

Gathering, Gardening, and Agriculture: A 5th Grade Social Studies Curriculum

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The Arkansas Archeological Survey (ARAS) developed a 5th grade social studies curriculum aligned with the Arkansas Department of Education (ADE) 5th grade Social Studies Curriculum Framework, created a website to promote the curriculum and make it easier for teachers to use, and conducted a series of teacher workshops. The curriculum, which promotes the use of archeology in social studies education in Arkansas's public schools, was also featured in an exhibit in the Arkansas State Capitol. Plants are the focus, because as critical parts of our foodways plants not only fulfill nutrient needs, they teach us about culture, history, and economics. Biologically, people need food to survive, but what we eat is part of our history and culture. In addition, Arkansas, along with the surrounding mid-South region, is one of only ten world centers of independent crop domestication. Preserved plant remains excavated from dry bluff shelters in the Arkansas Ozarks (and now curated at the University of Arkansas) represent most of the evidence supporting this identification. This curriculum is designed to celebrate this important aspect of Arkansas's past.

The curriculum consists of five lessons to be taught over the course of one week, plus a bonus lesson. Each lesson is approximately one hour in length. The lessons use the 5E's Instructional Model (Engage-

ment, Exploration, Explanation, Elaboration, Evaluation) and focus on a temporal comparison of plant use in the southeastern United States that draws specific examples from Arkansas. The lessons model the processes of archeological inquiry pertaining to plant-based foodways. Students look at archeological evidence, including site maps, artifacts, and seeds, and their relationship to each other (context) to reconstruct and interpret the past. Students use archeology to discover how diets changed when people shifted from hunting, fishing, and gathering wild foods to growing their own food through gardening and agriculture. In a bonus lesson, students explore the effects of European colonization in the Americas by mapping the exchange of plants on a global scale. *Gathering, Gardening, and Agriculture* provides hands-on activities and guided investigation of three archeological sites in Arkansas (Rock House Cave, Toltec Mounds, and Parkin) in which students learn scientific literacy while gaining new knowledge about Native American plant-based foodways in the southeastern United

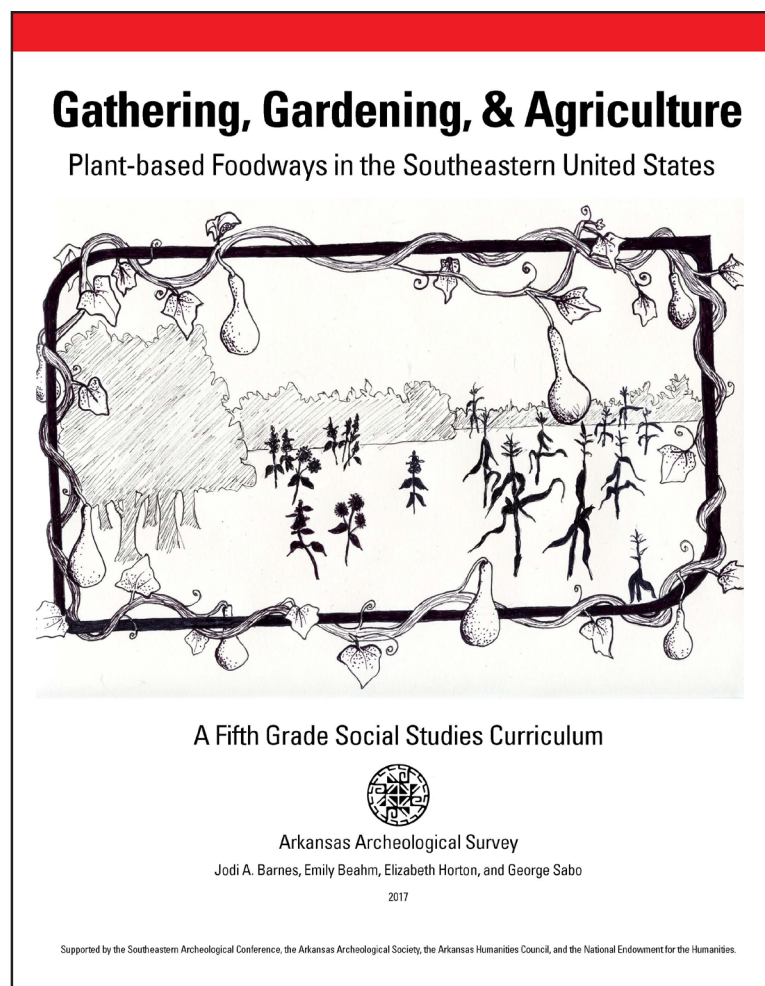


Figure 1. Cover of the *Gathering, Gardening, and Agriculture* curriculum.

States. In addition, the curriculum includes five period-appropriate recipes that students can take home and make with their parents or experiment with at school. These recipes help students see that the plants discussed in each lesson are real foods that people ate in the past and in some cases continue to eat today.

Lesson One: Archeology Is about People. This lesson defines archeology, dispels common misconceptions, and introduces students to the critical thinking and analysis processes that archeologists use to study the past. Students explore chronology, observe objects and infer their use in an archeological context, and use evidence to answer questions about the past.

Lesson Two: Foraging Foodways. Students participate in the foraging foodways simulation and learn about early foragers. They explore the basic need for food and learn about foodways and nutritional, cultural, and economic practices related to the production and consumption of food cross-culturally.

Lesson Three: First Gardens. This lesson introduces students to the basics of stratigraphy and students learn how archeologists determine the relative age of artifacts. Here students look at domesticated plant seeds and learn how Native American cultures changed with the development of gardening. For this lesson, it is helpful for teachers to show students examples of the seeds and plants. The ARAS prepared packets of the sunflower, goosefoot, maypop, and sumpweed seeds highlighted in the lesson and distributed those packets to teachers at the workshops and made them available upon request.

Lesson Four: Changing Gardens and Evolving Fields. Lesson Four introduces students to changes associated with the adoption of corn agriculture, introduced from Middle America, using both archeological and Native American perspectives.

Lesson Five: Stability and Change in Early Colonization. Lesson Five introduces students to the use of primary historical sources. They learn how to study maps and accounts written by early explorers to identify evidence of additional changes in Native American foodways.

Bonus Lesson: Many People, Many Plates. In this bonus lesson, students learn about the Colombian Exchange, map the origin and spread of plants, and think about how this historical process shaped their diets.

The ARAS printed 200 copies of the curriculum activity book with support from the Bill Jordan Public Outreach Fund by the Arkansas Archeological Society. It is being distributed free to all participants in the teacher workshops and to educators by request. It is also available as a free digital download on the Survey's webpage: <http://archeology.uark.edu/gga/>. The website also includes pdfs of the activity sheets and powerpoints that can be easily downloaded and printed.

The ARAS prepared workshops for the Arkansas Curriculum Conference (Little Rock, AR, November 1, 2016) and the Arkansas Gifted and Talented Educators Conference (Little Rock, AR, March 1, 2017). We also organized two full day workshops at Toltec Mounds Archeological State Park (Scott, AR, February 18, 2017) and at the Winthrop Rockefeller Institute (Morrilton, AR, March 18, 2017).

The exhibit, "Gathering Gardening, and Agriculture: 5,000 years of Foodways in Arkansas," was on display at the Arkansas State Capitol from February through May 2017. With the help of David Ware (Capitol Historian), Dr. Elizabeth Horton and the Survey developed a four-part installation that highlights the Gathering, Gardening, and Agriculture curriculum, with an emphasis on changes in plant use during the Archaic, Woodland, Mississippian, Historic, and modern periods. The exhibit displays artifacts and replica tools and highlights the importance of archeological collections and natural areas to ongoing research into plant domestication in Arkansas and the broader southeastern United States.

The ARAS is a unit of the University of Arkansas system. Our mission is to study and preserve Arkansas's past and to share what we learn with the public. Arkansas has significant archeological resources, from the bluffshelters of the Ozark Mountains to Mississippian mound complexes of the Central Mississippi River Valley. Although the ARAS, along with citizen volunteers and local, state, and federal partners, campaigns for archeological education and preservation, our state's sites and the archeological record face continued threats from development, agricultural land-leveling, and looting. Education is a way to help protect Arkansas's archeological record. By working with teachers, we help them increase their content knowledge of the important contributions that southeastern Indians and European, African, and early American populations made to the ways in which people use plants today. We also foster a greater sense of



Figure 2. Workshop participants learning about foraging foodways.



Figure 3. Participants learning about wild plants, like fiddlehead ferns, during the teacher's workshop at Winthrop Rockefeller Institute.

the importance of preservation among teachers and their students. In addition, this project has made the ARAS archeologists more accessible to educators and Arkansas archeology more applicable to public education.

Numbers served

Despite the interest in the curriculum, the attendance at the teacher workshops and educator conferences was low. For the Arkansas Curriculum Conference, the Gathering, Gardening, and Agriculture workshop was scheduled at 11:30 am to 1:40 pm, during lunch and a number of round table events. To our disappointment, no teachers attended. For the Arkansas Gifted and Talented Educators Conference, 16 gifted and talented educators participated in the hour-long workshop. They were very enthusiastic about incorporating the curriculum into their classes. Two full-day workshops were scheduled in February and March. No teachers signed up for the February workshop. Only 4 educators attended the March workshop. The educators explored the curriculum, learned about wild and domesticated plants, and visited Rockhouse Cave, a site featured in the curriculum. The low attendance may be a result of the time of year in which we scheduled them.



Figure 4. Dr. Horton showing the teacher workshop participants rock art depicting sumpweed on the walls of Rockhouse Cave.

With a busy legislative spring session, in the Arkansas State Capitol building where Arkansas legislatures passed each day, the “Gathering, Gardening, and Agriculture: 5,000 years of Foodways in Arkansas” exhibit reached thousands of people. During the installation, approximately 100 members of the Arkansas Farm Bureau visited the Capitol. Dr. Horton gave an impromptu presentation and answered questions.

The Gathering, Gardening, and Agriculture website went live on March 15, 2017. Since that date, the web page has been viewed 724 times. It has received 225 sessions (or it has been visited 180 times), by 115 site visitors (or unique IP addresses). Although the attendance at the workshops was not as high as we would have liked, combined the curriculum, the workshops, and the exhibit reached thousands of people and resulted in important conversations about changes in plant use and the origins of agriculture.

Promotion of the curriculum and teacher workshops

The workshops and curriculum were publicized via social media, regional newspapers, and KUAR, a National Public Radio station. ARAS announced the workshops at our monthly chapter meetings with the Arkansas Archeological Society. Workshops were announced on the Arkansas Curriculum Conference (ACC), Arkansas Council for the Social Studies (ACSS), Arkansas State Teachers Association (ASTA), Arkansas History (ARHIST), and Arkansas for the Gifted and Talented Education (AGATE) listservs. Information was sent to educational co-ops around the state. The Survey also purchased two sponsored ads on Facebook. Combined the posts had 186 engagements and reached 2239 people. In addition, we offered educators ADE professional develop credit for attending this workshop. The curriculum, the teacher’s workshops, and the website were promoted on Facebook with sponsored ads. Combined these various media outlets reached thousands of Arkansans.

Evaluation of curriculum and teacher workshops

The evaluation of the proposed project took a three-pronged approach to assess (1) the overall program content; (2) the teacher’s attitude/comfort level towards teaching archeological concepts, pre/post pro-

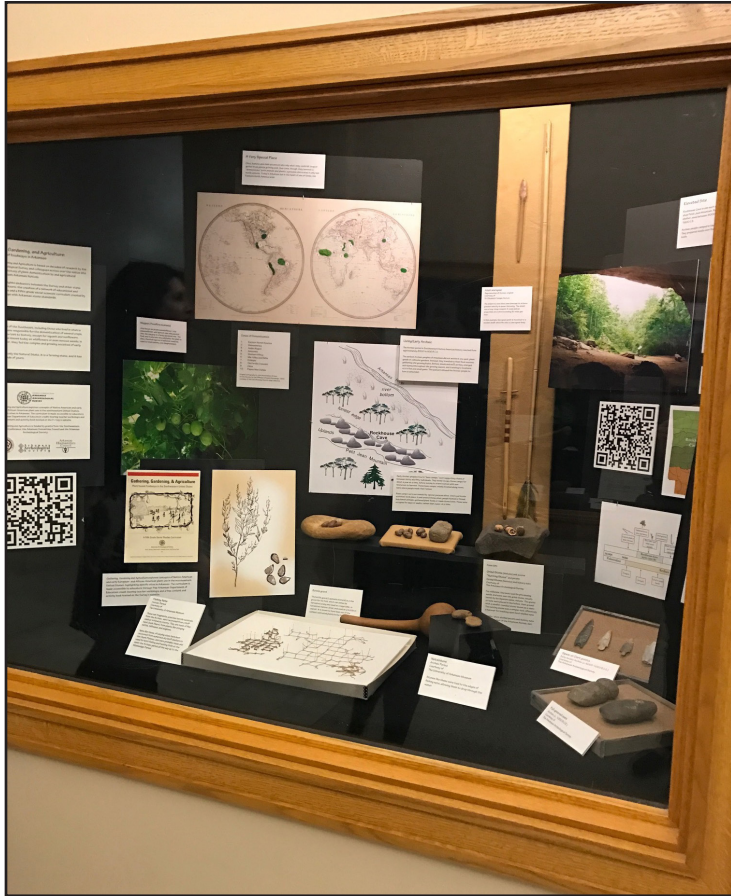


Figure 5. The curriculum featured in the Gathering, Gardening, and Agriculture exhibit at the Arkansas State Capitol.



Figure 6. The exhibit at the Arkansas State Capitol.

gram; and (3) teacher knowledge of plant use in southeastern North America pre/post (see Tables 3 and 4). For feedback on the overall curriculum content, drafts were sent to a number of educators and archeologists. Dr. Carol Colannino (STEM, University of Illinois, Edwardsville), Lydia I. Rees (Research Assistant, Arkansas Archeological Survey), Allison Reavis, (Arkansas Historic Preservation Program), Denise Baldwin (School of Education, University of Arkansas at Monticello), and Brynn Sims (Rogers Public Schools) provided important feedback that helped improve the content, the activities, and the readability of the curriculum. The feedback was overwhelmingly positive with suggestions for improvement.

Prior to teachers attending the workshop, we measured educators' attitudes towards teaching archeology and their content knowledge through a local content knowledge rubric and competency survey (Table 1). After the workshop, we gauged their knowledge of pre- and post-contact plant use in the Americas and Arkansas, as well as their perceived ability to teach archeological concepts (Table 2). Before the workshop at the Winthrop Rockefeller Institute, we distributed the competency survey. The participants had a range of experience with archeology (Table 2). They were most concerned about their ability to teach students about the way people used plants in the past. After the workshop, we distributed the workshop assessment form. The participants all agreed they would incorporate *Gathering, Gardening, and Agriculture* into their classes and recommend the curriculum to other educators.

The pre- and post-assessments were not conducted at the AGATE workshop, since it was only an hour-long overview of the curriculum. To open the workshop, Barnes asked participants how many people taught archeology in their social studies courses. One or two

Survey questions	Survey responses				
	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)
I feel as though I have a solid foundation in archeological concepts and understand archeological methods.			2	1	
I feel as though I have a solid foundation in Arkansas archeology extending back to Indians living in this region thousands of years ago to multi-ethnic interactions in postbellum Arkansas.				3	
I feel comfortable teaching my students about archeology and specifically about people who once lived in Arkansas.			1	2	
I feel comfortable teaching my students about the ways in which people used plants in the past.		1	1	1	
I feel comfortable talking to my students about Native Americans and the many tribes that once lived in Arkansas.			1	1	1
I feel comfortable talking to my students about the many cultural and socio-economic groups that lived in antebellum and postbellum Arkansas.				2	1
I fully understand how archeology fits into teaching social studies concepts to my students.				2	1
I encourage my students to learn about archeology.				1	2
I encourage my students to visit local, state, and federal parks and heritage sites that feature archeological sites.				1	2
I encourage my students to protect and preserve the past.			1		2

Table 1. Pre-workshop Competency Questionnaire Results

Survey questions	Survey responses				
	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)
Gathering, Gardening, and Agriculture effectively taught my students concepts of archeology and the ways archeologists learn about the past.				1	2
Gathering, Gardening, and Agriculture complemented my current curriculum regarding Native American and early European and African-American plant use.				2	1
Gathering, Gardening, and Agriculture effectively taught my students concepts of the process of plant domestication and the development of more agriculture.				2	1
Gathering, Gardening, and Agriculture effectively taught my students about colonization and multi-ethnic interactions as they relate to plant use and foodways.			1	1	1
The information in Gathering, Gardening, and Agriculture is clearly presented and appropriate for students in 5th grade.				1	2
The illustrations in Gathering, Gardening, and Agriculture are well presented, creative, and engaging to students.				2	1
The activity book complemented the information presented in Gathering, Gardening, and Agriculture.				2	1
I will incorporate Gathering, Gardening, and Agriculture into my classes.				1	2
I would recommend Gathering, Gardening, and Agriculture to other educators and parents.				1	2
Do you have any suggestions, comments, or concerns that you feel would make Gathering, Gardening, and Agriculture better?	More hands on.				
How did you hear about Gathering, Gardening, and Agriculture?	Email from school admin, Facebook, and Jodi Barnes				

Table 2. Post-workshop Assessment Results

people raised their hands. At the end of the workshop, Barnes asked the participants how people would teach archeology in their social studies courses now. All of the participants raised their hands.

The evaluation committee also collected zip code and school information from participants to determine the range of participation from teachers around the state (Table 3). The zip codes indicate that although the number of attendees for the two workshops was small, the workshops reached a range of educators from 16 different counties across the state. Despite the low attendance at the workshops, data collected through these various evaluation tools helped us gauge the effectiveness of increasing archeological content knowledge among teachers, as well as our ability to create content that can be implemented by educators in the classroom. Additional feedback on the curriculum can be seen in Table 4.

Three members of the evaluation team attended one of the four teacher workshops (with the exception of the Beahm and Barnes who attended all workshops). Alison Reavis planned to attend the Arkansas Curriculum

Conference workshop, but no teachers attended. Beahm and Sims have provided summary overviews on the effectiveness of the workshop, the curriculum, and the ability of the curriculum to be implemented in the classroom. The reports are attached (see page 8).

County	Number of participants
Lonoke County	1
Union County	1
Pulaski County	4
Ouachita County	1
Phillips County	1
Drew County	2
Grant County	1
Faulkner County	1
Crittenden County	1
Madison County	1
Jefferson County	1
Benton County	1
Hempstead County	1
Jackson County	1
White County	1
Desha County	1
Total	20

Table 1. Attendance at Gathering, Gardening, and Agriculture Teacher Workshops by County.

Follow up and future dissemination of materials

The curriculum combined with the teacher workshops and website promotes and enhances archeological education in Arkansas's public schools. The Survey is continuing the teacher workshops. One is scheduled for June 21 during the Arkansas Archeological Society/Survey Training Program in Cass, Arkansas. In addition, Brynn Sims, an educator who worked with the Survey to develop the curriculum, is planning to offer a teachers' workshop for Rogers Public Schools and educators in Fort Smith have inquired about a workshop for their school district. In subsequent months following the workshops, we will submit follow-up surveys to the teachers who attended the workshops to gauge the effectiveness of curriculum implementation and ways to improve the activity book.

Dr. Barnes submitted a short article about the curriculum to *Field Notes: The Newsletter of the Arkansas Archeological Society*. She will prepare a presentation on the curriculum for the 2017 meeting of the Southeastern Archaeological Conference and submit short articles about the curriculum to the *SHA Newsletter* and the Arkansas Historical Association newsletter. The curriculum will also be featured on the podcast, *Cooking with Archaeologists*.

Name and organization	Comments
Dr. Denise Baldwin, University of Arkansas at Monticello	I think this will be useful for 5 th grade social studies teachers. I would have loved to have had it for my fourth graders last year. The content is relevant and grade appropriate. I think it could be used for 4 th , 5 th , or 6 th grade.
Jayur Madhusudan Mehta, 10th grade art teacher	I wanted to let you know that I think the teaching materials on Gathering and Gardening are really amazing! I've been reading them online, great work!
Susan Boone, Supervisor of Special Programs, Fort Smith Public Schools	I am interested in more information about the Gathering, Gardening, Agriculture workshop. Specifically, I would like to know if I can schedule the workshop for a group of teachers and the cost per participant. I would like to include this as a professional development component of our Indian Education grant.

Table 4. General comments about the Gathering, Gardening, and Agriculture curriculum.

Assessment Reports

Brynn Sims
Rogers Public Schools
Teacher, Oakdale Middle School
08 April 2017

A Review of Gathering, Gardening, and Agriculture: Plant-based Foodways in the Southeastern United States

The following is a review of *Gathering, Gardening, and Agriculture: Plant-based Foodways in the Southeastern United States*, a fifth grade social studies curriculum. The curriculum was designed by archeologists Jodi A Barnes, Emily Beahm, Elizabeth Horton, and George Sabo of the Arkansas Archeological Survey. The curriculum provides a way for Arkansas students to learn about the prehistory of Arkansas through the examination of the archeological record. The lessons are designed to teach about foodways of the past and are arranged chronologically through time, starting with hunter gatherers and concluding with colonization of the New World and its effects on the foods we eat today.

NATIONAL AND STATE STANDARDS

This curriculum adheres to Common Core State Standards, College, Career, and Civic Life (C3) Frameworks, and Arkansas Social Studies Curriculum Frameworks. Common Core State Standards (CCSS) have been adopted by forty-two of fifty states (Standards in Your State) and seek to establish standards for literacy, including reading and writing, that are consistent across states and prepare students for the rigors of college and/or career. This curriculum asks students to read informational texts and draw on information from multiple sources (RI.5.7), determine meanings of discipline-specific vocabulary (RI.5.4), and produce clear and coherent writing for a specific task (W.5.4). The curriculum includes four informational text case studies for students to acquire the necessary background information. Each case study is based on a specific archeological site or time period in Arkansas. C3 Frameworks include: Dimension 1-Developing Questions and Planning Inquiry, Dimension 2-Appling Disciplinary Tools and Concepts, Dimension 3-Evaluating Sources and Using Evidence, and Dimension 4-Communicating Conclusions and Taking Informed Action (College, Career, and Civic Life). *Gathering, Gardening, and Agriculture: Plant-based Foodways in the Southeastern United States* is an excellent source for teaching C3 Frameworks because C3 Frameworks are inquiry-based and promote interdisciplinary study. In the lessons, students are asked to develop questions and apply the tools and concepts archeologists use to study the past. For instance, in lesson three students must identify seed samples and interpret the relative age of archeological deposits. Students are also asked to review primary source material. *Gardening, Gathering, and Agriculture* also aligns with the ADE Social Studies Curriculum Framework. The curriculum addresses all four strands (government and civics, economy, geography, and history) in multiple ways. The curriculum places emphasis on economic decision making, cultural and environmental characteristics of early Americans, adaptation to the environment, the relationship between settlement patterns and resources, developing claims by looking at artifacts, and comparing pre-Columbian societies.

THE 5 E'S & HIGH YIELD STRATEGIES

Gathering, Gardening, and Agriculture's six lessons are arranged for the teacher using the Biological Sciences Curriculum Study 5E Instructional Model (Bybee). This model includes engagement, exploration, explanation, elaboration, and evaluating, and emphasizes deeper understanding of broad ideas and concepts. The curriculum also includes many of the research-based high-yield instructional strategies (Dean & Marzano) that increase student achievement. Several of the strategies used in this curriculum are: identifying similarities and differences, note taking, nonlinguistic representations, cooperative learning,

setting objectives, generating and testing hypotheses, and advance organizers such as timelines, charts and graphs.

TEACHER WORKSHOPS

The authors of *Gathering, Gardening, and Agriculture: Plant-based Foodways in the Southeastern United States* are offering teacher workshops to allow teachers to familiarize themselves with the curriculum before implementing it in the classroom. The morning sessions allow the teachers to act as students, while the archeologists teach the lessons. Teachers (as students) create a human timeline, cut out pictures of seeds and paste them with their corresponding seasons and ecosystems, and count and graph seeds from flotation samples. The afternoon sessions include a nature walk, atlatl throwing demonstration, and a tour of an archeological site or lab. A paleoethnobotanist leads the nature walk, whereby teachers can begin to identify the types of plants that were consumed in ancient times. Teachers also get a chance to throw an atlatl at a target, simulating prehistoric hunting techniques. At one workshop, teachers toured Rockhouse Cave and were able to glimpse an ancient bluff shelter and view the rock art images that were drawn on the walls and ceiling.

CONCLUSIONS

Gathering, Gardening, and Agriculture: Plant-based Foodways in the Southeastern United States ties in with the study of prehistoric societies for Arkansas 5th graders. Because this curriculum uses case studies from Arkansas, it also may be used to fulfill many of the requirements of the Arkansas History unit for grades K-6. *Gathering, Gardening, and Agriculture* is aligned with Arkansas Social Studies State Standards, C3 Frameworks, and Common Core State Standards.

Emily L. Beahm, Ph.D.
Arkansas Archeological Survey
April 14, 2017

Gathering, Gardening, and Agriculture: Plant-Based Foodways in the Southeastern United States 5th Grade Social Science Curriculum Teacher Workshops- Review

Presented here is a review of the curriculum and workshops for the Gathering, Gardening, and Agriculture: Plant-Based Foodways in the Southeastern United States 5th grade social science curriculum developed by the Arkansas Archeological Survey.

THE CURRICULUM

The authors made a concerted effort to make this curriculum as useful and easy for teachers to use as possible. Recognizing that teachers are often rushed to cover all required topics, we organized the curriculum into five main lessons to allow teachers to spend one week on this curriculum, which seems like a reasonable amount of time. We provided the National and Arkansas standards that each lesson covers so teachers can ensure they are covering all necessary standards and can easily report the standards they cover in class. Background information is located at the beginning of each lesson to allow teachers to familiarize themselves with the content before teaching it without having to do a great deal of background research. An answer key is included for each activity. In order to be an effective teaching tool, we used the 5E Instructional Model described by Rodger Bybee (2015).

The lessons include activities designed to be engaging without requiring specialized or expensive supplies. Equipment such as scissors, glue and post-its, are things that teachers would usually have on-hand. The Arkansas Archeological Survey has also made seed packets available to teachers as a supplement to Lesson Three.

The Arkansas Archeological Survey developed an associated website for the curriculum, which is available from the Arkansas Archeological Survey's homepage. This website makes the curriculum booklet available for free online in pdf form both in its complete form and also lesson by lesson. The website also includes a PowerPoint from each lesson for teachers to use.

PLANNED WORKSHOPS

Initially we planned four workshops to introduce teachers to the Gathering, Gardening, and Agriculture curriculum material. The first planned workshop was located at the Arkansas Curriculum Conference on November 3rd, 2016 from 11:30am until 1:40pm. This conference was held in the Little Rock Marriot Hotel and conference center. There were over a dozen different sessions at any one time during this large, state-wide event. We planned to present an overview of the curriculum, and then walk through lessons one and two with the workshop attendees. To our dismay, no teachers attended this session. The reason for this lack of attendance might be because we were scheduled at a bad time (during lunch), or there may have been too many other choices for attendees.

The second workshop we planned was on Saturday, February 18th at Toltec Mounds Archeological State Park. Toltec Mounds is featured in Lesson Three of the curriculum and we planned to incorporate a tour of the site and the Plum Bayou gardens located at the State Park into the workshop. Although several people expressed interest in attending this workshop, only one teacher signed up. Again disappointed, we decided to cancel the workshop and encouraged the one teacher to attend the workshop the following month.

On March 2nd, we presented an abbreviated version of the curriculum workshop at the Arkansas Gifted and Talented Educators conference, held at the Little Rock Marriot Hotel and conference center. During this 50 minute session we gave an overview of the curriculum. Attendance to this session was very good (16 participants) and all seemed very interested and enthusiastic about the curriculum. This confer-

ence was smaller than the Arkansas Curriculum Conference, and had ten concurrent sessions at a time. Fewer choices and a better presentation time may have contributed to the greater turn out at this conference. I suspect that the audience- teachers specifically of gifted and talented students- was more receptive to teach a non-typical subject like archeology.

We held a curriculum workshop on March 18th at the Winthrop Rockefeller Institute Survey Station on Petit Jean Mountain. We had five teachers register and four show up to this day-long workshop. We walked through the first three lessons with the teachers and briefly discussed the other lessons in the curriculum before taking a tour of Rockhouse Cave- another archeological site featured in the curriculum. Three of the four teachers that attended the workshop were already fairly knowledgeable about archeology. Therefore more than learning about archeological concepts, the workshop was most useful in explaining and practicing how to implement the instruction and activities included in each lesson.

EVALUATION OF TEACHER INTEREST

We saw the greatest interest among teachers of gifted and talented students. This may be because gifted and talented teachers have a bit more flexibility in what they can teach their students. Although we strived to cover necessary social studies standards, a topic on “archeology” might not immediately strike general teachers as an effective or efficient way to cover all of the necessary topics in a school year. Even so, most educators we spoke to about this curriculum expressed interest in this curriculum. If teachers are able to look at the curriculum (which they now can on the curriculum website), I think they will realize that it is an efficient and fun way to approach a large number of required standards.

EFFECTIVENESS OF TEACHER WORKSHOPS

The teacher workshops were designed to serve two purposes: to provide a background on the archeological content of the curriculum and to go over the actual instruction of each lesson. For those teachers that do not have any previous experience in archeology, a brief overview of the change in plant use through time in Arkansas would be useful.

As mentioned, three of the four participating teachers in the day-long workshop had previous archeological knowledge. Even so, the curriculum workshop was valuable for them. It is extremely useful for educators to work through lessons before attempting to teach them. This makes sure they are familiar with all of the relevant concepts and can anticipate questions that may arise.

CONCLUSIONS

The Gathering, Gardening, and Agriculture curriculum provides 5th grade social science teachers with the content and activities they need to teach their students about Arkansas plant foodways through time while covering many required social studies standards. The layout of each lesson is straight forwards and clear. Using archeology to teach required social studies standards is a fun and interesting way for students to connect to the contents of those standards.

The teacher workshops for the Gathering, Gardening, and Agriculture curriculum were not as well attended as we had hoped. Nevertheless, they were useful in conveying the archeological content in the curriculum and demonstrating the process of teaching the lessons. While teachers would be capable of teaching the curriculum without attending a workshop, they do better prepare educators to teach the curriculum.

We currently have two more curriculum workshops planned for the future, and are open to conducting more. Interest in this curriculum and attending workshops on the curriculum will likely grow as educators can inspect it online and hear about it from other teachers.

Gathering, Gardening, an Agriculture: SEAC Public Outreach Grant

Nov '16	Barras	glue,	374.30	374.30	
	Office	refill, etc			
Nov '16	Deeoot		49.37	49.37	
Nov '16	Mileage	50 miles @ .42	21.00	21.00	
Jan 17	Barras	9 Hours			207.44
Feb '17	Barras	40.5 hours		-	1,516.73
Mar 17	Barras	32.5 hours			1,016.37
Mar 17	Leah	8 Hours			256.24
Mar 17	Sann	12 hours		-	607.09
Mar 17	Leah USPS	postage	21.40	21.40	
		markers,			
Mar 17	Staples	basal, etc	70.00	70.00	
Mar 17	Barras		24.80	24.80	37.60
Mar 17	Barras			-	65.50
Mar 17	Barras			-	103.51
Mar 17	Barras			-	149.90
Sep '16	Alwoods	supplies	78.89	78.89	
Oct 16	Forlon	28 hours		-	896.83
Nov '16	Forlon	6.5 hours		-	210.22
Jan 17	Forlon	40 hours		-	1,291.18
Aug '16	Barras	21 hours		-	82.95
Aug '16	Bealn	44.5 hours		-	1,807.98
Sep '16	Bealn	66 hours		-	1,616.00
Oct 16	Bealn	26.5 hours		-	778.91
Nov '16	Ke-ell	41 hours		-	1,20.90
Nov '16	Bealn	13.5 hours		-	296.80
Jan 17	Bealn	7 Hours		-	225.75
Feb '17	Bealn	12.5 hours		-	543.77
Mar 17	Bealn	28 hours		-	823.00

