking themselves to supernatural beings. Claiming descent from divine ancestors would justify the power and privileges claimed by the leader, and the need to pass leadership through the same family to continue the connection to the supernatural progenitor. In the 1500s, kinship in southeastern groups was matrilineal, which meant that the successor of a chief was not the chief's son—it was the chief's sister's son. This kinship system also meant that in certain circumstances, chiefs were sometimes women, as was observed in some chiefdoms by Spanish explorers.

A wide variety of exquisitely crafted objects of materials from across eastern North America were exchanged throughout the Southeast and Midwest in the Mississippian period. Examples include marine shell beads, engraved gorgets (ornaments worn on the chest), and engraved cups; cut and embossed copper ornaments (for headdresses) and beads; ceremonial groundstone celts, paint palettes, pipes, and figurines; and a wide range of other goods. One can only speculate and draw inferences from later Spanish accounts about the kinds of artwork and everyday objects not preserved in archaeological sites from the Mississippian period.

The economy of Mississippian chiefdoms was based to a much greater extent on horticulture than in previous periods. Maize became a staple, and other crops were cultivated as well (squash, starchy seeds, sunflowers, and late in the period—beans). However, people continued to collect wild plants, especially nuts (hickory and acorns, predominantly), fruit like persimmons, grapes, passion flower fruit, blackberries, and so forth, and various seeds. They also hunted, fished, and collected shellfish. Because most people were living in permanent (year-round) communities along major drainages, aquatic resources were a large focus of hunting and gathering. Because maize was a very productive crop after it was bred to deal with the southeastern growing season, people could produce surpluses—some of which was taken by chiefs for their own use and to redistribute in community feasts, and some of which was stored to be used throughout the year and as insurance against famine.

People lived in square or rectangular houses with slightly depressed floors and wattle-and-daub walls and thatched roofs. Wattle and daub is a construction technique in which support posts are set into the ground, smaller wooden sticks are woven between them, and mud is plastered over this framework to form a solid wall. The mud, or daub, hardens, preserving the impressions of the sticks and posts it was plastered over. This material can be found in archaeological sites where houses were once located. It is not always preserved, however. Some Mississippian houses have been found in archaeological sites that burned down, preserving timbers, sections of roofing, and

sometimes even the things that were on the floor of the house. Such finds have provided information about how these houses were built. Most often, however, archaeologists find only the stains from the posts that were set in ground for the walls and roof supports, or in some cases, they find the outlines of trenches that the posts for each wall were set in. Other structures occasionally found in Mississippian sites are small circular structures containing hearths that were likely sweat lodges—used in purification rituals just as they were in the later historic period.

Houses were often arranged around central plazas or small courtyard areas. People conducted some activities inside the house, and some outside the house, as features are found both inside and outside. Some household areas had cabana-style partial shelters, which may have been used for cooking (outside the house) during the summer. Hearths located inside houses were probably only used during the cooler parts of the year. Post patterns scattered amongst the houses likely were used for above-ground storage facilities (corn cribs), frames for working hides, weaving cloth, drying meat, etc. Other features often found include storage pits (often reused as garbage pits), and burial pits, as it was the practice among many Indians in Georgia to bury the dead under their house floors.

Ceramics from Mississippian sites north and south of the Fall Line differed throughout the period. North of the Fall Line, ceramics were grit- or sand-tempered and featured complicated stamped designs, red filming (colored clay slip), burnishing (polishing), and plain surfaces. South of the Fall Line, ceramics were grog or grit tempered and had cord-marked, check-stamped, complicated-stamped, or plain surfaces. The same kinds of small triangular arrow points were made throughout the state (and beyond), however.

PREPARATION:

Students read and discuss Reproducible Student Handout #23 “**Mississippian People.**”

ACTIVITY:

Using the internet as a research tool, each student is to select one Mississippian artifact displaying a motif associated with the Southeastern Ceremonial Complex. In a short report, the student should describe the artifact, what it is made of, how it was made, where it was found, and then present interpretations of the symbolism and how the artifact was used. Students should also prepare a poster-type display of the artifact and key information about it.

EVALUATION:

Collect reports and posters. Have students vote on the best poster.

EXTENSION:

Take a field trip to a Mississippian archaeological site that is open to the public, such as Etowah (in Bartow County), Ocmulgee (in Bibb County), or Roods Creek Mounds (in Stewart County).