Archaeology Under the Live Oaks:

A 4th Grade Multidisciplinary Curriculum

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1. A Brief Word to Educators...

Introduction

Welcome to the fascinating world of archaeology! We invite you to use archaeology and this curriculum as a hook to teach your students a broad range of multi-disciplinary concepts and state-mandated curriculum standards. Teachers are encouraged to use portions of it that best fit their needs. Most activities can stand alone, although when used in tandem they form an integrated whole. While this material has been prepared for 4th grade level abilities, some activities can be adapted to other age/ability ranges. It is hoped that teachers will use and adapt these lessons in a manner that will most benefit their work and that the activities will engage students in learning through the excitement of archaeology.

Rationale and Goals of Curriculum

Many archaeological concepts involve critical thinking, analysis and interpretation, and information processing skills. This curriculum provides a variety of ways to teach and hone these skills, in addition to specific 4th grade performance standards. The curriculum was designed to use interesting information from an actual archaeological site to whet students' appetites to learn about a variety of subjects and to practice an assortment of skills. The goal of this curriculum is two-fold; to provide educators and students with a useful and exciting way to teach and learn mandated concepts, and to introduce students and teachers to the value of archaeological sites, research, and preservation.

Curriculum Standards Addressed

These materials are designed as a tool for educators to teach specific required Georgia education standards. Currently, those include the Georgia Performance Standards (GPS) for Social Studies and Science, and the Common Core Georgia Performance Standards (CCGPS) for Math and English/Language Arts. The Teacher's Page for each activity lists which GPS and/or CCGPS are addressed. While the names and lexicon of the performance standards change on a regular basis, this curriculum will continue to offer basic educational concepts and analytical and comprehension skills required in our fast-changing world.

Relationship Between Archaeology, Curriculum Standards, and Learning

This curriculum incorporates historical research and archaeological discoveries at the Abercorn Archaeology Site (9CH1205) near Savannah, Georgia. The archaeological investigation of this site used science, history, reading, language arts, mathematics, art, deductive and inductive reasoning, logic, and research skills. Coincidentally, these are many of the skills required of students by educators, as well as skills required to function well in society. Thus, there is a natural relationship between archaeology and learning.

Benefits of Teaching Curriculum Standards Using an Archaeology Focus

Teachers and students benefit from using this curriculum because it offers an exciting way to teach and learn mandated concepts and higher-order thinking skills. Society benefits because students are introduced to the value archaeological resources have in the study and understanding of our past, and the importance of site preservation.

Learning Styles Addressed/Universal Design for Learning and Evaluation

An archaeological curriculum provides an excellent tool for addressing multiple intelligences as identified and expanded on by Howard Gardner (*Intelligence Reframed: Multiple Intelligence for the 21st Century*). Attempts were made to integrate activities that would address a variety of learning styles, including visual (spatial), aural (auditory-musical), verbal (linguistic), physical (kinesthetic), logical (mathematical), social (interpersonal), and solitary (intrapersonal). Many of the activities in the archaeology curriculum scaffold and use the Revised

Bloom's Taxonomy beginning with remembering, and progressing to understanding, applying, analyzing, evaluating, and creating. The curriculum also has endeavored to consider Universal Design for Learning in its activities, providing options for Multiple Means of Representation, Action and Expression, and Engagement. Evaluating what learning is taking place is always an important part of the educational process. For this reason, the appendix of the curriculum includes three templates teachers can use for any or all of the activities. These consist of a Venn Diagram, KWL template, and a general rubric that can be modified by teachers to be used with any of the activities.

Sponsors

This curriculum was funded by the Georgia Department of Transportation and the Federal Highway Administration through a contract with Atkins and New South Associates, Stone Mountain, Georgia. The final phase of archaeological investigation at this site was conducted by New South Associates. An overview of that work is included on the following page. This curriculum was designed by Rita Folse Elliott, Public Archaeologist, New South Associates.

Acknowledgements

The author thanks the following for providing useful comments and feedback: Ms. Diane Morris, Certified Early Childhood Educator and Certified Special Educator; Ms. Pamela Baughman, Archaeologist, Georgia Department of Transportation; Ms. Karen Jenkins, Savannah Tree Foundation; and Mr. Joe Joseph, Director of Administration and Project Principal Investigator, New South Associates;. Thanks also to Mr. Bradford Botwick, New South Associates Field Director for the Abercorn Archaeology Site project, who provided information about project results and interpretations and to the archaeologists and lab staff who contributed to those results.

2. An Overview of the Abercorn Archaeology Site (9CH1205)

The Site

The site was located in Chatham County, Georgia, outside the city of Savannah. This was the location of a village which was home for African Americans enslaved on one, or possibly two plantations from the 1820s through the American Civil War. These men, women, and children created and participated in the Gullah-Geechee culture, which was a blend of elements from African traditions and the local coastal environment. The plantations passed through various owners over time. The last plantation owner was William Miller, who was an attorney in Savannah and owned 1,000 acres by the 1850s. The property surrounding the site saw skirmishes and brief Union troop occupation during the Civil War. Following the war, freed African Americans lived in the village. Residents occupied the area until the early 20th century. Later the site was timbered, cultivated, and used as pasture.

Why Was This Site Studied By Archaeologists?

The Georgia Department of Transportation (GDOT) and the Federal Highway Administration (FHWA) determined that improvements were necessary at the intersection of State Route 204 (Abercorn Extension) and King George Boulevard. The pending construction for improvements to this intersection was the catalyst for the archaeological excavations, since the National Historic Preservation Act requires archaeological investigations before projects which use federal money or require federal permits are approved. GDOT and FHWA sponsored these excavations and the associated public outreach to recover and share information from this site.

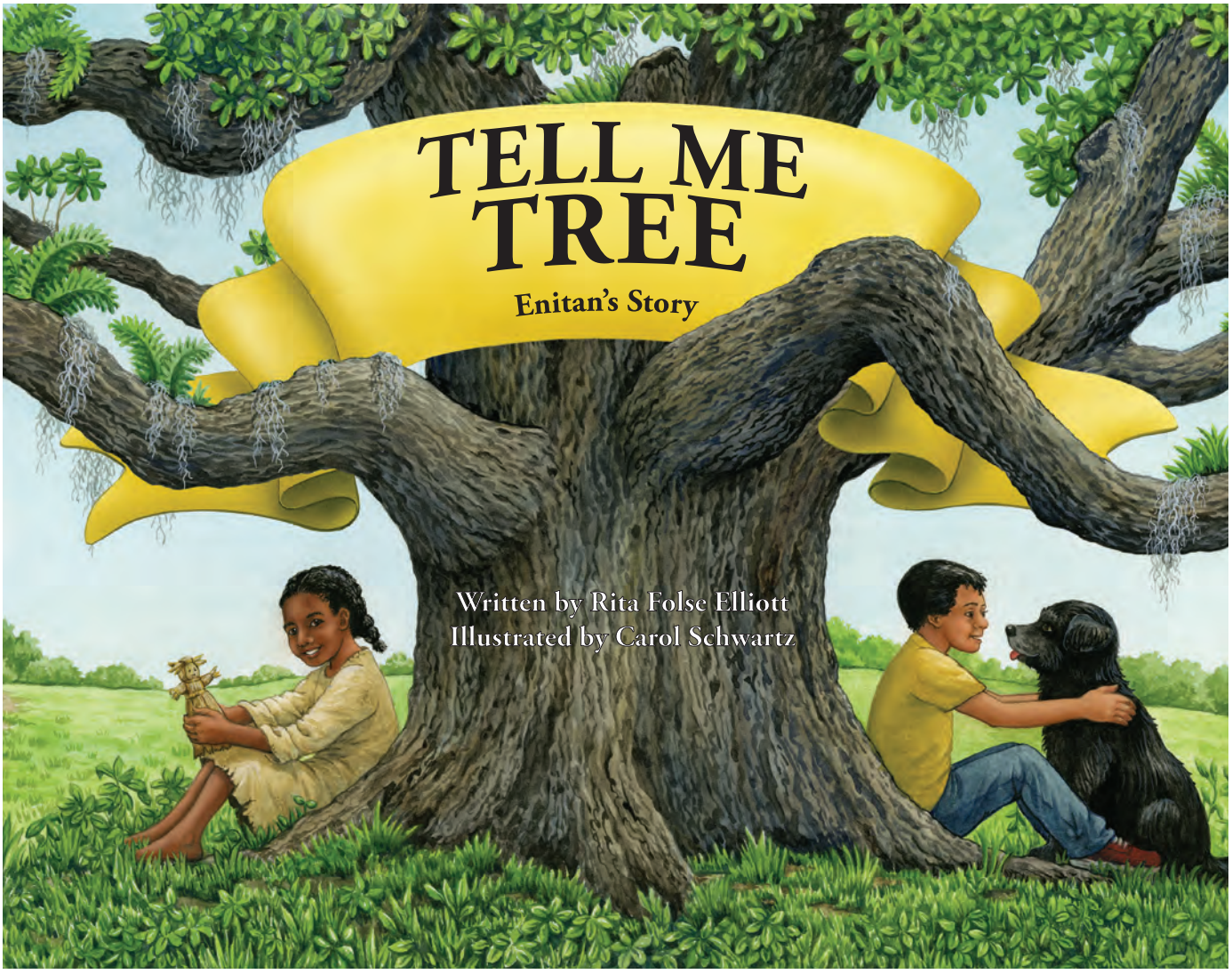
The Archaeology

GDOT hired a company to conduct an archaeological survey of the property that would be disturbed by construction. The archaeologists found several sites, including the Abercorn Archaeology Site. Initial excavations determined that this site could provide important information about the past and was eligible for listing on the National Register of Historic Places. GDOT then hired New South Associates, of Stone Mountain, Georgia to conduct large-scale remote sensing work, archaeological excavations, and public outreach. This work was done to document the site and extract as much information as possible before construction began.

The Results

Archaeologists discovered aspects of Gullah-Geechee culture. They uncovered evidence of seven houses in the village. Clues in the soil revealed that the architecture of one structure was typical of houses in Africa. Posts, root cellars, and chimney remains indicate that a local, regional style of architecture was used in construction of the later houses. Food storage pits and trash pits contained animal and plant remains from people's diets as well as the environment around the village. These "features" also contained broken dishes, buttons, bottle glass and other items that tell about every day activities in and around the village. Archaeologists found some evidence of Civil War activity, including military buttons and bullets. They determined that even though the site was forested during the excavation, the entire area had been plowed as agricultural fields. The excavation photographs, notes, artifacts, and report are curated at the University of West Georgia, where they can be studied now or any time in the future. Live oak trees on the site ranging from 200 to 400 years old have been protected by GDOT and placed on the Georgia Historic Tree Registry. Public outreach has included site tours and the creation of social media, a children's book, and this curriculum.

3. Activities



Tell Me Tree

"Tell Me Tree" is an illustrated historical fiction book about the Abercorn Archaeology Site. It tells two stories back-to-back. One is the story of Enitan, an African American girl living in a plantation village in Georgia in the mid-19th century. The other story describes Vicenté, the son of an archaeologist who works with archaeologists in the early 21st century and learns... (spoiler alert) about Enitan. The 400 year old live oak tree is in both stories and is alive today.

Objectives:
Students will learn:
- about 19th century African American (Gullah-Geechee) culture in the coastal south.
- about the American Civil War.
- about the science of archaeology.

Materials: 1 *Tell Me Tree* book. 1 "Tell Me Tree" Worksheet per student.

4th Grade Georgia Performance Standards & Common Core Georgia Performance Standards:
Social Studies Skills Matrices 1, 2, 4, 5, 8
Information Processing Skills 1, 2, 5, 11

ELACC4RL1; ELACC4RL2; ELACC4RL6; ELACC4RL3; ELACC4RL6; ELACC4RI1; ELACC4RI2; ELACC4RI3; ELACC4RF3; ELACC4RF4a, c

PROCEDURE

After a classroom discussion of 1-3 below, students will read both parts of "Tell Me Tree", either individually, in small groups, or as a class (as determined most appropriate by the teacher).
Students will then complete the "Tell Me Tree" Worksheet, followed by another class discussion based on their worksheet answers.

1. Discuss historical fiction with students.

2. Discuss background information about the Civil War, plantations, and slavery to help students understand the historical context of Enitan's story. Talk about how Africans enslaved in America came from many different countries in Africa. They brought their own customs with them and integrated these with new customs. The Gullah-Geechee culture in coastal South Carolina and Georgia is an examples of such a "creole culture".

3. Discuss how archaeology is a science that uses excavation to learn about human behavior.

After students read the book:

4. Have students share their thoughts about Questions 3 and 5 on their worksheets.

5. List on the board important details about the themes and events of the stories.

6. Brainstorm with students about what the stories had in common and what new information each story contributed to their overall understanding of what happened.

7. Review the map and the answers to questions 6-11. Allow them to offer answers to question 11 and then discuss the topic.

WORKSHEET ANSWERS

1. What is the name of the tree and where did the name come from? *The giant tree "Quercus" is named after the scientific name for a live oak tree, Quercus virginiana. (Georgia's state tree is the live oak.)*

2. What does Nita think of the giant tree, the village, and her life there? *She prizes the tree, confides in it, trusts her treasures to it, and seeks out its comfort and shelter. Nita likes the village, in part because of its community of friends and neighbors. While she likes the village community, she wants herself and the other villagers to be free.*

3. When asked, describe Nita to the class. Use details from the book to tell the main idea and

WORKSHEET ANSWERS (Continued from page 5)

theme of her story. How did historical events affect Nita's life? *Nita is a smart, brave, thoughtful girl. She likes nature and history. She is considerate and works hard. The main idea and themes are that Nita faces many challenges in her life. She learns skills from others and combines this knowledge with her own fortitude and preserverance to become a remarkable person. All the while she lives and grows, she is leaving traces of her life in the archaeological and historical record. Many historical events affected Nita, including her presence on the coast where she learned the Gullah-Geechee culture, laws allowing slavery, the Civil War, and the establishment of schools for freed slaves.*

4. What does Vicenté think of the giant tree, the village, and life there? *Vicenté thinks the big live oak tree is incredibly neat and that it has character and knows things about the past. Vicenté wants to learn more about the village that once occupied the land and about the people, especially the children, in the village.*

5. When asked, describe Vicenté to the class. Use details from the book to tell the main idea and theme of his story. Tell how science (archaeology) affects Vicente's life. *Vicenté is smart, enjoys learning and making discoveries, is very persistent, and likes nature. Vicenté works on an archaeological site under the supervision of his mother who is an archaeologist and the Field Director. He learns to work better and harder in order to contribute to discoveries the archaeologists make. Soon, he has made his own archaeological discovery about the village and Enitan, who lived in it. Vicenté is surrounded by science. His mother is an archaeologist and he "hangs out" with young adult archaeology friends. Vicenté understands that the science of archaeology can help him discover amazing information about the past, if one records and interprets the clues and data.*

6. Look at the map of the United States. North is up on the map. Find Chicago, where LaTasha lived and Savannah, Georgia where Enitan lived. In what state is Chicago located? *Illinois*

7. What direction is Chicago from Savannah? *Northwest*

8. How many miles apart are they, using the map's scale? *800 miles*

9. How many kilometers apart are they? *1,287.48 km*

10. On the map, what is similar and what is different between the geography of Chicago and Savannah? *Some similarities: both are urban areas and both are adjacent to large bodies of water. Some differences: Chicago is in the north; Savannah is in the south. African Americans left Savannah in large numbers and went north to Chicago and other places.*

11. LaTasha's great, great, great, grandmother Enitan lived in Georgia in the 1860s. How do you think LaTasha and her mother ended up in Chicago? Study the map. (Write on the back of the page if necessary.) *Many African Americans began migrating to northern cities in the late 19th and early 20th centuries. This was in response to tighter restrictions on their freedom from Jim Crow laws and threats to their safety. Northern cities also offered industrial jobs, especially during World War I. It is likely that LaTasha's ancestors on her Grandma Enitan's side of the family moved to Chicago sometime between 1900 and 1930.*

Tell Me Tree Name: _____

"Tell Me Tree" is an illustrated historical fiction book based on the Abercorn Archaeology Site. It tells two stories back-to-back. One is the story of Enitan, or Nita, an African American girl living in a plantation village in Georgia in the mid-19th century. The other story describes Vicenté, the son of an archaeologist who works with the crew in the early 21st century excavating the site. The giant live oak tree was part of both stories, and continues to live today.

Read or listen to the "Tell Me Tree" story to complete this activity sheet. You may have to do research to find some of the answers! Use another sheet of paper if you need more room to answer.

1. What is the name of the tree and where did the name come from?_____

_____

2. What does Nita think of the giant tree, the village, and her life there?_____

_____

_____

3. When asked, describe Nita to the class. Use details from the book to tell the main idea and theme of her story. How did historical events affect Nita's life?

4. What does Vicenté think of the the giant tree, the village, and life there?_____

_____

_____

5.When asked, describe Vicenté to the class. Use details from the book to tell the main idea and theme of his story. Tell how science (archaeology) affects Vicente's life.

(Continued on next page)

Name: _____

AFRICAN AMERICAN MIGRATION NORTHWARD, 1910–1920

The massive migration of African Americans from the South to the North during World War I changed the dynamics of race relations in the United States.

6. Look at the map of the United States. North is up on the map. Find Chicago, where LaTasha lived and Savannah, Georgia where Enitan lived. In what state is Chicago located?

_____

7. What direction is Chicago from Savannah?_____

8. How many miles apart are they, using the map's scale? _____

9. How many kilometers apart are they? _____

10. On the map, what is similar and what is different between the geography of Chicago and Savannah? ____

_____

_____

11. LaTasha's great, great, great, grandmother Enitan lived in Georgia in the 1860s. How do you think LaTasha and her mother ended up in Chicago? Study the map. (Write on the back of the page if necessary.)

_____

"Histree"

Students will practice research, writing, creative thinking, and information processing skills to learn about 18th and 19th century life for a variety of people in America. They will incorporate facts from the tree time line on the "Histree" Worksheet and information from their own research.

Objectives:
Students will learn:
- about colonial life in America.
- 19th century life in America.
- basic researching skills.
- to practice identifying fact from opinion.
- to write informational and creative tracts.

Materials: *Tell Me Tree* book (students will have already read this story). Per student: "Histree" Worksheet, 3-5 sheets of ruled/lined paper for research notes and worksheet stories, 1-2 sheets blank paper for drawing pictures.

4th Grade Georgia Performance Standards & Common Core Georgia Performance Standards
Information Processing Skills 1, 2, 4, 5, 7, 8, 11, 13m

SS4H3b; SS4H6b; SS4E1f; ELACC4RI9; ELACC4W2b, d; ELACC4W3; ELACC4W4; ELACC4W7; ELACC4W8; ELACC4SL1; ELACC4SL4; ELACC4SL5; ELACC4L1a, b, c, d, e, f, h; ELACC4L2; ELACC4L3a, b; ELACC4L4

PROCEDURE
Students will have read the "Tell Me Tree" book. They will examine the Tree Time Line on the "Histree" Worksheet and then follow the steps below. Inform students that each ring in a tree's trunk represents one year's growth. According to the dates on the worksheet tree, this non-oak tree sprouted in 1850 and was cut down between 1886 and 1887. The time line ties historical events to the various years of the tree's life.

1. Brainstorm with students things they already know, or think they know about the 19th century. Consider technology, fashion, science, medicine, and social norms. Make a list on the right side of the board of correct concepts. Label it "19th Century (1801-1900)".

2. Next, do the same for the 18th century. Tell students you want to go further back in time to a period 100 years earlier. Label the left side of the board "18th Century (1701-1800)" and list correct concepts as the students brainstorm.

3. Brainstorm with students things they want to learn more about for each period of history. Write this on the board and have them make their own list on paper during the discussion.

4. Allow students to use reference books, library books and computers (as accessible) to learn about and write down information concerning the topics on their lists. Remind them to note their sources including author, title of text, date, publisher and/or website name, address, web page author and date.

5. Have students complete the worksheet activities during one or more class periods.

6. Encourage students to share their text and pictures with the class through presentations and follow-up questions and discussion.

"Histree" Time Line

Name:_____

Research in reference books and on the internet terms above to learn what they mean. Find out about the Civil War and when it ended. When were railroads and telegraphs invented? Now go back 100 years in time and research colonial Georgia (1733-1781). Who were indentured servants? What crafts were made and sold? Where were American Indians? When was the American Revolution? Remember to list your sources. Use your new information with facts from the tree time line above to complete the following.

1. Imagine you are a journalist in 1862. On a separate piece of paper write in cursive a story for the newspaper based on a fictitious (pretend) interview you have with Aunt Ife (Enitan's aunt in the story "Tell Me Tree"). Consider things like: what did she eat and wear, what tasks did she do, what did she make, who did she see? Imagine and write her opinions about the war and other things.

2. Imagine you are William Miller. You are the wealthy owner of the 1,000 acre plantation. (That's the size of 1,000 football fields!) The plantation includes the village where Enitan lived with other enslaved African Americans. You are an attorney in Savannah, Georgia. After the Civil War the 87 African Americans who worked your plantation are free to live as they please, meaning they don't have to work for you any more. On a separate piece of paper, write in cursive a diary entry as if you were William Miller. Pick a time before, during, or after the Civil War for your entry. Consider things like: what did you eat and wear, what tasks did you do, who did you see, how did you feel? Imagine and write William's opinion about how the Civil War and his slaves being freed changed his life.

3. Choosing a character from either #1 or #2 above, imagine that it is 100 years earlier in time. Your character is living in the colonial period. Use historical facts to write a paragraph in cursive or draw a picture about how your character's life would have been different. What war was fought in America from 1776-1781? How would your character be involved? What technology would be different?

If I Was a Tree

Arborists (tree care specialists) estimate that the giant live oak at the Abercorn Archaeology Site is 400 years old. No one wanted to chop it down to prove it! Tree rings in the trunk of a tree can tell a lot about the tree. This includes how old it was and when it had good years with lots of growth. Rings also show years when a tree had challenges such as too little rain or overcrowding, and therefore grew slower. If growth rings could represent your life, what would your "cross-section" look like?

Objectives:
Students will learn:
- the characteristics of good writing.
- to creatively use and organize detailed events chronologically & examine cause and effect.
- how the environment affects tree species.

Materials: Per student: "If I Was a Tree" Worksheet, 1 sheet of blank paper, and 1 sheet of lined paper.

4th Grade Georgia Performance Standards & Common Core Georgia Performance Standards
Information Processing Skills 2, 5, 11, 16

ELACC4RL7; ELACC4R17; ELACC4W2; ELACC4W3; ELACC4L1d, f,h; ELACC4L2a, d; ELACC4L3a,b; ELACC4SL4; S4L1d

PROCEDURE
Students will answer the worksheet questions. They will use the worksheet to draw a picture of a cross-section of a tree trunk to represent their lives. Students will use their drawings to write autobiographies. Students will select one of many ways to share their stories with the class.

1. Go over the image at the top of the worksheet with students. Discuss how the number of rings reflect the tree's age (20 years old). The distance between each ring shows the tree's growth. Large spaces reflect quick growth, perhaps as a result of sufficient water, nutrients, sunlight, and space. Conversely, small spaces show slow growth, perhaps due to drought, fewer nutrients, or overcrowding from other trees.

2. Relate these concepts to the students' lives. For example, if a child was sick one year, the distance between the appropriate two rings might be smaller. If a child grew a lot one year (either physically or mentally), the distance would be greater. The year a child began kindergarten might have more space between rings than the previous year. If a child ate healthy food, then spaces would be bigger than if not.

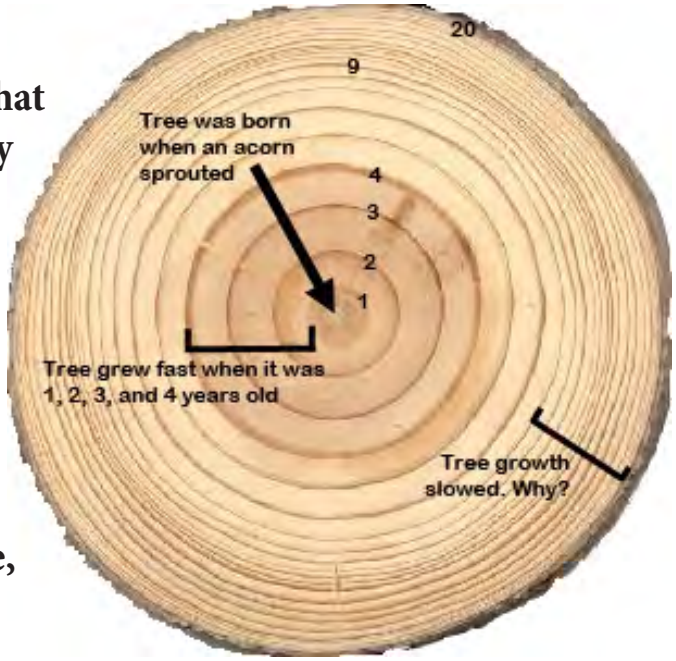
3. After students complete the worksheets, pass out the blank paper and have them draw their own cross-section, using the worksheet answers to help them determine the number of rings they need, and the relative amount of space between each ring (or year) of their life.

4. When students complete their cross-section drawings, they can use it to write a brief autobiography on lined paper. Instruct students to make connections between their drawing and their text. Go over concepts in ELACC4W2 and ELACC4W3 and brainstorm how these can be applied to their narratives. Emphasize using correct grammar and punctuation.

5. Allow students to share their stories in one or more of the following ways: tell their story to the class, read their story to the class, bring objects from home that represent each part of their story and describe how the objects represent parts of the story, illustrate their story and use the illustrations to aid their storytelling, or partner with other classmates to turn their stories into short plays with specific roles that they act out in front of the class.

If I Was a Tree Name:_____

Arborists (tree care specialists) estimate that the giant live oak at the Abercorn Archaeology Site is 400 years old. No one wanted to chop it down to prove it! Tree rings in the trunk of a tree can tell a lot about the tree. This includes how old it was and when it had good years with lots of growth. Rings also show years when a tree grew slowly, perhaps due to droughts or overcrowding. If growth rings could represesnt your life, what would your "cross-section" look like?



First, answer the questions below. Next, on a blank sheet of paper, draw a tree cross-section for yourself. Use the answers below to know how many rings to draw for yourself and how much space to put between each ring. Label each ring with the year. Then, write your autobiography on another piece of paper. Describe key events represented by your picture and your notes below. Finally, discuss with your teacher ways to present your story to the class.

1. The number of rings show age. How old is the tree above (how many rings does it have)?_____

2. How old are you (so how many rings should your picture have)? _____

3. The space between each ring shows how fast the tree grew each year. Big spaces mean the tree grew quickly. Small spaces mean the tree grew slowly. Why did the tree grow quickly during its first four years?

_____

_____

_____

4. Why do you think the tree grew slowly after it was 9 years old?

_____

_____

_____

5. Write down your ages when you grew fast physically or when your mind grew a lot. Also write down your ages when you may have been sick or when you may not have gone to school or learned a lot.

_____

How Tall is That?

The 400 year old oak tree growing at the Abercorn Archaeology Site was so important that the Georgia Department of Transportation protected it from damage during road construction. Archaeologists nominated the tree to the Georgia Urban Forest Council's "Landmark and Historic Tree Register". Uh-oh! The nomination form required the height of the tree! How do you measure the height of a really, really tall tree? Climb it? Fortunately, archaeologists discovered an easier way. They made a clinometer. You can make one too, and measure the height of tall things without climbing!

Objectives:
Students will learn:

- about angles and geometry.
- to apply geometry in a real-life application.
- the characteristics of good writing.
- to make and use a fixed clinometer.

Materials: One 25' (or longer) tape measure. Per student: "How Tall is That?" Worksheet (2 pages), 1 sheet stiff paper (construction or cardstock), 1 washer, 18" string, 1 drinking straw, celophane tape, 1 sheet blank paper, and 1 sheet lined paper.

4th Grade Georgia Performance Standards & Common Core Georgia Performance Standards:

MCC4.G.1; MCC4.G.2; MCC4.G.3; S4CS1a; S4CS3a; S4CS4b; S4CS5b

PROCEDURE
Students will use the worksheet instructions and a blank piece of paper to make a clinometer. In doing so, they will learn about angles.

1. Have the students complete 1-6 on the worksheet, either individually, in groups, or together as a class.

2. Have students take their clinometers outside to measure something tall (tree, flag pole, roof peak, etc.). Working in groups, help them complete tasks 7-10 on their worksheets. Use the tape measure to help them record their distances. (If the tape is too short, measure the distance in increments of the tape's length and total these numbers for a total distance to object.)

3. Back in the classroom, have them draw sketches like Figure 9 on their worksheet, adding their measurements. Check their work with them.

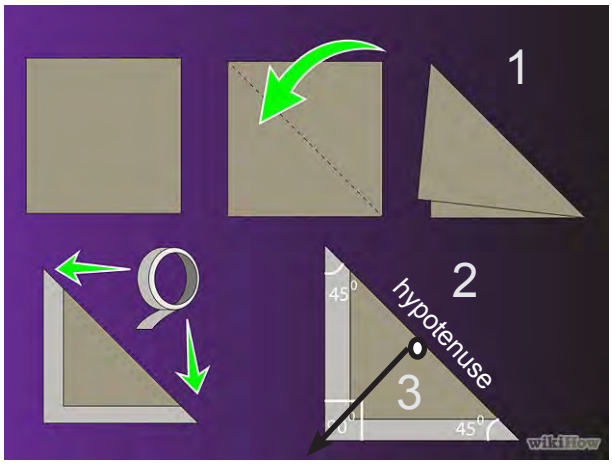
WORKSHEET ANSWERS
1. What shape is your paper now? *Triangle.* How do you know? *It has 3 straight sides and 3 angles.*
A. How many triangles do you now have? *1*
B. How would you write that as a fraction? *1/1* C. What angle measurements does the triangle have? *One 90˚ and two 45˚ angles.* D. What are names for these types of angles? *Right angle and acute angles.*
E. Look at one of your acute angles. What is the reverse angle called? *An obtuse angle.*

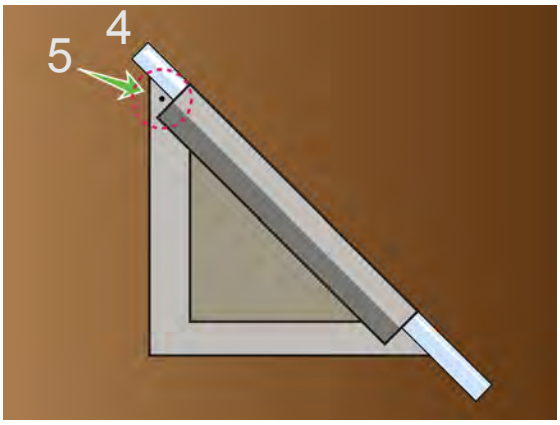
2. Is your triangle symmetrical? Could you fold it in half and have one side match the other? *Yes.*

3. While we call this a line, what is its name in geometry? *Line segment.* If it kept going beyond the dot, what would it be called? *A ray*. How many triangles are there now? *2*

How Tall Is That? Name: _____

The 400 year old oak tree growing at the Abercorn Archaeology Site was so important that the Georgia Department of Transportation protected it from damage during road construction. Archaeologists nominated the tree to the Georgia Urban Forest Council's "Landmark and Historic Tree Register". Uh-oh! The nomination form required the height of the tree! How do you measure the height of a really, really tall tree? Climb it? Fortunately, archaeologists discovered an easier way. They made a clinometer. You can make one too, and measure tall things without climbing!





Answer questions on a separate paper, if necessary.

1. Make sure your paper is square (with all four sides having equal lengths). Fold this square diagonally in half, from one corner to the diagonally opposite corner. If your paper was square to begin, then no edges will be hanging over once it is folded. Tape the two sides of your paper together along the edges. What shape is your paper now? _____

How do you know? _____

A. How many triangles do you now have? _____

B. How would you write that as a fraction? _____

C. What angle measurements does the triangle have?

_____

D. What are the names for these types of angles?

_____

E. Look at one of your acute angles. What is the reverse angle called?

_____

2. Is your triangle symmetrical? Could you fold it in half and have one side match the other?

_____

3. Draw a line to divide your triangle evenly in half. Do this by measuring the length of the hypotenuse and putting a dot at half the distance from one end to the other. Now use a ruler and draw a line running perpendicular from the hypotenuse edge where the dot is, to the triangle point across from the edge. While we call this a line, what is its name in geometry? _____If it kept going beyond the dot, what would it be called? _____How many triangles are there now? _____

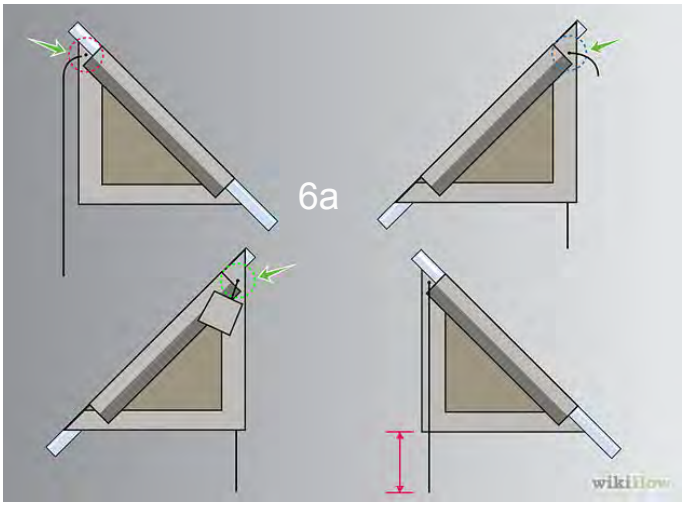
4. Tape a straight drinking straw along the edge of the hypotenuse so that it does not wiggle (make sure one end of the straw sticks out beyond the edge of the paper about ½ inch). The straw will be the sight you look through.

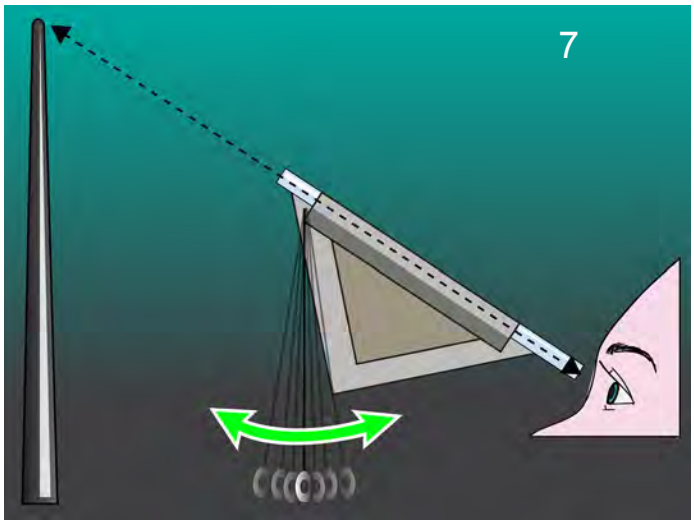
5. Punch a tiny hole near the corner where the hypotenuse meets the paper's edge, at the opposite end from where the straw sticks out and off the paper. The part with the hole is the top of the clinometer.

Name: _____

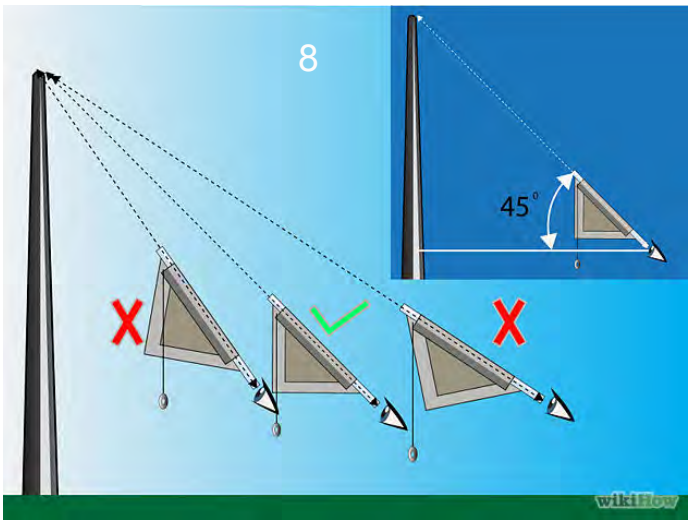
6a. Tie a string through the hole. Make it long enough to run down the 90˚ edge of the triangle and dangle below.

6b. Tie a washer to the loose end of the string. The weight will dangle a few inches below the clinometer, allowing the string to swing.



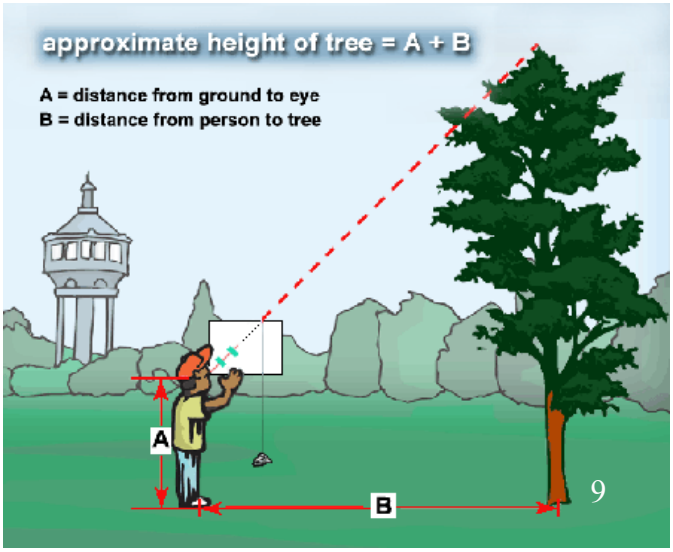


7. Now it is time to try out the clinometer! Find a tall object like a tree or building that you would like to measure. Hold the clinometer up to one eye and look through the straw to the top of the object you would like to measure. Have a friend help you for the next steps.



8. Continue to eye the top of the object and walk backward or forward until the weight on the clinometer points straight down and the string lines up with the leg of the triangle. Get your friend to tell you when the string aligns with the triangle leg. When this happens you have a 45 degree reading. It also means the angle of elevation between your eye and the top of the object is 45 degrees.

9. Use the tape measure to measure the distance from this spot to the base of the object you are measuring ("B" in Figure 9). Measure the height of your eye above ground. ("A" in Figure 9.)



10. Make a sketch like Figure 9, including your measurements for (A) and (B). The distance to the base of my object (B) is _____. My eye is _____ above the ground (A). Now add these measurements together and let your teacher check your work.

A + B= _____ This sum equals the height of your object!

Seeing Through Sand

Have you ever wondered what it would be like to have Superman's X-Ray vision? Archaeologists use tools with similar powers that see through soil! These tools help them decide where to excavate. Tools include Ground Penetrating Radar (GPR) and magnetometers. GPR uses high frequency electromagnetic waves.

PROCEDURE

Students will work individually or in groups to read the two page worksheet. They will each answer the questions on page 2 of the worksheet.

1. After students have completed Questions 1-4 on the worksheet, have class discussion about the subject and answers. Go over formulas with the class. Check answers to all the questions through classroom discussion.
2. Have students complete Question 5 individually, on a separate piece of paper.

Objectives:
Students will learn:

- about scientific tools and collection of data.
- how archaeologists use science to detemine where to dig.
- how to integrate mathematical computations and text to make interpretations.
- how to describe these interpretations to others.

Materials: Per student: "Seeing Through Sand" Worksheet (2 pages), sheet of lined paper.

4th Grade Georgia Performance Standards & Common Core Georgia Performance Standards
Map and Globe Skills 8, 10, 12
Information Processing Skills 11, 12

MCC4.OA.2; MCC4.MD.1 (partial); MCC4.MD.2 (partial); ELACC4RI1; ELACC4RI2; ELACC4RI4; ELACC4RI7; ELACC4W2; ELACC4L2; ELACC4L3a, b; ELACC4L4a, b; ELACC4L6 (partial)

WORKSHEET ANSWERS

1. What did archaeologists do in the blue boxes? *They did the GPR survey there.*

2. Use the "feet" scale to determine the size of each box in the magnetometer grid. What are the dimensions of one pink grid square? *98.4 x 98.4 ft* Using the area formula for a square (LXW=A OR $a^2 = A$), what is its area? *98.4^2 (OR 98.4 x 98.4 = 9,682.5 square ft.)* Using the perimeter formula (A + B + C + D = P), what is the perimeter's distance? *98.4+98.4+98.4+98.4=393.6 ft.*

3. Convert the dimensions, area, and perimeter distance from feet to meters (1 foot = 3.28 m) and write the answers here. *Dimensions: 30 X 30 m ; Area= 900 square m; Perimeter distance= 2951.2 m.*

4. What are these dimensions in centimeters (1 m=100 cm)? *Dimensions: 30000 X 30000 square cm; Area= 90000 cm Perimeter distance= 295120 cm*

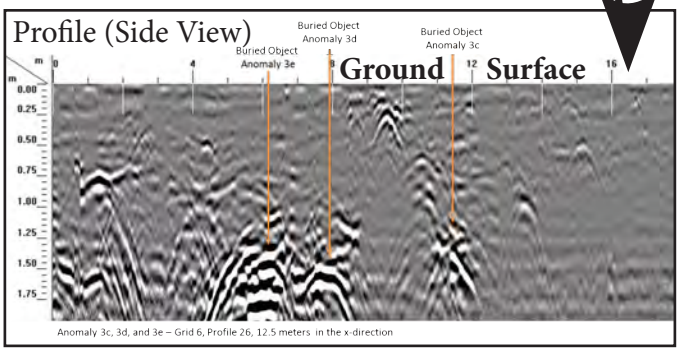
5. On a separate paper write a description of why and how archaeologists use GPR and magnetometers. Use information from both pages of the worksheet. Would you want to excavate GPR "U" signals that are just below the ground surface, or deeply buried? *Deeply buried.*Why? *Signals at or just below the ground are modern features. Ones that begin deeper are older.* Based on the magnetometer results above, where would you recommend that archaeologists should excavate? What might they find? *The numbered pink blobs would be good to excavate because they might be features such as trash pits, house foundations, cellars, etc. Pink blobs in blue squares might provide more info, if you analyzed the GPR from that blue square. That data might show other types of features. This could help target where to put your excavation hole.*

SEEING THROUGH SAND

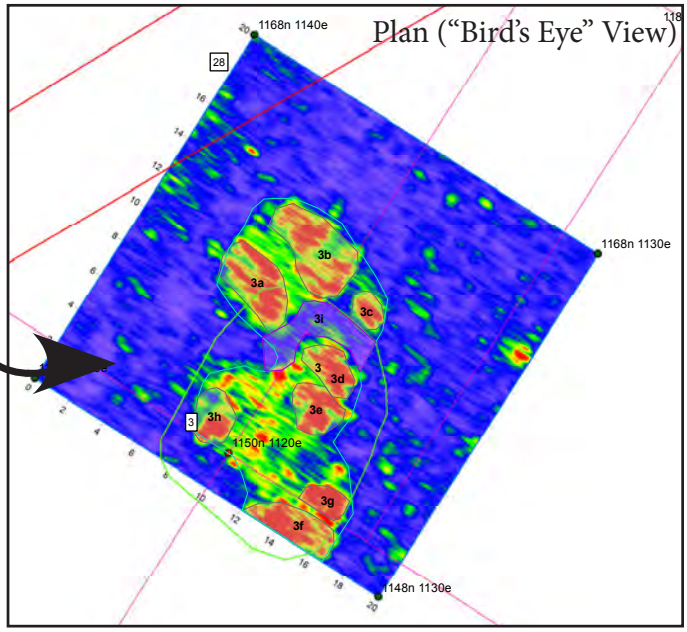
Superhero Archaeology Part I

Seeing Through Sand

Have you ever wondered what it would be like to have Superman's X-Ray vision? Archaeologists use tools with similar powers that see through soil! These tools help them decide where to excavate. Tools include Ground Penetrating Radar (GPR) and magnetometers. GPR uses high frequency electromagnetic waves.



This archaeologist pushes the cart with the GPR, sending electromagnetic beams into the ground. The beams bounce back. When radar beams hit features, like a grave or pit of artifacts, their "bounce" looks like an upside down "U" shape on the graph. The computer graph above shows a side view of radar beams after going into the ground and bouncing back.

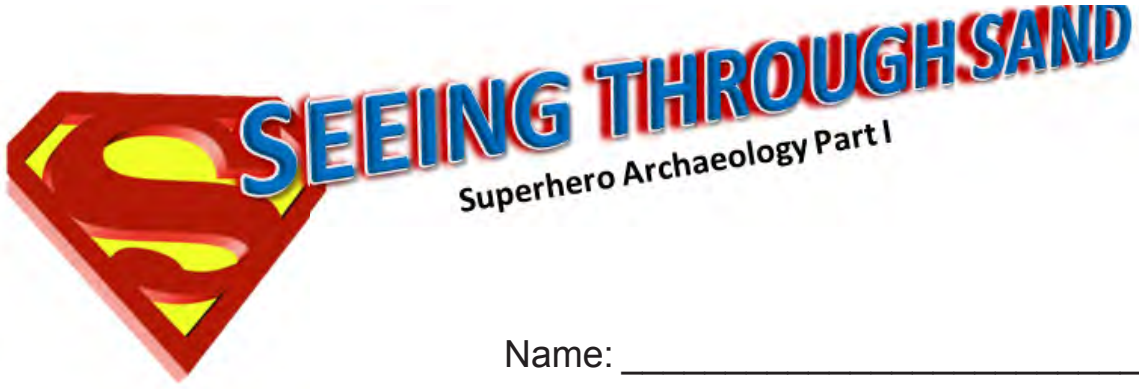


The computer map above shows what the radar beams look like from overhead, or plan view. The yellow and orange areas are features.

The archaeologist above collects data with a magnetometer. She walks along the site grid (see the white tapes on the ground) with sensors attached to a bar she holds in her hands. The magnetometer records differences in the earth's magnetic field. Once this survey is done, the archaeologist makes a computer map like the one on the separate paper to show these differences as pink areas. These areas may be features such as fireplaces, campfires, or a blacksmith shop. These are magnetically different from the regular soil.

SEEING THROUGH SAND

Superhero Archaeology Part I



Name: _____

A separate page shows the aerial map, or view of the Abercorn Archaeological Site from a satellite.

Can you see roads, apartment buildings, and even cars? Archaeologists have put their radar and magnetometer map over the satellite image to show where they worked. The bright pink checkerboard is the grid walked for the magnetometer survey. The pink shapes are places the magnetometer showed disturbances, or possible features.

1. What did archaeologists do in the blue boxes?_____

2. Use the "feet" scale to determine the size of each box in the magnetometer grid. What are the dimensions of one pink grid square?_____ Using the area formula (L x W = A), what is its area?_____Using the perimeter formula (A + B + C + D = P), what is the perimeter's distance?_____

3. Convert the dimensions, area, and perimeter distance from feet to meters (1 foot = 3.28 m) and write the answers here. Dimensions: _____X_____m ; Area=_____ m; Perimeter distance=_____m

4. What are these dimensions in centimeters (1 m=100 cm)? Dimensions: _____X_____cm ; Area=_____cm; Perimeter distance=_____cm

5. On a separate piece of paper write a description of why and how archaeologists use GPR and magnetometers. Use information from all "Seeing Through Sand" worksheets. Would you want to excavate GPR "U" signals that lie just below the ground surface, or ones deeply buried? Why? Based on the magnetometer results above, where would you recommend that archaeologists should excavate? What might they find?

Featuring Features!

The word "feature" to an archaeologist means a specific spot where someone did something that left a clue in the ground. For example, if someone dug a hole and threw trash in it, that would be a feature. If someone put a wooden post in the ground and it rotted, the stain that it left would be a feature. There are many kinds of features.

PROCEDURE

1. Students will imagine that they are archaeologists working at the Abercorn Archaeology Site and have excavated (scientifically dug and recorded) Feature 120.

2. They will study their notes and analyze the artifacts, then use these clues to help discover what the feature was, who used it, and when it was used. To do this, they will use and complete the activity sheets, using additional paper if necessary.

WORKSHEET ANSWERS

1. Why do you think all these items were in a hole in the ground? *They were intentionally thrown away because they were broken, used up, worn out, or sometimes lost.*
2. Students complete legend.
3. How wide is the feature? *180 cm (1.8 m)*
4. How deep is the feature? About 58 cm (0.58 m)
5. What are these measurements in feet? *5.9 feet wide and 1.9 feet deep.*
6. See Table to right.
7. Students label pie chart legend.
8. Explanation of summary: *Much of the hole has somewhat vertical sides, like a root cellar (except at the top). The penny and Meakin pottery date from 1865 through the late 19th century. The penny, complete button, and bead were likely lost and not intentionally discarded. Rain and varmints could get into an exposed root cellar. A building above it like a house, shed, or kitchen would keep these out. The many architectural artifacts also suggest a structure.*

Objectives:
Students will learn:
- to examine data, make observations, and draw conclusions
- math, science, and writing skills.

Materials: Per student: "Featuring Features" Worksheet (3 pages); 1-2 sheets of lined paper.

4th Grade Georgia Performance Standards & Common Core Georgia Performance Standards
Map and Globe Skills 10, 12
Information Processing Skills 4, 5, 10, 11, 12, 15, 16

MCC4.NBT.3; MCC4.NF.6 (partial); MCC4.MD.1 (partial); S4CS1b, c; S4CS2a, b; S4CS4b; S4CS5c; S4CS6a (partial); S4CS8; ELACC4RI2; ELACC4RI3; ELACC4RI4; ELACC4RI5; ELACC4RI7; ELACC4RI8; ELACC4W1; ELACC4W2; ELACC4SL3; ELACC4L1; ELACC4L2; ELACC4L3; ELACC4L4; ELACC4L6

Feature 120 Artifact Inventory

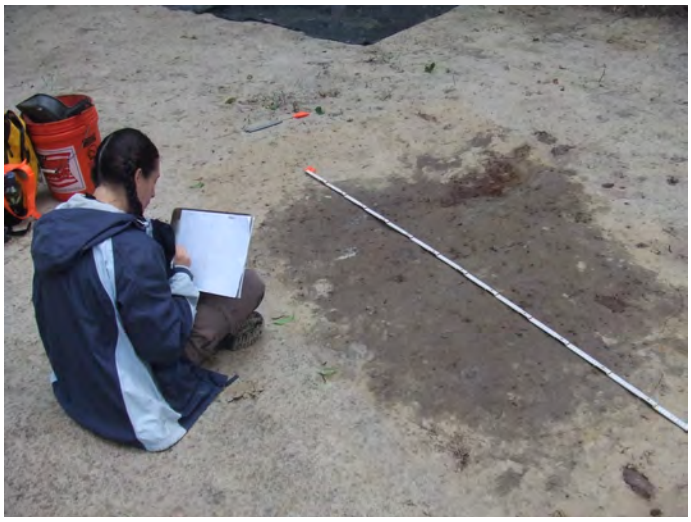
Artifact Group	Number	%
Kitchen	523	29.2
Architecture	721	40.3
Clothing	8	0.4
Miscellaneous	517	28.9
Personal	1	0.1
Arms	2	0.1
Tobacco	15	0.8
Activities	4	0.2
Total	1,791	100

Featuring Features!

Name: _____

The word "feature" to an archaeologist means a specific spot where someone did something that left a clue in the ground. For example, if someone dug a hole and threw trash in it, that would be a feature. If someone put a wooden post in the ground and it rotted, the stain that it left would be a feature. There are many kinds of features.

Imagine that you are an archaeologist working at the Abercorn Archaeology Site. You excavated (scientifically dug and recorded) Feature 120. You took excellent notes and photographs, and made very good drawings. You dug the feature in five, 10 centimeter (or 4 inch) levels. You analyzed the artifacts and listed them on the Artifact Inventory. Now, use these clues to discover what the feature was, who used it, and when. Do so by completing these activity sheets, using additional paper if needed.



An archaeologist measures and makes a scaled drawing of a feature before starting to excavate it.

Photograph of Feature 120 showing the top of the feature (before it was excavated). Can you see Feature 120 - the dark circular stain?

Small, black faceted glass bead from Feature 120.

Thimble

Prosser Button

This hook, from a hook-and-eye set, was found in Feature 120.

1. There were 1,791 artifacts in Feature 120! You can see a few on these pages. Why do you think all these items were in a hole in the ground? _____

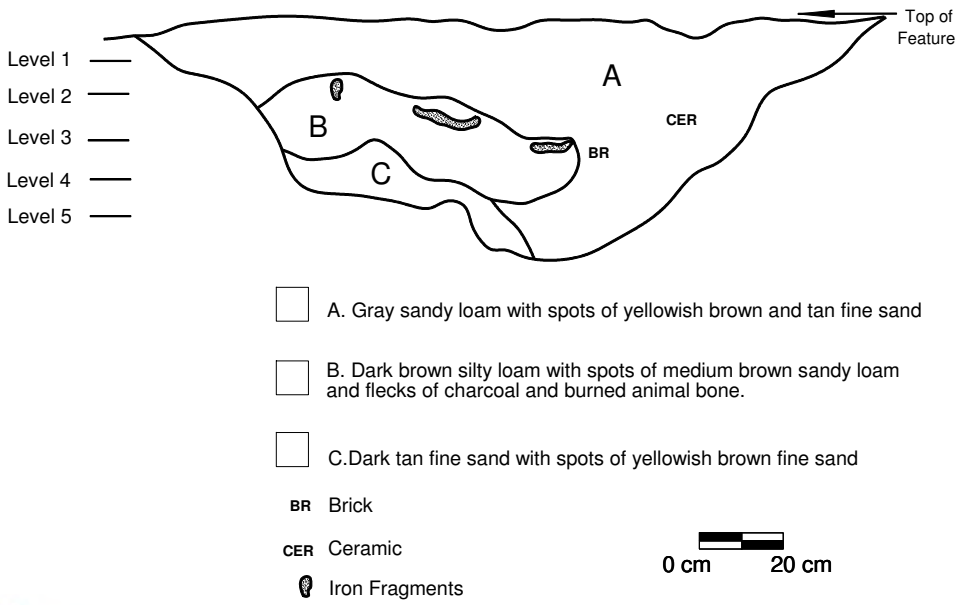
Name: _____

Level 1-1865 Indian Head Penny minted in Philadelphia, PA.

Feature 120

Side View (Half Excavated)

Level 2 - Maker's Mark. "J & G Meakin, 1869" on bottom of a plate. Made through1891.



Level 3 - Rusted gun part (butt plate), US Model 1842.

2. Complete the legend in the drawing above. Draw a different pattern or use a different color in each box. Then repeat the pattern or color from each box on to the correct section of the drawing.

3. Use the scale above. How wide is the feature?

_____

4. How deep is the feature?_____

5. What are these measurements in feet?

_____

Feature 120 Artifact Inventory		
Artifact Group	Number	%
Kitchen	523	
Architecture	721	
Clothing	8	0.4
Miscellaneous	517	28.9
Personal	1	0.1
Arms	2	0.1
Tobacco	15	
Activities	4	0.2
Total	1,791	100

Name: _____

6. Find the missing percentages in the table (left). Divide the number in the Artifact Group by the Total Number of Artifacts. Then move the decimal over two places to the right. Let's do the Clothing Artifacts.

$8 \div 1791 = 0.004$

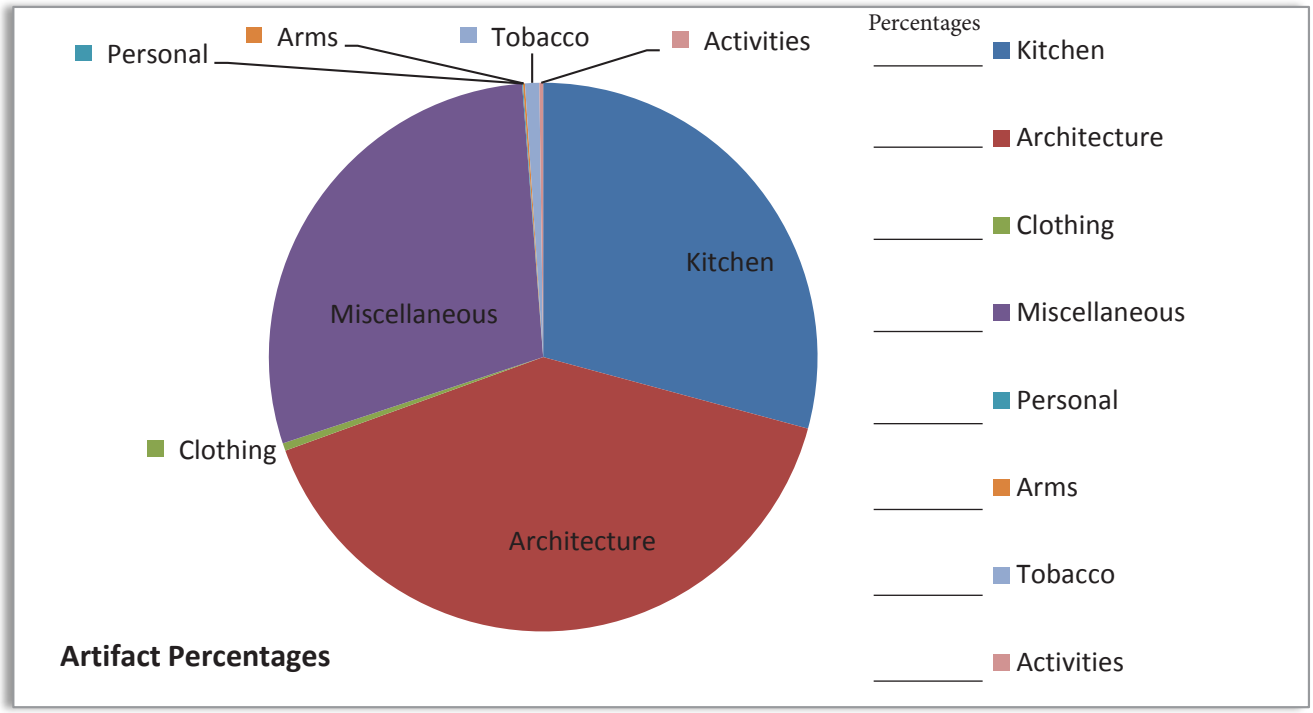
Move decimal to ↑ making it 000.4 or 0.4

So 0.4% (or not even 1%) of the artifacts were clothing related, like buttons and hooks. (Don't forget to "round up" your decimal places!)

7. Once you have filled in the table, label the pie chart legend below with the correct percentages.

8. The paragraph below summarizes what archaeologists have concluded about Feature 120. See if you agree. On a sheet of paper write what you agree with, what you disagree with, and what supporting evidence there is. State what are facts and what are educated guesses.

Archaeologists concluded the following: *Someone dug a small hole to make a root cellar. After the Civil War they stopped using it to store root crops. Several people, probably male and female, began throwing their trash in it. They did not completely fill in the hole with trash until after 1869. Sometimes they lost things while throwing away their trash. There probably was a building over the hole.* (Hints: look at the shape of the feature's side view, the types of artifacts found, and the dates when artifacts were made. Think about how root cellars were used and why someone might turn a root cellar into a trash pit.)



A Multitude of Maps

Examine the maps and aerial photographs for things like roads, railroads, buildings, pastures, woods, swamps, clearings, planted fields, and trees. Notice how these things changed over time. Note the changes you see from one image to the next. Use the maps and information to answer the activity sheet questions.

PROCEDURE

1. Begin with a class discussion. Examine the maps together and ask students to describe what various symbols represent. Go over the introduction paragraph on their map pages. Have students describe what they see in the aerial photographs.
2. Next have students work in groups to complete Questions 1-10, presenting answers to the class.
3. Then students work individually on projects 11-12, presenting to, and with the class, as described.

Objectives:
Students will:

- make observations about geography and the cultural landscape.
- infer how changes to these over time are reflected in maps.
- learn how to read maps and symbols.
- integrate historical information to create accurate drawings and models.
- create historical art.

Materials: Per student: "A Multitude of Maps" Maps & Worksheets; 5-6 pages of lined paper and 6 pages of unlined paper. Art & modeling supplies as needed.

4th Grade Georgia Performance Standards & Common Core Georgia Performance Standards
Map and Globe Skills 1, 2, 4, 7, 8, 10, 11, 12
Information Processing Skills 1, 2, 6, 8, 11,

ELACC4SL4; ELACC4W3; ELACC4SL4; ELACC4SL5; ELACC4L1; ELACC4L2; ELACC4L3

WORKSHEET ANSWERS

1. Which way is north? *North is to the top of the page on all maps, except the 2013 aerial, where north is slightly to the left of the top of the page.*

2. Why are all these tracts long and narrow? *The Spencer and Wilson properties are on the 1875 map. They are long and narrow so each landowner can have a little access to the waterway.*

3. How many houses do you see inside or immediately north of the red line? *3-4 houses each on 1864 and 1865 maps.*

4. Whose houses do you think those might be? *Houses in the African American enslaved village community.*

5. What do you think this represents? *This may be a larger house in a clearing. It may be an overseer's house.*

6. Who was Miller and what man-made feature goes with Miller's Station? *William Miller was one of the landowners with many acres. Miller's station is the depot for the railroad track shown on the maps.*

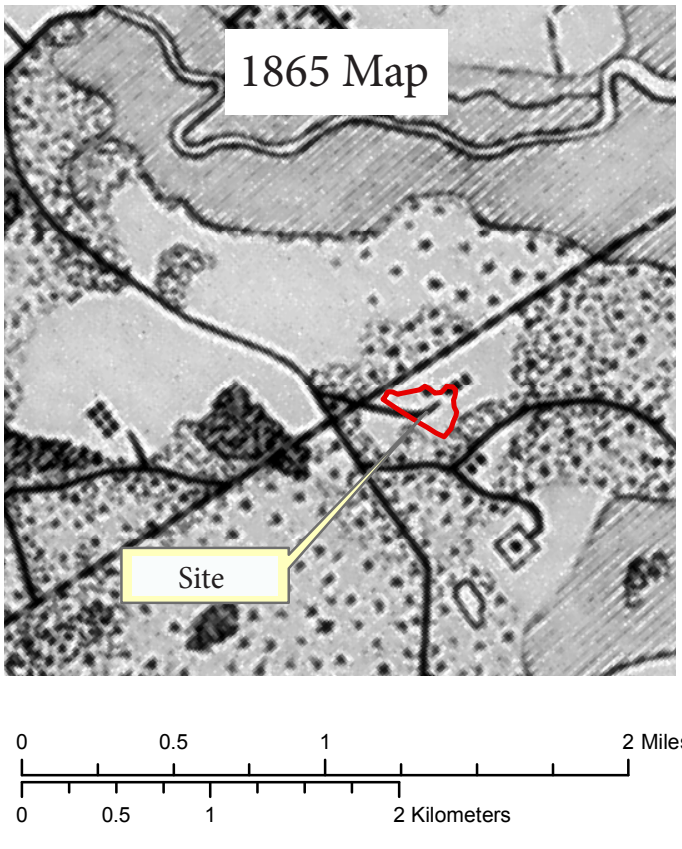
7. Write a date of a map or aerial photo at the top of each box. *1864, 1865, 1875, 1912, 1951, 2013.*

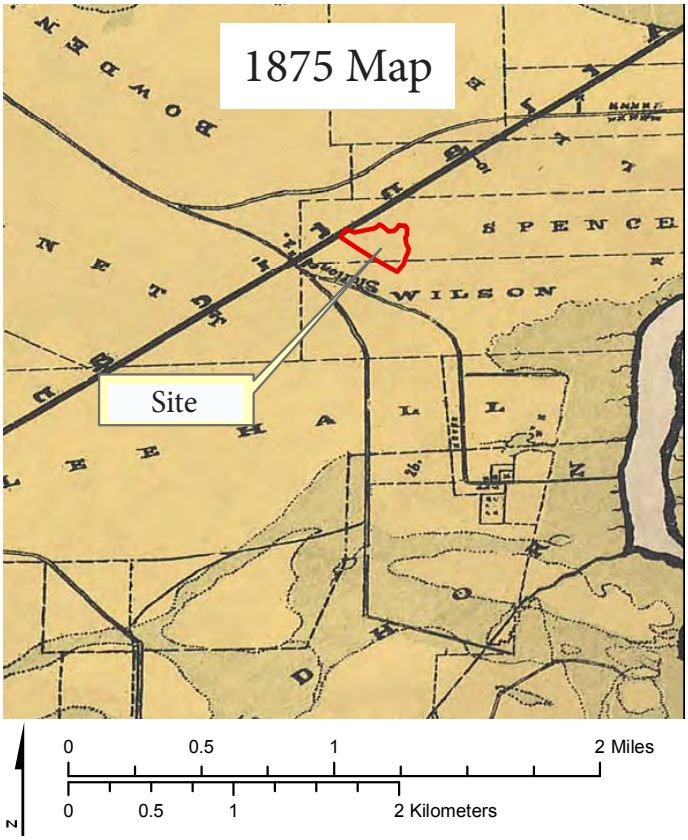
8. Describe the landscape on the map in and around the site for each year, writing it in the correct box. *1864-pasture or fields/partly wooded. 1865-pasture or fields. 1875- No natural bodies of water. 1912- Site consists of all one soil type. 1951- pasture. 2013-wooded.*

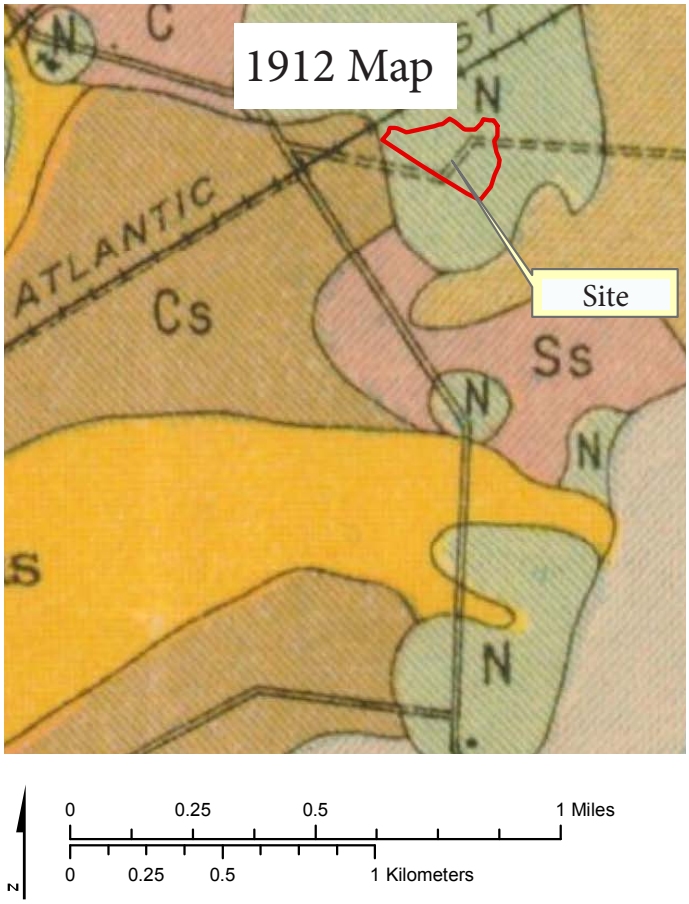
9 & 10. Make notes in each box of any changes that you notice. Are the maps all the same size? How do you know? *The area becomes developed, although the site itself reverts from fields to pasture to woods. The majority of the landscape goes from rural agricultural to developed suburbia. Scales show that map sizes vary. The area surrounding the site has less trees and more buildings over time.*

11-12. Instruct students to do projects as described on their worksheets.


1864 Map
MILLER'S STATION
Site
0 0.25 0.5 1 Miles
0 0.25 0.5 1 Kilometers
N


1865 Map
Site
0 0.5 1 2 Miles
0 0.5 1 2 Kilometers
N


1875 Map
SPENCE
WILSON
Site
0 0.5 1 2 Miles
0 0.5 1 2 Kilometers
N

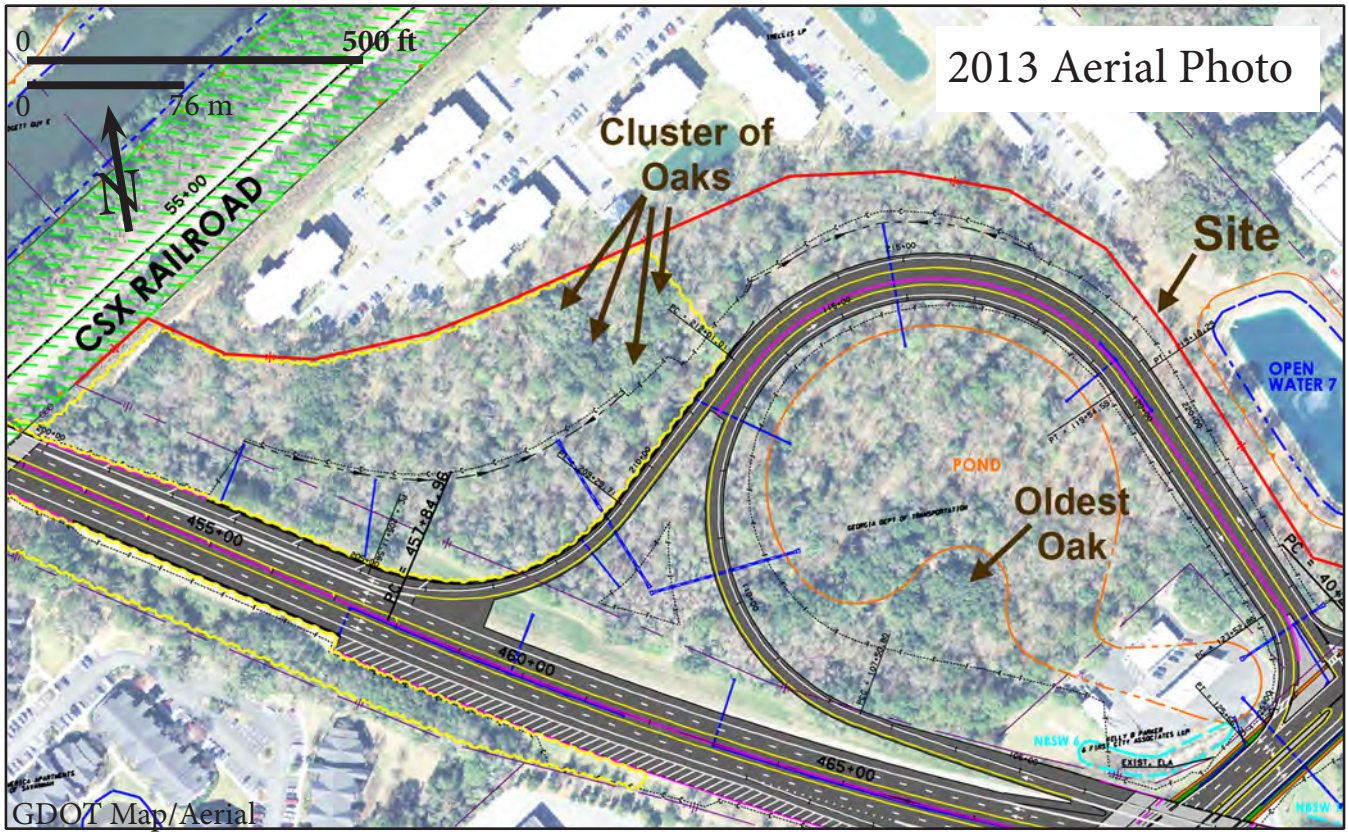

1912 Map
ATLANTIC
Cs
Ss
Site
0 0.25 0.5 1 Miles
0 0.25 0.5 1 Kilometers
N

A Multitude of Maps

The Abercorn Archaeology Site is outlined in red on the maps. Many people owned the land in and around the Abercorn Archaeology Site. Owners included John Wilson and his family in the 1700s and early 1800s. Another planter, William Spencer owned land around here at the same time. By the 1840s an attorney named William Miller began buying land. Most owners had several plantations and houses but did not live at this spot.

Many African Americans were enslaved on these plantations, and some lived in a village in this area. The maps and aerial photographs depict features that people made when living or working here. Often maps were made for specific purposes. For example, a map made during the Civil War might show an army the location of roads, cities, and troop positions. The 1912 soil map shows areas of land with various types of soil. This is useful to farmers and developers. Aerial maps are photographs of the landscape from the air. Since maps and aerial photographs provide different information, all are useful to examine.

Examine the maps and aerial photographs for things like roads, railroads, buildings, pastures, woods, swamps, clearings, planted fields, and trees. Notice how these things changed over time. Note the changes you see from one image to the next. Use the maps and information on these pages to answer the activity sheet questions.



A Multitude of Maps

Name: _____

Use the pages of maps and information to answer these questions. Use additional paper if necessary. The red outlines on all maps show the general shape of the site.

1. Which way is north?_____

2. Find the Spencer and Wilson properties on the 1875 map. Why are all these tracts long and narrow?_____

3. Can you find very small squares showing locations of houses on the 1864 and 1865 maps? (Do not confuse the tree symbols for houses.) How many houses do you see inside or immediately north of the red outline?

1864 _____ 1865_____

4. Whose houses do you think these might be?_____

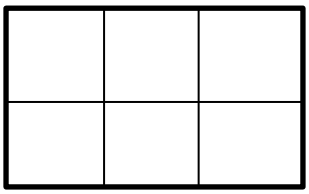
5. Go south-southeast from the red outline on the 1865 map until you find a clearing with a square in the middle. What do you think this represents?

_____

6. Find Miller's Station (1864 map). Who was Miller and what man-made feature goes with Miller's Station?

_____

7. Draw lines across a blank sheet of paper so that your paper looks like this:



Write a date of a map or aerial photo at the top of each box.

8. Describe the landscape on the map in and around the site for each year, writing it in the correct box. For example is it wooded, open, swampy, pasture, etc.? Are there roads, houses, railroads, trees? (If this information is not on the map, write "no information".)

9. Make notes in each box of any changes that you notice. For example, did the roads change angle or direction? Are they bigger or more numerous? Are there more buildings? Are there more or less trees? Look on the 1951 aerial map. If you find the old oak and the cluster of four oak trees, put "yes" in the box for that year's map.

10. Pick some of the following words to write at the bottom of each box to show how the area changed over time: suburban, rural, agricultural, developed, urban, pastoral, forest, and industrial. Are the maps all the same size? How do you know? Does the area around the site have more or less trees, and more or less buildings through time?

11. Look at the maps and choose an area that you think would have an interesting view of the site and surroundings. Put an "X" on the map there. Draw an arrow in the direction you would want to face to have the best view.

11a. Imagine that you are an artist who can travel back in time. You go to the period of each map and stand on the "X", facing the direction of your arrow. On a separate piece of paper sketch, draw, paint, or use pastels, charcoals, crayons, or pen and ink to illustrate what you see. Make a separate image for each map as you travel through time. Some things in your images will be the same, but other things should be different. When you have completed all six drawings present your work to the class. This can be done in any number of ways, such as an "art exhibit" and gallery talk, PowerPoint show, or made into a flip book to see the changes through time. You may decide other ways to present your work.

11b. Choose a map from one period. Make a 3-Dimensional model of the site and its surroundings based on the map. Try to make things to the correct scale. Don't forget to replicate the landscape. Include man-made features that may be on the map, such as a railroad, roads, and houses. If you have access to a video camera or cell phone camera, make a movie about the diorama, shooting close-up views as you narrate. Describe what happened here in the past as you film. Optional: Add sound effects or music to your short film. Show your film to the class and watch your classmates' videos as part of a Classroom History Film Festival.

12. Imagine that you are the 400 year old live oak tree growing on the Abercorn Archaeology Site. Write a story from the tree's point of view about things you have seen around you through time. Conduct research in books, newspapers, encyclopedias, through interviews, on the internet, and other sources, to learn what happened in this area outside of Savannah, Georgia during the 400 years. Don't forget to start with American Indians and work your way through the Colonial period and throughout the 1800s, 1900s and through today. Choose your favorite part of the story to share with the class in a dramatic presentation. Remember to look, act, and sound like the tree at whatever age it would have been for the part of the story you choose to share.

Every day dozens of archaeological sites are damaged or destroyed in your community and region. There are no laws to protect most of them. Become a superhero by learning about archaeological sites in your area and working to protect them. Use the maps and information on these two pages to answer the activity sheet questions.

Objectives:
Students will:
- learn how laws are made.
- discover whether there are any preservation laws or ordinances that protect the archaeological sites in their community.
- contact members of the community.
- practice research skills.
- write action letters.

Materials: Per student: "Saving Sites" Worksheet, several pages of lined paper, access to research materials (books, internet, etc.), envelope, stamp.

4th Grade Georgia Performance Standards & Common Core Georgia Performance Standards
Information Processing Skills 3, 5, 6, 8, 11, 15, 16

SS4CG2; SS4CG3a, b; SS4CG4a, b, ELACC4W1; ELACC4W4: ELACC4W5; ELACC4W6; ELACC4W7; ELACC4W8; ELACC4W9; ELACC4SL1

An archaeological site is a place usually more than 50 years old where people may have lived, played, worked, or died. An archaeological site contains evidence of these activities in features and artifacts in the ground. Sites can include American Indian villages and camps, grist mills and mill worker villages, settlements where African Americans worked, yards of old houses, factories, shipwrecks, and many, many more sites. The information and artifacts from the Abercorn Archaeology Site were saved, but only because a Federal law about highway construction protected the site.

PROCEDURE

1. Discuss with students what constitutes an archaeological site. Reinforce that it is about places where PEOPLE lived, worked, played, etc. - no dinosaurs! Have them complete No. 1 on the worksheet.

2. Next discuss with students the characteristics of being an active citizen in a democracy. Talk about freedom to express views and to work to improve laws. Discuss how laws are made on a national, state, and local level. Talk about whether your community has a preservation ordinance that includes archaeological sites and how to go about getting one enacted. Discuss the importance of being involved in community affairs. Consider inviting a city council person or other similar local policy maker to talk to the class.

3. Help students with No. 3-5, guiding them in their research, and locating reputable archaeologists (professional archaeologists who abide by The Society for American Archaeology standards) rather than people who say they are doing archaeology as a hobby or who say they just like archaeology. Edit their letters for re-writes.

Name: _____

Saving Sites

Every day dozens of archaeological sites are damaged or destroyed in your community and region. There are no laws to protect most of them. Become a superhero by learning about archaeological sites in your area and working to protect them. Use the maps and information on these two pages to answer the activity sheet questions.

An archaeological site is a place usually more than 50 years old where people may have lived, played, worked, or died. An archaeological site contains evidence of these activities in features and artifacts in the ground. Sites can include American Indian villages and camps, grist mills and mill worker villages, settlements where African Americans worked, yards of old houses, factories, shipwrecks, and many, many more sites.

1. Search the internet, newspapers, and other sources to find out what types of archaeological sites (historic or prehistoric) are in your community. Talk to people about places that were used more than 50 years ago. On a separate piece of paper make a list of places you think may be archaeological sites.

The information and artifacts from the Abercorn Archaeology Site were saved, but only because a Federal law about highway construction protected the site. Work with your teacher on the following:

2. Search the internet to find out if there are any state, county, city/town laws or ordinances that protect archaeological sites in your area. Ask professors at local colleges, county commissioners, aldermen/women, city managers and other policy makers if such ordinances exist for your community.

3. If ordinances and laws exist, get copies of them. Talk to professional archaeologists to see if these laws are effective.

4. If there are no ordinances, or ineffective laws, talk to professional archaeologists about what should be included in a law to protect sites. Write a letter supporting the establishment of such laws. Send the letter to county commissioners, the local newspaper, web and blog sites, community leaders, and other political leaders.

5. If you don't get a response for your letter, follow-up with an email or phone call asking what that person will do about the issue.

4. Additional Resources

Archaeology's *Dig* magazine. Archaeological Institute of America, New York. ISSN-1524-4458. Six issues annually. Colorful, very interesting archaeology articles and topics geared to children and teens.

Archaeology for Kids: Uncovering the Mysteries of Our Past by Richard Panchyk. 2001, Chicago Review Press, Chicago. ISBN 1-55652-395-5. Examines a variety of archaeological sites around the world.

Archaeology for Young Explorers: Uncovering History at Colonial Williamsburg by Patricia Samford and David L. Ribblett. 1995, The Colonial Williamsburg Foundation, Williamsburg, Virginia. ISBN 0-87935-089-X. Examines colonial Williamsburg through archaeology with children.

Beginning Map Skills by John and Patty Carratello. 1990, Teacher Created Materials, Huntington Beach, California. ISBN 1-55734-167-2. Interesting activities to teach basic map concepts.

Digging Into Archaeology: Hands-On, Minds-On Unit Study by Julie Coan. 1999, Critical Thinking Books and Software, Pacific Grove, California. ISBN 0-89455-718-1. A variety of worksheet activities covering a range of archaeology topics.

Frontiers in the Soil: The Archaeology of Georgia by Roy Dickens Jr. and James McKinley. Republished in 2003 by the Carl Vinson Institute, Athens, Georgia (Now available through The Society for Georgia Archaeology. There is also a teacher's manual available.) ISBN 0-89854-208-1. A colorful cartoon book that accurately explains archaeology.

"Teaching Archaeology: A Sampler for Grades 3 to 12" by Joan Few and KC Smith. Republished in 1995, Society for American Archaeology, Public Education Committee. Harvest Printing, Tallahassee, Florida. An introduction to several activities for students in various grades.

Tell Me Tree (2014 in press) by Rita Folse Elliott. Illustrated by Carol Schwartz. A colorfully illustrated introduction to the Abercorn Archaeology Site through the eyes of two children.

World Wide Websites with Additional Resource Information:

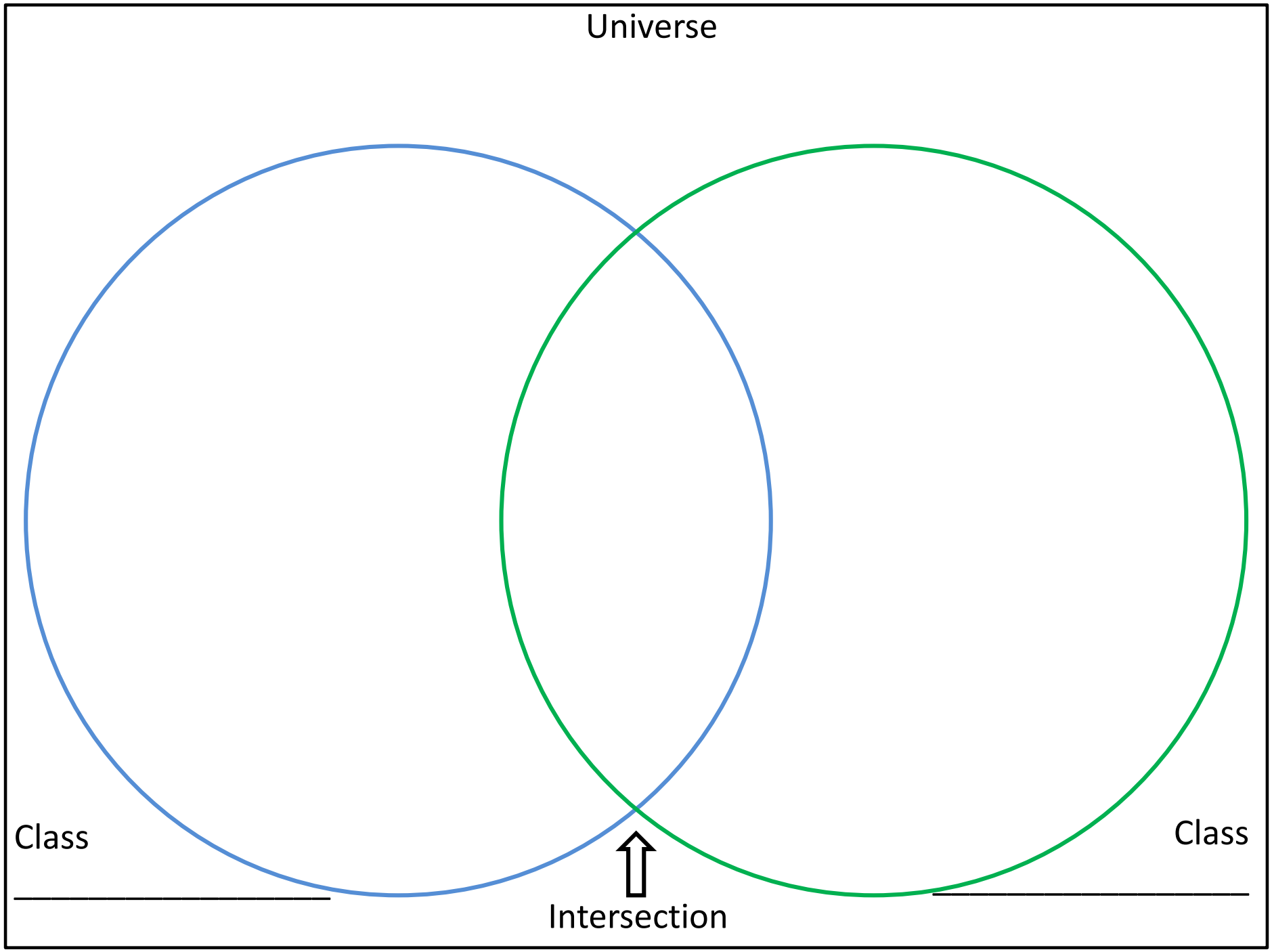
The Society for Georgia Archaeology. www.thesga.org

The Society for American Archaeology. www.saa.org

The Society for Historical Archaeology. www.sha.org

Savannah Tree Foundation. www.savannahtree.com

5. Appendices


Universe
Class
_____
Intersection
Class
_____

K What you know	W What you want to know	L What you learned

Appendix 2. KWL Template for activities.

Areas of Assessment	Absent	Poor	Average	Good	Excellent
1. Content Area 1	Majority of content is missing, incomplete and/or extremely inaccurate.	Content shows very basic understanding, and inaccuracies.	Content is mostly accurate and shows a basic under-standing of key ideas.	Content is accurate, thorough and shows clear understanding through appropriate explanations and examples.	Meets and exceeds "Good" criteria with rich explanation, examples, and application of content ideas.
MaxPoint Value	Points Earned	Points Earned	Points Earned	Points Earned	Points Earned
2. Content Area 2	Majority of content is missing, incomplete and/or extremely inaccurate.	Content shows very basic understanding, and inaccuracies.	Content is mostly accurate and shows a basic under-standing of key ideas.	Content is accurate, thorough and shows clear understanding through appropriate explanations and examples.	Meets and exceeds "Good" criteria with rich explanation, examples, and application of content ideas.
MaxPoint Value	Points Earned	Points Earned	Points Earned	Points Earned	Points Earned
3. Content Area 3	Majority of content is missing, incomplete and/or extremely inaccurate.	Content shows very basic understanding, and inaccuracies.	Content is mostly accurate and shows a basic under-standing of key ideas.	Content is accurate, thorough and shows clear understanding through appropriate explanations and examples.	Meets and exceeds "Good" criteria with rich explanation, examples, and application of content ideas.
MaxPoint Value	Points Earned	Points Earned	Points Earned	Points Earned	Points Earned
4. Creativity and Innovation	Project is not completed or clearly plagiarized.	Information is largely "cut and paste" from one or two sources and shows little evidence of originality in designs and presentation.	Organization and design shows thoughtful preparation and utilizes a variety of resources to create something original.	Content is accurate, thorough and shows clear understanding through appropriate explanations and examples.	Meets and exceeds "Good" criteria to show clear ownership and undertanding. Uses original multimedia when appropriate.
MaxPoint Value	Points Earned	Points Earned	Points Earned	Points Earned	Points Earned
5. Research	Project has no resources listed.	Project relies heavily on one resource.	Project utilizes at least two authoritative resources.	Meets "Average" criteria PLUS presents infor-mation in a visually engaging way using multi-media when appropriate.	Meets "Good" criteria and weaves together information from at least five resources to create something original.
MaxPoint Value	Points Earned	Points Earned	Points Earned	Points Earned	Points Earned

Adapted from wikispaces.