

## **Travelling Program: Midlands Archaeology**

### **Lesson Description:**

Archeologists have proven that Native Americans settled the Midlands long before European contact, and date some artifacts back 12,000 years. According to their findings, the area that is now known as Cayce was once a major crossroads for Native American trade. During the first part of the activity, students will be introduced to the field of archaeology, and the scientific method that archaeologists use to study the artifacts of past cultures and societies through “trash can” archaeology.

Using the Cayce Historical Museum’s collection of Native American artifacts as reference, students will also learn about the different historic periods of Native American settlement in South Carolina, and the cultural history of the various South Carolina tribes that once settled the Midlands. Our travelling collection will illustrate to students how archaeologists are able to use artifacts to piece together images of the past, and will allow students a deeper understanding of the individual cultures and histories of the varying South Carolina tribes.

During the final part of the activity, students will be able to handle and identify pottery sherds and projectile points from the Museum’s collection of Native American artifacts. Students will learn how to identify the artifacts, and try to identify the ones handed out to them. During this activity students will learn about the cultural characteristics present in pottery sherds and projectile points, and develop a deeper understand of archaeology as a discipline, the scientific method, and cultural characteristics of Southeastern tribes.

### **Lesson Objectives:**

Students will be able to:

- Understand what archaeology is and how artifacts help us understand the past.
- Understand the concepts of the systemic archaeological approach and the scientific method.
- Understand the importance of an artifact’s historical context and location.
- Explain the difference between observation and inference.
- Explain the difference between a primary and secondary source
- Understand the cultural characteristics of Southeastern and Midland tribes.

### **Vocabulary**

Archaeology, Archaic, Artifact, Paleo, Chiefdom, Confederation, Exploratory, Historic, Inference, Mississippian, Observation, Primary Source, Scientific Method, Sherd, Secondary Source, Stratigraphy, Surface Treatment, Woodland

### **Teachers Need to Provide**

- Pencils
- 3-4 Trashcans (allow for a few days buildup of trash)
- Projector and projection screen

### **Museum Will Provide**

- Activity work sheets
- Artifacts
- Gloves
- Wipes & Paper Towels

## Lesson Progression

- **Part 1: Introduce Archaeology**

Museum staff will use a PowerPoint presentation to introduce the field of Archaeology, explaining what archaeologists do, the tools and processes they use to study the past – including the **scientific method**. Students will also learn the difference between an **observation** and an **inference**, a **primary source** and **secondary source**.

- **Part 2: Trash Can Archaeology**

Before the activity starts, teachers will mark the outside of the trashcans so the students will be able to see the “layers” they will be excavating. The teacher will also divide students into 3-4 groups. As students are preparing for the activity, staff will introduce the term **stratigraphy** – the study of soil layers. As students excavate their trash cans, they will write their findings, observations and inferences about the artifacts they’re excavating. Discuss these findings, and their thoughts, once they’re finished (*see Discussion Topics for Critical Thinking*).

- **Part 3: Historical Context**

Museum staff will further explain the term **stratigraphy** and how important historic context is to archaeologists using illustrations in the PowerPoint presentation. Staff will then introduce the different periods of Native American settlement in the Southeast, and explain how those periods of settlement are represented through the soil and artifacts. Staff will also explain the different cultural characteristics present in the periods of settlement, and how artifacts can also reflect these cultural characteristics.

- **Part 4: Artifact Identification Activity**

Students will remain in the groups they were divided into during the Trash Can Archaeology activity, and museum staff will pass out a collection of **pottery sherds** and **projectile points** to the groups. Staff will show students a timeline of the periods of Native American settlement, and identification guides for the pottery sherds and projectile points on the PowerPoint presentation. Using the PowerPoint for reference, staff will further explain how the physical characteristics provide clues about early Native American cultures, and help archaeologists to date and identify the artifacts. The students will then work together identify their artifacts using the scientific method, and explain their reasoning on a worksheet. Discuss the students’ finding and their thoughts once they’re finished (*see Discussion Topics for Critical Thinking*). This activity will encourage critical thinking, reinforce the importance of historical context, and help students learn about early Southeastern tribes.

## Discussion Topics for Critical Thinking

1. What conclusions can the students draw from the excavations?
2. Is the information different or the same form each trash can? Does this indicate anything about the location of the trash cans when they were being filled?
3. How accurate do the students think their interpretation is, given the amount and type of information they recovered?
4. How would the results of your study be different if we had mixed each group’s artifacts into one big pile? How would that have changed how you organized your artifacts and what kinds of inferences you made?
5. Why is it important to keep artifacts in each level together? What would happen if an archaeologist was not careful and combined the artifacts from different layers together?
6. What can we tell about the artifacts by their texture, color, size, etc.?

### South Carolina Science Standards Covered

**Standard 1.S.1:** The student will use the science and engineering practices, including the processes and skills of scientific inquiry, to develop understandings of science content.

**Standard 1.E.4:** The student will demonstrate an understanding of the properties and uses of Earth's natural resources.

**Standard 3.S.1:** The student will use the science and engineering practices, including processes and skills of scientific inquiry, to develop understandings of science content.

**Standard 3.E.4:** The student will demonstrate an understanding of the composition of Earth and the processes that shape features of Earth's surface.

**Standard 8.S.1:** The student will use the science and engineering practices, including the processes and skills of scientific inquiry, to develop understandings of science content.

**Standard 8.E.6:** The student will demonstrate an understanding of Earth's geologic history and its diversity of life over time.

### Indicators

**1.S.1A.1** – Ask and answer questions about the natural world using explorations, observations, or structured investigations.

**1.S.1A.2/ 3.S.1A.2/ 8.S.1A.2** – Develop and use models to (1) understand or represent phenomena, processes, and relationships, (2) test devices or solutions, or (3) communicate ideas to others.

**1.S.1A.3/ 3.S.1A.3** – With teacher guidance, conduct structured investigations to answer scientific questions, test predictions and develop explanations: (1) predict possible outcomes, (2) identify materials and follow procedures, (3), use appropriate tools or instruments to collect qualitative and quantitative data, and (4) record and represent data in an appropriate form. Use appropriate safety procedures.

**1.A1A.4/ 3.S.1A.4** – Analyze and interpret data from observations, measurements, or investigations to understand patterns and meanings.

**1.A1A.5** – Use mathematical and computational thinking to (1) recognize and express quantitative observations, (2) results of scientific investigations, or (3) data communicated in graphs, tables, or diagrams.

**1.A1A.6** – Construct explanations of phenomena using (1) student-generated observations and measurements, (2) results of scientific investigations, or (3) data communicated in graphs, tables, or diagrams.

**1.A1A.7/ 3.S.1A.7/ 8.S.1A.7** – Construct scientific arguments to support claims or explanations using evidence from observations or data collected.

**1.3.4A.1** – Analyze and interpret data from observations and measurements to compare the properties of Earth materials (including rocks, soils, sand, and water).

**1.3.4B.1** – Obtain and communicate information to summarize how natural resources are used in different ways (such as soil and water to grow plants; rocks to make roads, walls, or buildings, or sand to make glass).

**3.S.1A.1** – Ask questions that can be (1) answered using scientific investigations or (2) used to refine models, explanations, or designs.

**3.S.1A.5** – Use mathematical and computational thinking to (1) express quantitative observations using appropriate English or metric units, (2) collect and analyze data, or (3) understand patterns, trends and relationships.

**3.S.1A.6** – Construct explanations of phenomena using (1) scientific evidence and models, (2) conclusions from scientific investigations, (3) predictions based on observations and measurements, or (4) data communicated in graphs, tables, or diagrams.

**3.E.4A.1** – Analyze and interpret data from observations and measurements to describe and compare different Earth materials (including rocks, minerals, and soil) and classify each type of material based on its distinct physical properties.

**3.E.4A.3** – Obtain and communicate information to exemplify how humans obtain, use, and protect renewable and nonrenewable Earth resources.

**8.S.1A.1** – Ask questions to (1) generate hypotheses for scientific investigations, (2) refine models, explanations, or designs, or (3) extend the results of investigations or challenge claims.

**8.S.1A.3** – Plan and conduct controlled scientific investigations to answer questions, test hypotheses, and develop explanations: (1) formulate scientific questions and testable hypotheses, (2) identify materials, procedures, and variables, (3) select and use appropriate tools or instruments to collect qualitative and quantitative data, and (4) record and represent data in an appropriate form. Use appropriate safety procedures.

**8.S.1A.4** – Analyze and interpret data from informational texts, observations, measurements, or investigations using a range of methods (such as tabulation, graphing, or statistical analysis) to (1) reveal patterns and construct meaning or (2) support hypotheses, explanations, claims, or designs.

**8.S.1A.5** – Use mathematical and computational thinking to (1) use and manipulate appropriate metric units, (2) collect and analyze data, (3) express relationships between variables for models and investigations, or (4) use grade-level appropriate statistics to analyze data.

**8.S.1A.6** – Construct explanations of phenomena using (1) primary or secondary scientific evidence and models, (2) conclusions from scientific investigations, (3) predictions based on observations and measurements, or (4) data communicated in graphs, tables, or diagrams.

**8.E.6A.1** – Develop and use models to organize Earth’s history (including era, period, and epoch) according to geologic time scale using evidence from rock layers.

**8.E.6A.2** – Analyze and interpret data from index fossil records and the ordering of rock layers to infer the relative age of rock and fossils

**8.E.6A.4** – Construct and analyze scientific arguments to support claims that different types of fossils provide evidence of (1) diversity of life that has been present on Earth, (2) relationships between past and existing life forms, and (3) environmental changes that have occurred during Earth’s history.

### **South Carolina Social Studies Standards Covered**

**Standard 2-1:** The student will demonstrate an understanding of the local community as well as the fact that geography influences not only the development of communities but also the interactions between people and the environment.

**2-1.2** – Recognize characteristics of the local region, including its geographic features and natural resources.

**2-1.4** – Summarize changes that have occurred in the local community over time, including changes in the use of land and in the way people earn their living.

**Standard 3-2:** The student will demonstrate an understanding of the exploration and settlement of South Carolina.

**3-2.1** – Compare the **culture**, governance, and physical environment of the major Native American tribal groups of South Carolina, including the Cherokee, Catawba and Yamasee.

**3-2.2** – Summarize the motives, activities, and accomplishments of the exploration of South Carolina by the Spanish, French and English.

**3-2.3** – Describe the initial contact, cooperation, and conflict between the Native Americans and European settlers in South Carolina.

**Standard 4-1:** The student will demonstrate an understanding of political, economic and geographic reason for the exploration of the New World.

**4-1.1** – Summarize the spread of Native American populations using the Landbridge Theory.

**4-1.2** – Compare the everyday life, physical environment, and **culture** of the major Native American cultural groupings, including the Eastern Woodlands, the Plains, the Southwest, the Great Basin, and the Pacific Northwest.

**Standard 8-1:** The student will demonstrate and understanding of the settlement of South Carolina and the United States by Native Americans, Europeans, and Africans.

**8-1.1** – Summarize the collective and individual aspects of the Native American **culture** of the Eastern Woodlands tribal group, including the Catawba, Cherokee, and Yemasee

**8-1.2** – Compare the motives, activities, and accomplishments of the exploration of South Carolina and North America by the Spanish, French, and English.

## Trash Can Archaeology Worksheet

1. What did you find in each **Layer**? List the artifacts, your observations and inferences.

	<b>Artifact</b>	<b>Observations</b>	<b>Inferences</b>
<b>Layer 1</b>			
<b>Layer 2</b>			
<b>Layer 3</b>			

2. What differences do you see between the three layers?

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3. After studying the artifacts that “survived”, what do you think archaeologists would conclude about your culture?

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4. Would they find enough evidence to determine this trashcan came from a school?

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5. What do you think archaeologists would conclude about your hobbies, lifestyle, and families?

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### Artifact Identification Worksheet

List what **type** of artifacts you were given (i.e. potsherd or projectile point), a brief **description** of the artifact, **identify** what type of pot sherd or projectile point you think it is (*see identification guide for more info.*), and the **historic period** this artifact was found in (*see timeline for periods of settlement for more information*).

	Object Type	Description	Identification	Historic Period
<b>Artifact 1</b>				
<b>Artifact 2</b>				
<b>Artifact 3</b>				

1. What additional information or evidence would help you to identify the artifact?

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2. Did you come to any false conclusions about your artifacts? Do you think archaeologists could come to any false conclusions about the past? Why or why not?

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