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STUDENT JOURNAL



The Archaeology of Early Agriculture in Kansas

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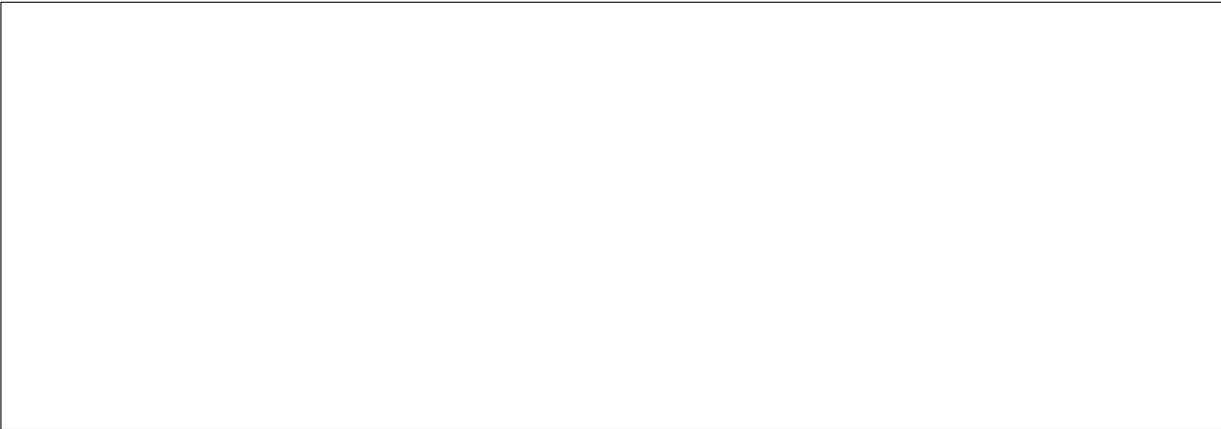
ARCHAEOLOGY POPULAR REPORT
NUMBER 5

INTRODUCTION

Getting Started

Your teacher will provide you with a vegetable seed.

1. Examine your vegetable seed. Observe its size, shape, color, and texture. Draw and describe it.



2. This is a _____ seed.

3. What is the seed's purpose (function)? _____

4. Why is this function so astonishing given the size of the seed? _____

5. How does nature provide us with seeds? _____

6. Where did humans get food before there were gardens or farms? _____

7. Think about something you ate today. What role did seeds play in that food? _____

8. How can you use seeds to create a healthy lifestyle? _____

The Archaeology of Early Agriculture in Kansas

What is Archaeology?

Archaeology is a science that investigates past human **cultures** by looking at **sites** and **artifacts**. A culture is the set of learned beliefs, values, and behaviors generally shared by a group of people. Artifacts are the objects that people made and used. Artifacts include things such as arrow points, **potsherds**, stone and bone tools, animal bone, and plant seeds.

Sites are places where people lived or worked in the past, such as villages or camps. Archaeologists also study **features**. A feature is **evidence** of human activity found in the soil. Evidence is information used to prove something or to help arrive at a conclusion. Examples of features include a dark spot in the soil where a house post once stood, the baked earth and ash from a fire, or a storage pit that was used to store food.

Match the bolded terms with the images on Student Magazine pages 3-4. An image may fit with more than one term.

Terms	Image Numbers					
archaeology	_____	_____	_____	_____	_____	_____
cultures	_____	_____	_____	_____	_____	_____
sites	_____	_____	_____	_____	_____	_____
artifacts	_____	_____	_____	_____	_____	_____
potsherds	_____	_____	_____	_____	_____	_____
features	_____	_____	_____	_____	_____	_____
evidence	_____	_____	_____	_____	_____	_____



The Job of an Archaeologist

Below is a list of the five phases in the process of studying an archaeological site. Write at least two facts for each phase. Then draw a symbol that represents the main idea of each phase. A symbol is usually an image.

You may recognize this symbol:



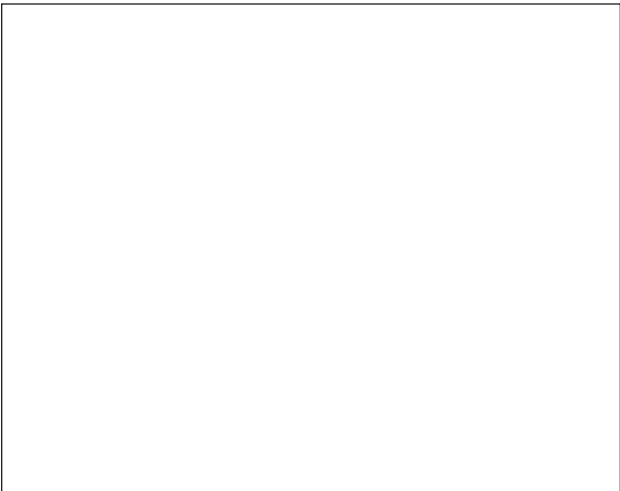
Phase 1. Site Survey (Finding Where People Lived)

A large, empty rectangular box with a thin black border, intended for drawing a symbol representing the main idea of Phase 1.

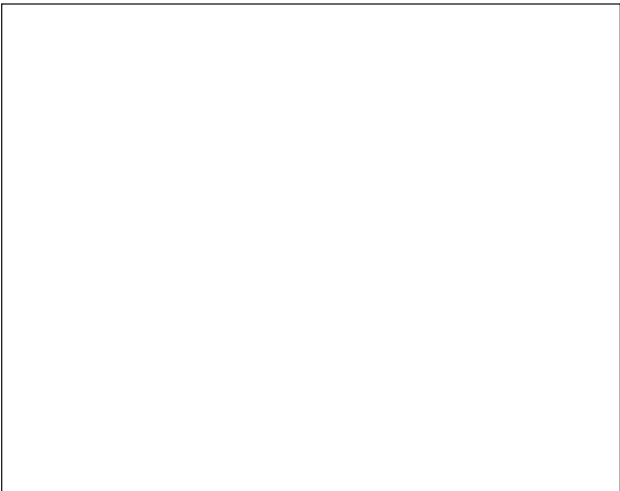
Phase 2. Site Report (Keeping Track)

A large, empty rectangular box with a thin black border, intended for drawing a symbol representing the main idea of Phase 2.

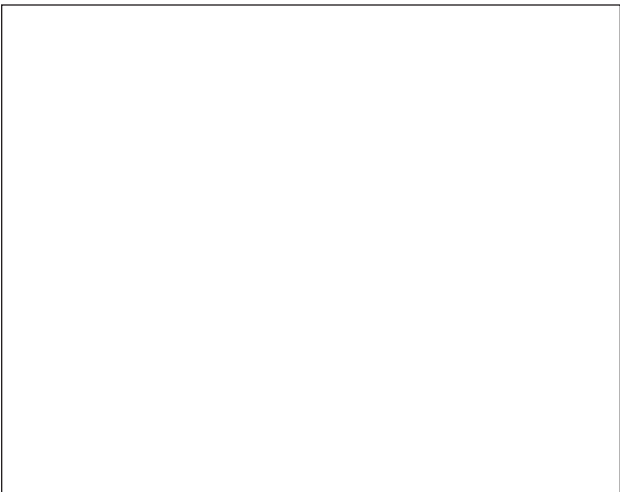
Phase 3. Excavation (Uncovering History)



Phase 4. Laboratory Work (Studying and Concluding How People Lived)



Phase 5. Final Site Report (Communicating Research Results)



Finding Food 5,000 Years Ago

Archaeologists know about what people ate 5,000 years ago from studying the artifacts left behind. Archaeologists describe the people who lived on the Central Plains of North America 5,000 years ago as hunter-gatherers.

Directions:

- 1. Below observe the images and read about the evidence found by archaeologists.
- 2. Use the evidence to make conclusions about what people ate and the tools they used 5,000 years ago.
- 3. Write a paragraph on the following page about your conclusions. Be sure to include why archaeologists call these people hunter-gatherers. You may illustrate your paragraph if you wish.

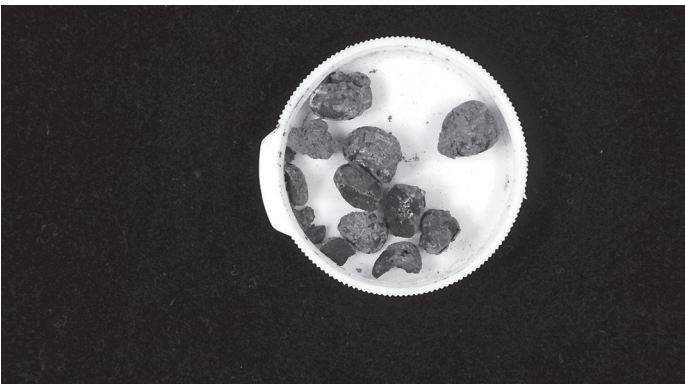
Hunting tools	People hunted using a throwing stick that archaeologists call the atlatl . A dart point was fastened at the end of a spear. The spear was laid on the atlatl. The atlatl was held over the shoulder. The hunter threw the spear using the atlatl. This helped the hunter throw the spear farther and harder.
Animal bones	Often archaeologists find bison and deer bones in 5,000-year-old archaeological sites.
Wild seeds	Sometimes archaeologists find seeds from wild plants.
Hearth	Archaeologists find stained soil that shows where people built fires. The fires were used to help the people stay warm and to cook their food. Sometimes archaeologists find seeds in the hearth.



Hunting tools



Animal bones



Wild seeds



Hearth

Your Turn to Investigate!

Archaeologists are scientists, and like all scientists they conduct investigations. Their scientific inquiries begin with questions. Your investigation questions are:

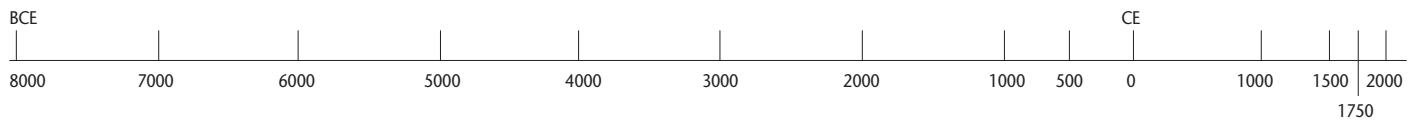
1. When did farming begin?
2. How did farming begin?
3. How did farming change the way people lived?

Before you can answer these, you need to collect **data**. Data is factual information gathered in many ways and is used to draw conclusions.

Directions:

You will be working in groups to study archaeological evidence through time. Each group will be assigned one type of artifact or feature to study. You will collect data and present a report to the class.

Archaeological Data—Native Seeds



Evidence

Plants that grew wild and whose seeds were gathered for food.

8000 to 500 BCE	500 BCE to 1000 CE	1000 to 1500 CE	1500 to 1750 CE
<p>Archaeologists find the seeds of these foods</p> <ul style="list-style-type: none"> • nut • grape • plum • sunflower 	<p>Archaeologists find fruit seeds and nuts. For the first time they find the domesticated seeds of the</p> <ul style="list-style-type: none"> • sunflower • marshelder • goosefoot • little barley <p>Archaeologists know that the seeds are domesticated because they are larger than seeds of the native sunflower, marshelder, goosefoot, and little barley.</p>	<p>Archaeologists find the same seeds as in the previous period, but they find an increasingly larger number of domesticated seeds.</p>	<p>Archaeologists find fewer wild seeds but still find domesticated seeds of native plants, such as sunflower.</p>

1. Describe how the seeds changed over time.
2. Describe what you think the change tells about how people were living in relationship to food.

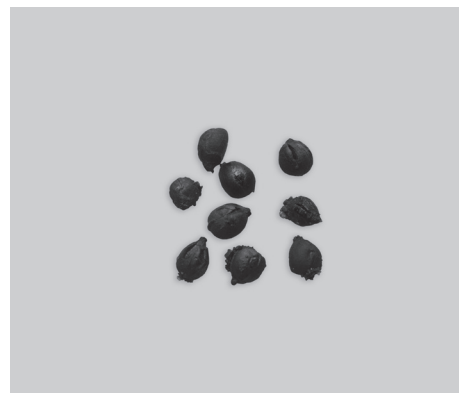
8000 BCE to 1750 CE



Black walnut shell



Hickory nut shells



Grape seeds



Plum pits

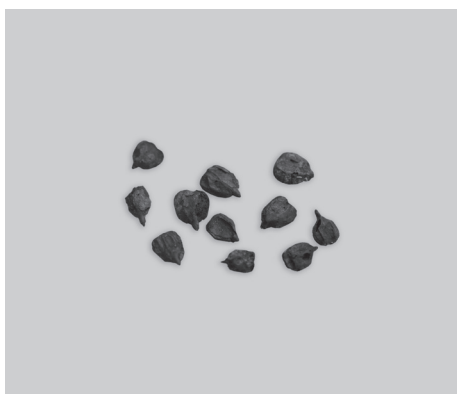


Sunflower seeds

500 BCE to 1750 CE



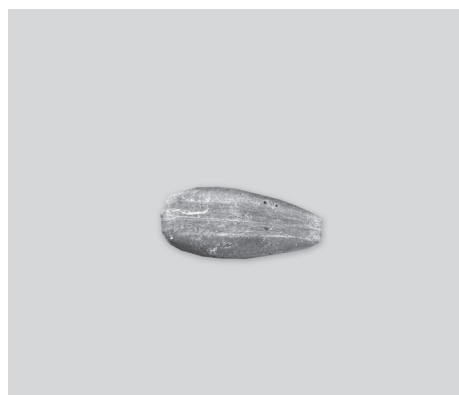
Sunflower seeds



Marshelder seeds

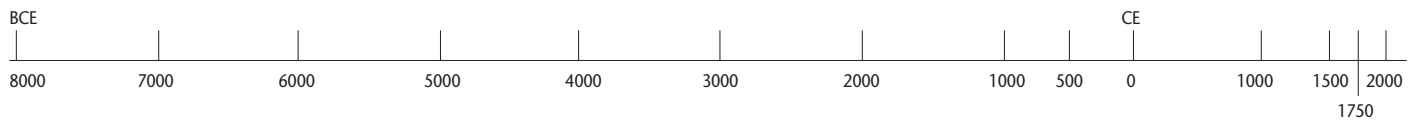


Goosefoot seeds (shown larger than actual size)



Little barley seed (shown larger than actual size)

Archaeological Data—Introduced Seeds



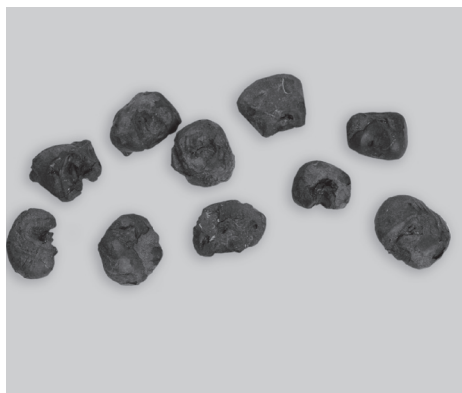
Evidence

Domesticated seeds brought into Kansas by humans from other parts of the world.

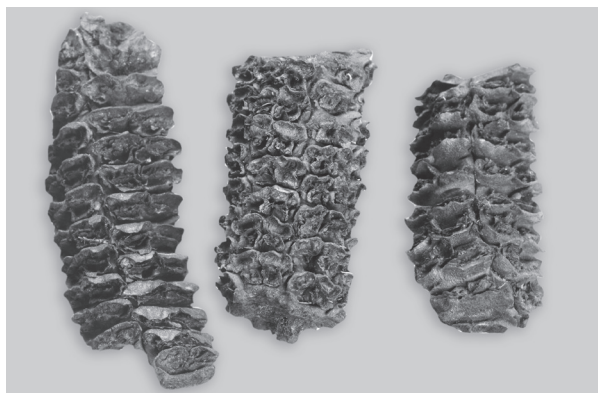
8000 to 500 BCE	500 BCE to 1000 CE	1000 to 1500 CE	1500 to 1750 CE
Archaeologists do not find any domesticated seeds.	Archaeologists find corn seed and cobs for the first time. Corn is not native to Kansas. This means corn seed was brought into Kansas by humans and then planted.	Archaeologists find the domesticated seeds of corn, squash, and the common bean.	A greater amount of corn appears than ever before. Archaeologists continue to find greater numbers of squash and bean seeds.

1. Describe how the seeds changed over time.
2. Describe what you think the change tells about how people were living in relationship to food.

500 BCE to 1750 CE



Corn kernels



Corn cobs

1000 to 1750 CE

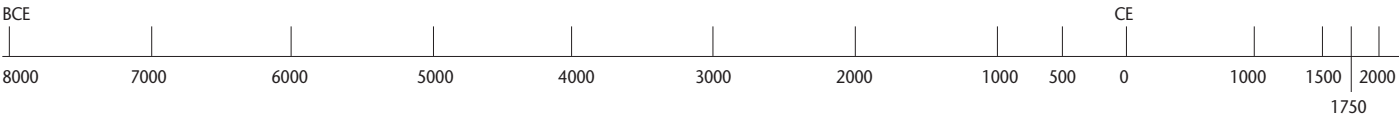


Squash seeds



Common beans

Archaeological Data—Farming Tools



Evidence

Objects used in farming, storing food, and preparing food.

8000 to 500 BCE	500 BCE to 1000 CE	1000 to 1500 CE	1500 to 1750 CE
Archaeologists find manos and grinding slabs. A mano is a stone held in one hand to grind seed for flour. The seeds are ground on top of a grinding slab, which is a flat stone.	In addition to manos and grinding slabs, archaeologists find a few digging sticks and antler rakes.	Archaeologists find greater numbers of digging sticks and antler rakes. For the first time they find bison scapula hoes.	Archaeologists find even greater numbers of digging sticks, antler rakes, and bison scapula hoes. These tools quickly became less common once metal tools were introduced by people from the Old World.

1. Describe how the artifacts changed over time.
2. Describe what you think the change tells about how people were living in relationship to food.

8000 BCE to 1750 CE



Grinding slab and mano

500 BCE 1750 CE



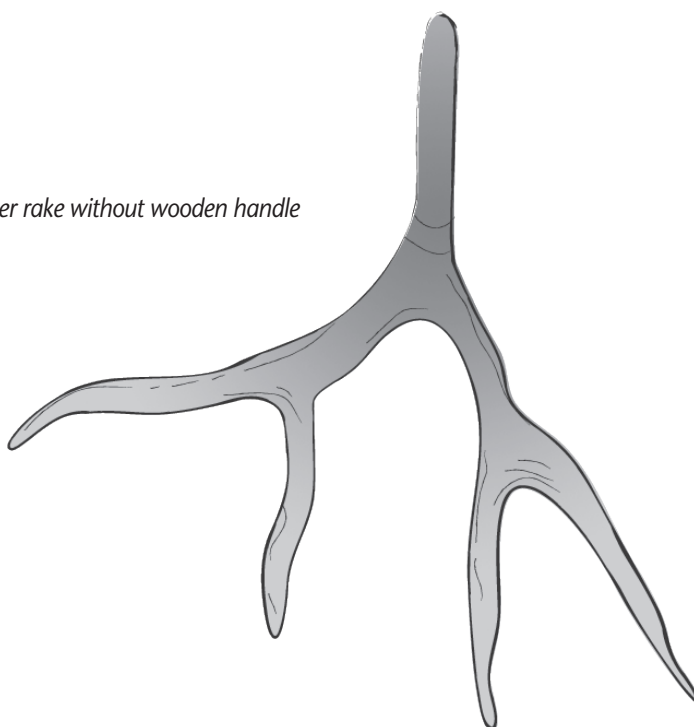
Digging stick tips without wooden handles

1000 to 1750 CE

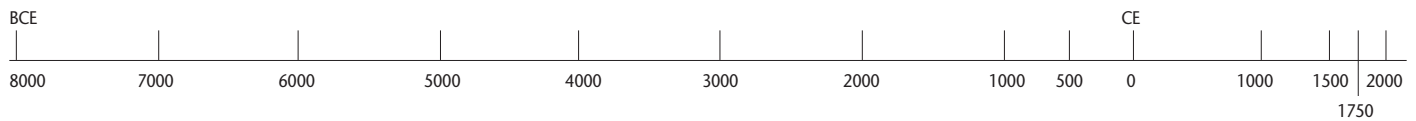


Bison scapula hoe without wooden handle

Antler rake without wooden handle



Archaeological Data—Ceramics



Evidence

Objects made from clay and heated in a fire to make them hard. Pottery is one kind of ceramic. Pottery is most often found in broken pieces, as whole pots are rare. These pieces are called potsherds. Pottery was used to store seeds and to cook food.

8000 to 500 BCE	500 BCE to 1000 CE	1000 to 1500 CE	1500 to 1750 CE
Archaeologists do not find any pottery.	Archaeologists find the first potsherds in very small numbers. They are thick and easily broken.	Archaeologists find greater numbers of potsherds. They are thinner and stronger than earlier potsherds.	Archaeologists find even greater numbers of potsherds from thinner, stronger pots in sites. They also find a new style of pot with handles. Pottery became less common when metal pots were introduced by people from the Old World.

1. Describe how the artifacts changed over time.
2. Describe what you think the change tells about how people were living in relationship to food.

500 BCE to 1000 CE



Potsherds found in small numbers



Reconstructed Woodland period pot

*Reconstructed Village Gardening
period pot*

1000 to 1500 CE



Potsherds found in greater numbers

1500 to 1750 CE

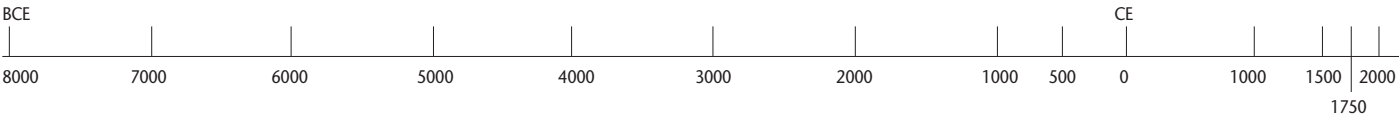


Reconstructed Protohistoric period pot



Potsherds found in even greater numbers

Archaeological Data—Storage Pits



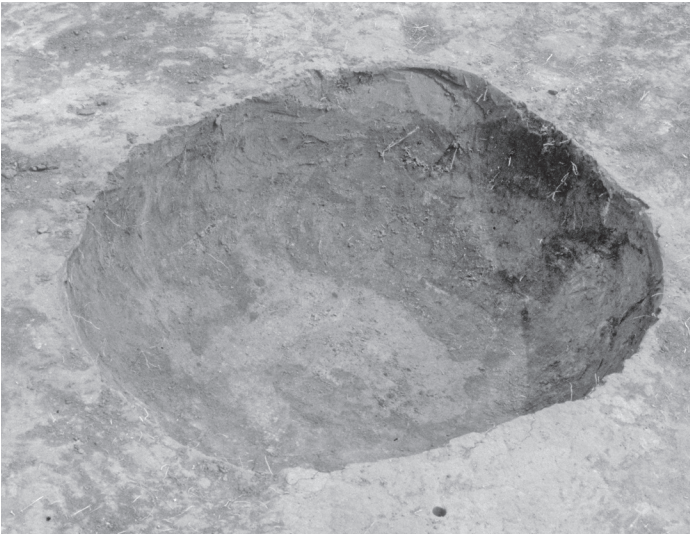
Evidence

A feature in an archaeological site where people stored seeds and food. The food was stored for eating or for planting later.

8000 to 500 BCE	500 BCE to 1000 CE	1000 to 1500 CE	1500 to 1750 CE
Archaeologists do not find any storage pits.	Archaeologists find very few storage pits. The ones they find are shallow and therefore cannot store very much.	Archaeologists find many storage pits. The ones they find are deeper than the earlier pits, which means that they can store more.	Archaeologists find even more storage pits.

1. Describe how the features changed over time.
2. Describe what you think the change tells about how people were living in relationship to food.

500 BCE to 1000 CE



Shallow storage pit

1000 to 1500 CE

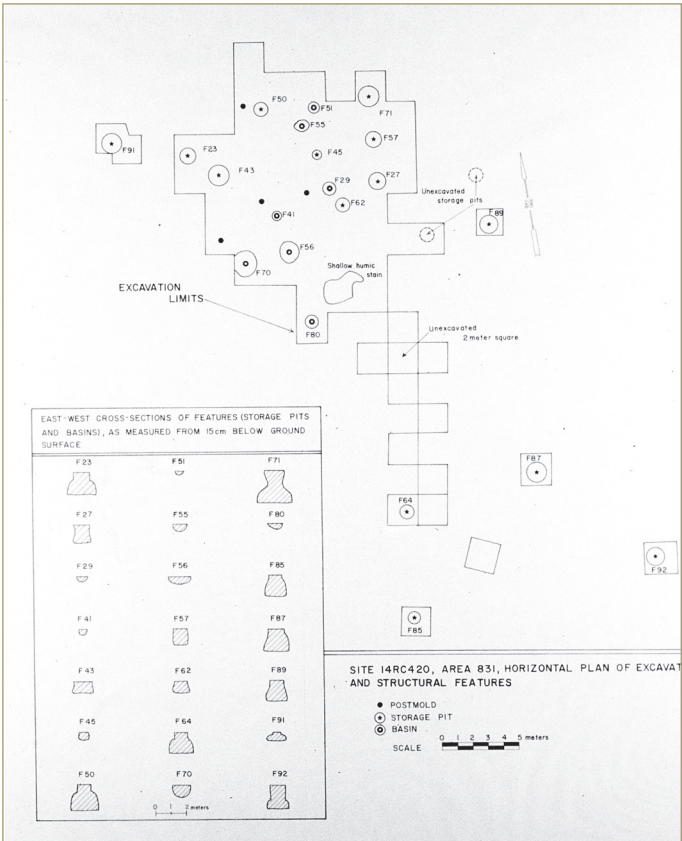


Deeper storage pit

1500 to 1800 CE

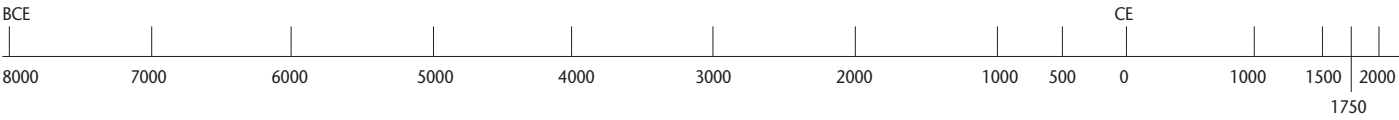


Many storage pits exposed in excavated house floor



Map of a different excavated area with many kinds of storage pits

Archaeological Data—Housing



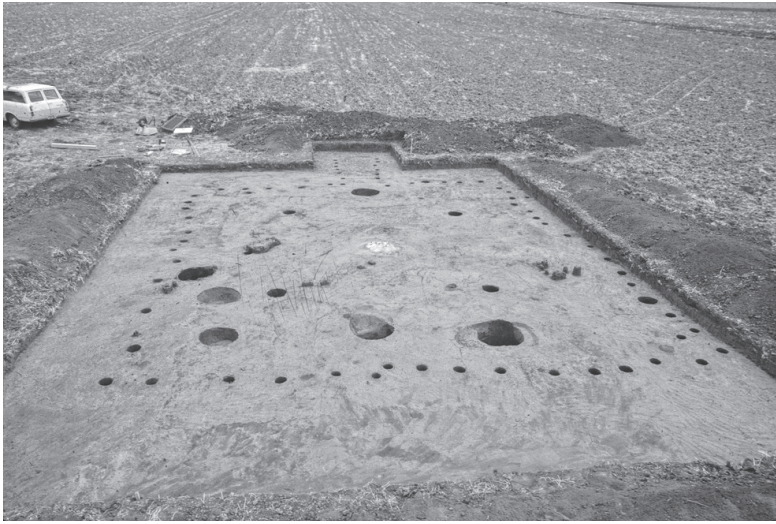
Evidence

The remains of houses in a site appear a features, such as dark stains in the earth that show where posts once stood and where hearths were placed.

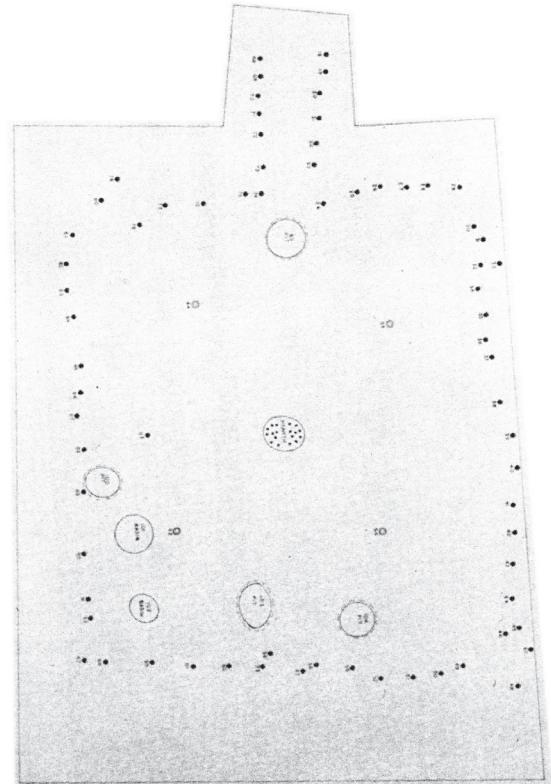
8000 to 500 BCE	500 BCE to 1000 CE	1000 to 1500 CE	1500 to 1750 CE
Archaeologists do not find any house sites.	Archaeologists find a few house sites.	Archaeologists find more house sites. They rarely find more than two or three houses in one place.	Archaeologists find a greater number of house sites. Some of these sites have 20 or more houses.

1. Describe how the features changed over time.
2. Describe what you think the change tells about how people were living in relationship to food.

1000 to 1500 CE

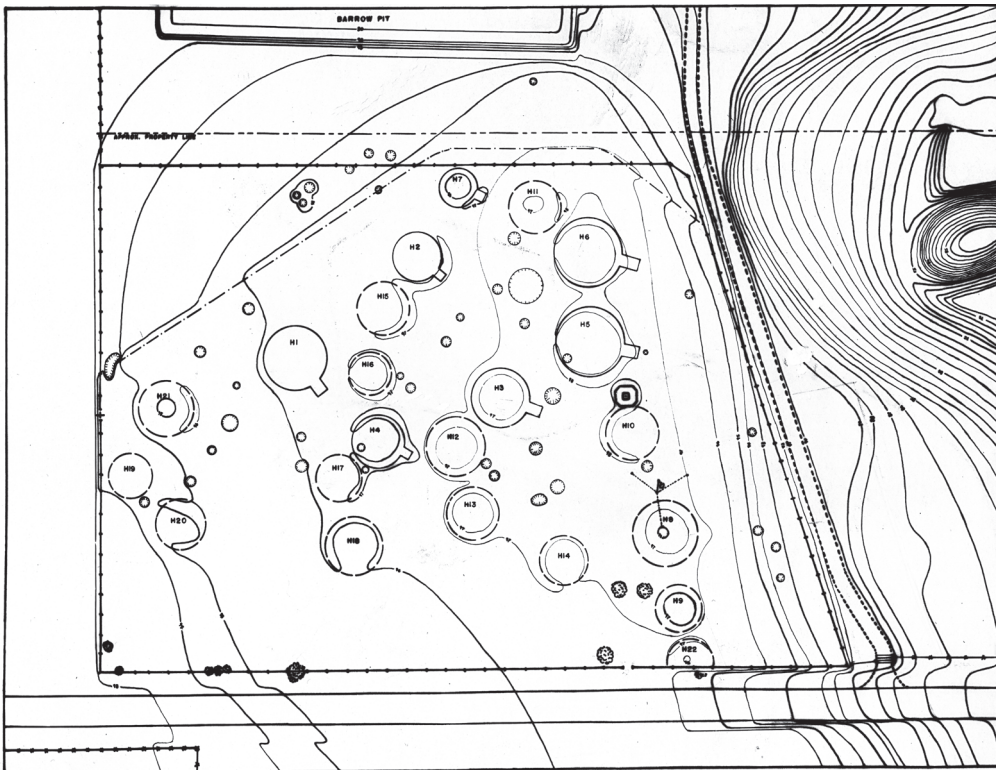


Excavated house floor



Map of excavated house floor in photograph to left

1500 to 1750 CE



Map of village site with many houses

Investigation Data Collection Sheet

1. Describe how the artifacts or features changed over time.
2. Describe what you think the change tells about how people were living in relationship to food.

Native Seeds

- 1.
- 2.

Introduced Seeds

- 1.
- 2.

Farming Tools

- 1.
- 2.

Ceramics

- 1.
- 2.

Storage Pits

- 1.
- 2.

Housing

- 1.
- 2.

Your Work as an Archaeologist: The Technical Report

The work of archaeologists does not end with uncovering artifacts and solving mysteries. Their responsibilities are complete when they publish a technical report. This report includes their conclusions about what they found so that other people can learn from their work.

Describe how you gathered your information for this investigation on early farming in Kansas.

Answer your investigation questions. Your answers are your conclusions based on the evidence of the artifacts and features.

1. When did farming begin?

2. How did farming begin?

3. How did farming change the way people lived?

SECTION TWO

Letter to the Editor

Surprisingly, most citizens know very little about the importance of protecting archaeological resources. Compose a letter to the editor of your local newspaper. The purpose of the letter is to convince readers to protect archaeological evidence.

Format your letter correctly. The content of your letter will:

- explain how and what archaeology taught you about early farming in Kansas
- encourage others to protect archaeological resources
- explain why archaeology is important
- provide the Kansas Historical Society's address and phone number to report artifacts and sites

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Glossary

agricultural heritage – a way of living passed down through generations and related to growing food

ancient – belonging to the past; very old

antler – a solid bony branched structure found on the heads of animals in the deer family. Antlers are shed each year.

archaeological resources – artifacts, features, and sites that archeologists use to investigate past cultures

archaeologist – a scientist who studies people in the past. This includes people who lived before written history.

archaeology – a science that investigates past human cultures by looking at artifacts and sites; sometimes spelled archeology.

aromatic – with a pleasant smell

artifacts – objects made and used by people

atlatl – spear thrower

bioregion – a natural area defined by its plants, animals, geography, and climate

ceramics – objects made from clay and heated in a fire to make them hard. Pottery is one kind of ceramic.

civic responsibility – caring and being involved in your community

culture – the set of learned beliefs, values, and behaviors generally shared by a group of people

data – factual information gathered in many ways and used to draw conclusions.

domesticated seeds – seeds changed as a result of human actions

evidence – information used to prove something or to help arrive at a conclusion

excavation – systematically removing dirt from an archaeological site so that artifacts and features can be observed and recorded

feature – evidence in the soil of human activity. An example is a storage pit used to store seeds and food.

floodplain – an area of low-lying land where rich soil is deposited when a river floods

flotation – a method using circulating water to separate seeds and other small items from soil samples

genetics – the biochemical basis of heredity and variation of organisms

hearth – a place where a fire is built for heating and cooking

inferred – concluding something based on evidence

introduced seeds – domesticated seeds brought into Kansas many years ago from other regions

laboratory – a place where artifacts are cleaned, sorted, and catalogued and analysis is carried out

mano and grinding slab – a smaller, rounded hand-held stone (mano) and a flat or indented base rock (grinding slab) used to grind seeds into flour

native seeds – seeds from wild plants that grow naturally in a certain area

obstacles – somebody or something that prevents progress

potsherds – pieces of broken pottery found in archaeological sites

prehistoric, prehistory – the period of time before written records

scapula – shoulder blade

sites – places where people lived or worked in the past, such as villages or camps

site record form – written description of an archaeological site that records its location, size, visible artifacts and features, age, etc.

site report – detailed written description of how archaeological research was done and what archaeologists conclude to tell the story of how past peoples lived

site survey – archaeologists walking across the ground and looking for artifacts or features on the surface

storage pit – a feature in an archaeological site where people stored food and other items, such as seeds, for later use

tibia – one of the lower leg bones



