

Building a Grass House

Overview: This lesson uses photographs, objects, and a sewing activity to introduce students to the grass house, one type of housing used by Indians living in Kansas long ago. Sentence strips and corresponding illustrations reinforce ten facts about the grass house. This lesson is designed to be taught in two parts.

Recommendation: It is recommended that the lesson “Indians in Kansas Today” be taught first and that the grass house lesson be taught in conjunction with those on the tipi and earth lodge.

First Grade Standards:

History (2004):

Benchmark 2, Indicator 4: The student will compare types of shelter used by American Indians in Kansas over time (e.g., grass lodge, tipi, earth lodge, frame house).

Benchmark 4, Indicator 3: The student asks questions, shares information, and discusses ideas about the past using resources such as maps, photographs, books, and people.

Geography (2004):

Benchmark 5, Indicator 2: The student describes how the physical environment impacts humans (e.g., choices of clothing, housing, crops, recreation).

Reading (2003):

Benchmark 2, Indicator 3: The student reads expressively with appropriate pace, phrasing, intonation, and rhythm of speech with familiar text.

Objectives:

Content

- The student identifies facts about the grass house.
- The student identifies that natural resources were used to make tools and grass houses.
- The student locates on a map of Kansas where grass houses were built.

Skills

- The student matches pictures to expository text.
- The student reads expository text to gain knowledge.
- The student reads to practice fluency.
- The student matches a scale model grass house to the grass house footprint on the map.

Essential Questions:

- Who lived in grass houses in Kansas?
- Why did Indians choose to make their house out of tall grass and wood?

Trunk Materials Needed:

Kansas Floor Map (fabric)
Grass house scale model
2 pieces of collapsible poles

10 foot cord

10 yellow grass house sentence strips and corresponding picture clue cards

Pocket chart

Reproduction Objects

- Rawhide strip
- Bark rope
- Scapula hoe blade
- Pole sample
- Digging stick
- Grassing needle

Images #1-6

- #1 – Tall Grass Environment
- #2 – Grass House Village
- #3 – Grass House Frame
- #4 – Sewing on Grass Bundles
- #5 – Completed Grass House
- #6 – People Standing by Their Grass House

Materials You Need to Supply:

- Tape to cover the tip of the grassing needle during the “sewing” activity at the end of Day 1.
- “Indian Homes in Kansas” KWL chart with the first two columns completed. If a chart was started with another lesson continue to use it. (For information on what a KWL chart is and how to prepare and use one, see page vii.)

Advance Preparation Needed:

- The first two columns of the “Indian Homes in Kansas” KWL chart need to be completed before starting this lesson.
- Place a mark at 7 feet above the ground on a wall, doorway, or someplace that is easily accessible. This is the average height of the tall grass used in building a grass house.

Vocabulary:

Footprint = The section of ground that the grass house is sitting on. The footprint is the shape of the grass house where it touches the ground.

Natural Resources = Materials found in nature that are useful or necessary for life. Water, animals, forests, and minerals are natural resources.

Content Background for the Teacher:

The grass house is a beehive-shaped structure made from grass sewn to a wooden frame. It is one of the housing styles used by Indians in Kansas. It was not used by all Indians in Kansas.

Grass houses were built from the natural resources available. The grass house reflects the spiritual beliefs and cultural traditions of the Indian people building it. To simplify this lesson for a first grade learning level,



construction techniques and environmental influences are being dealt with but not the spiritual connection between the grass house and the people who lived in it.

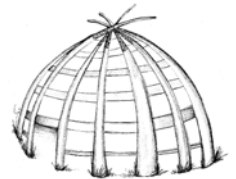
- The People – The Wichita Indians built grass houses in Kansas. The climate of the south central plains with spring thunderstorms and tornadoes, hot dusty summer days, and cold windy winter nights was the home of the Wichita. Their villages were located along rivers and streams where rich bottomland and a constant water supply allowed them to grow crops. In the fall of each year they left for an extended bison-hunting trip. While on their bison hunt the Wichita lived in tipis.

The Wichita lived in large villages. In 1541 Coronado recorded visiting a Wichita village at the great bend of the Arkansas River in present day Kansas. He estimated the population of the village at between 15,000 and 30,000 people.

The Wichita had no written language, so their culture is known through their oral tradition, historical records, and archeological studies. According to Wichita tradition, the Wichita and Pawnee were once a single group living in southwestern Arkansas and northwestern Louisiana. They moved north together to the vicinity of the Platte River before splitting up. By the 1500s the Pawnee had moved north, and the Wichita had moved south into central Kansas. The Wichita remained in Kansas until the 1700s when they moved south into Oklahoma and Texas. After a brief return to Kansas during the Civil War the Wichita returned to the south. Today, most of the Wichita nation lives in Oklahoma where its reservation is located.

- A house that did not move - Grass houses were built as permanent homes by people who cultivated crops. Communities of more than 1,500 people were situated near rivers where water was available for cultivation of beans, corn, and squash. If well built and maintained, one would last from ten to fifteen years. The people who built grass houses hunted bison. When they were on a hunt, they lived in tipis so they could follow the bison herd.
- The climate - Grass houses were built in southern Kansas where tall grass was available and the milder winter weather did not require the insulation provided by an earth lodge.
- The size of the grass house - Grass houses ranged in diameter from about fifteen to forty feet. An average of twenty people lived in one grass house. Family was very important. Extended families lived together in grass houses and built their homes near each other.
- Construction of a grass house - Women began the process of building a grass house by preparing the ground. They scribed a circle and then cut away the sod within the circle.

First a framework of wooden poles was created. The wood used in a grass house was stripped of its bark to help discourage burrowing insects. Men cut posts with a crotch in one end for the structural supports. Four of these were placed in the ground in a square, beginning with the eastern post. After this, the other posts were added to form a circle with the crotches pointing up. In these crotches, they laid more poles to form rafter-like supports. A circle of willow saplings was then placed outside this circle of posts. By bending the tops of the saplings toward the center of the house, and tying them together, a frame for the walls and roof was formed. Four of the saplings were left to extend beyond the top of the house to honor the four world quarters or gods by pointing north, south, east, and west. Rows of horizontal stringers were then added to both the inside and outside of the vertical saplings. This formed a sandwich of horizontal stringer, vertical



sapling, and horizontal stringer. By lashing these together with rawhide, the frame necessary for attaching the grass shell was completed.

Tall grasses were collected to thatch the house frame. Everyone helped gather grass. The men hauled bundles of grass to the house, and the women sewed them to the frame. To do this the women worked in pairs with one standing outside the frame and the second inside. They used grassing needles, long bone or wooden needles threaded with a strong cord made from tree bark. (Rawhide was stronger than bark cordage, but it was susceptible to moisture damage and so was not used on the exterior.) The woman on the outside placed the bundle between the sandwiched horizontal stringers. She forced the needle through the grass to the inside woman. This woman tightened the cord, wrapped the cord around a pole, and forced the needle back through the grass to the outside. The cord was then knotted securely. Grass from a bundle in the row above was pulled down to cover the knot to help protect it from weather damage. Row by row, the women worked their way around the house from the bottom to the top. They overlapped the thatch and packed it solidly.



In a structure of 15 feet at least 1,500 feet of cordage were needed. Prior to 1800, some grass houses had four doors facing north, south, east and west. The north and south doors were used only for ceremonial purposes. More recently only doors facing east and west were placed in grass houses. A hearth was made near the center of the grass house for cooking and heating. A smokehole was cut just below the peak on the east side. The doorways and the smokehole cut into the roof allowed light into the house in the morning, midday, and evening. The frame was used in building beds around the inside wall of the house.

Lesson:

Day 1

Discuss the grass house with your students using photographs #1 to #6, the reproduction objects, the floor map, and the grass house scale model as indicated below.

- Keep the objects out of sight until they are shown to the students. (Covering them or placing them in a box will work.)
- Gather students around the floor map of Kansas for this discussion.
- The table below outlines how to relate the photos, objects, floor map, and the grass house scale model to specific topics related to the grass house.

Directions	Script
<p>1. Introduce the topic of the lesson.</p> <ul style="list-style-type: none">• All people who lived long ago had houses different from ours.• Some of the houses people lived in long ago were made from natural resources.• One type of house some Indians in Kansas lived in long ago was a grass house.	<p><i>Everyone that lived a long time ago lived in houses different than the ones you and I live in today.</i></p> <p><i>Does your house have a bathroom? Houses built a long, long time ago didn't.</i></p> <p><i>Do you have a faucet in your house that you turn on to get water? Houses built a long, long time ago didn't have running water.</i></p> <p><i>Does your house have lights that you can turn on and off with a light switch? Houses built a long, long time ago didn't have lights they could turn on and off with a light switch.</i></p> <p><i>Houses built a long, long time ago were different from houses today. The people building houses a long time ago found other ways to meet their needs. They found their answers in nature.</i></p> <p><i>There is another very important way some houses built a long, long time ago were different from houses today. They were made from different things. Today if someone is building a house they can go to a store to buy wood and windows and bathtubs and light switches and anything else they need.</i></p> <p><i>A long, long time ago many people built their houses with things they found around them in nature. They built their houses with natural resources. Can anyone give me an example of a natural resource?</i></p> <p><i>Today we're going to talk about one type of house Indians in Kansas built a long, long time ago.</i></p>

Directions	Script
<ul style="list-style-type: none"> • Scale model • If an image of a beehive is needed, one can be found in the Picture Clue Cards used in day two of this lesson. • Kansas map 	<p><i>Indians planted their crops near the rivers. Indians who grew corn and beans and squash needed to live near their crops. They built their grass houses close to their crops. Can you find some of the crops these Indians planted near their grass houses?</i></p> <p><i>These Indians needed houses that stayed in one place because their crops stayed in one place. Grass houses stayed in one place. They did not move.</i></p> <p><i>A grass house was a good shelter for people who lived near the tall grass in Kansas.</i></p> <ul style="list-style-type: none"> • <i>A grass house was made from tall grass.</i> • <i>Grass houses were built near rivers.</i> • <i>Grass houses did not move from place to place.</i> <p><i>This is a model of what a grass house looked like. It is shaped like a beehive. Does it have any doors? How many? What does it look like it is covered with? Does it have any windows? What else do you see?</i></p> <p><i>On the Kansas map there's a place for us to put this grass house near the tall grass picture. Can you find the place? What shape is it? [circle] The shape is a circle because the bottom of the grass house is a circle.</i></p> <p><i>We know that Indians built grass houses from natural resources, and we know what grass houses looked like. Let's learn more about the grass house. First, let's find out how the Indians built a grass house.</i></p>
<p>4. Discuss the first steps in building a grass house. Use <u>the digging stick</u>, <u>the scapula hoe blade</u>, <u>photo #3</u>, <u>the wooden pole sample</u>, and the <u>rawhide lashing strip</u> to illustrate the discussion.</p>	<p>This piece of the script is also located on the back of Photo #3 – Grass House Frame.</p> <p><i>What shape did we say the bottom of the grass house was when we put it on the map? [circle] The first step in building a grass house was to mark a circle on the ground. Let's sit in a circle</i></p>

Directions	Script
<p>5. Discuss attaching the grass to the wooden frame. Use <u>photo #4</u>, <u>the grassing needle</u>, and <u>the bark cordage</u> to illustrate this discussion.</p> <ul style="list-style-type: none"> • Photo #4 – Sewing on Grass Bundles • Grassing Needle and Bark Cordage 	<p>This piece of the script is also located on the back of Photo #4 – Sewing on Grass Bundles.</p> <p><i>What did a grass house need that we haven't talked about yet? [grass] After the frame was built it had to be covered with bundles of grass.</i></p> <p><i>Tall grass was cut from the Kansas prairie. Everyone helped cut the grass. Then the grass had to be put on the frame.</i></p> <p><i>This is a photo of women sewing bundles of the tall grass onto the wooden frame. The women started sewing at the bottom of the house. As they got higher and higher they had to climb up the wooden frame. The women finished sewing on grass at the top of the house. How do you think it felt to sit way up there and sew on grass bundles? Fun? Scary?</i></p> <p><i>The women used a grassing needle and cordage to sew grass bundles to the frame. The needle was made from a bone and the cordage was made from tree bark. Are the needle and cordage made from natural resources?</i></p> <p><i>The women worked in pairs of two. First they threaded the cordage through the eye of the needle. Can you find the eye of this grassing needle?</i></p> <p><i>One woman was on the outside of the house. The other woman was on the inside of the house. The outside woman pushed the needle through the grass bundles. The inside woman grabbed the needle and pulled it into the house. She wrapped the cordage around the frame and pushed the needle back to the woman outside. The outside woman wrapped the cordage around the frame and pushed the needle back to the inside. The needle went back and forth, in and out, until all the grass was sewn onto the frame.</i></p> <p><i>Does this sound like easy work or hard work?</i></p>



Directions	Script
<p>6. Share additional information about grass houses. Use <u>photo #5</u>.</p> <ul style="list-style-type: none"> • Photo #5 – Completed Grass House 	<p>This piece of the script is also located on the back of Photo #5 – Completed Grass House.</p> <p><i>This is a photograph of a completed grass house. All the grass is sewn onto the wooden frame.</i></p> <p><i>Grass houses were big. Sometimes 20 people lived in one grass house. Grandmas and grandpas, moms and dads, aunts and uncles, brothers and sisters, and cousins lived together.</i></p> <p><i>Inside the house beds were built along the walls. A pit for a fire was made in the middle of the house. The fire was used to cook food. The fire also heated the house in the winter. The smoke escaped through a hole cut in the grass near the top of the house. This smokehole also let the sun into the house.</i></p> <p><i>Did we see a smokehole on our grass house model?</i></p>
<p>7. Direct the students to learn about grass houses by looking at a photo. Use <u>photo #6</u>.</p> <ul style="list-style-type: none"> • Photo #6 – People Standing by Their Grass House 	<p>This piece of the script is also located on the back of Photo #6 – People Standing by Their Grass House.</p> <p><i>Look at the grass house in this photo.</i></p> <ul style="list-style-type: none"> • <i>What shape is a grass house? [beehive]</i> • <i>Can you see any of the wooden frame?</i> • <i>Many grass houses had two doors. One door always faced east. Can you find a door on this grass house? Is it open or closed? How do you think they close the door?</i> • <i>Do you see any windows? [no] Grass houses did not have any windows. Light came into the house through the smokehole and the doors.</i> • <i>Did we see any doors or windows on our grass house model?</i>
<p>8. Review information about the grass house and reinforce the fact that grass bundles were sewn onto the wooden frame with a sewing activity. Use the <u>grassing needle</u>,</p>	<p><i>We've learned a lot about the grass houses some Indians in Kansas built a long, long time ago.</i></p> <ul style="list-style-type: none"> • <i>We know that grass houses were shaped like beehives.</i> • <i>We know that they were made around a circle.</i> • <i>We know that wooden poles were used to build a frame.</i>

Directions	Script
<p><u>the bark cordage, 2 pieces of heavy rope, and 10 feet of string or yarn.</u></p>	<ul style="list-style-type: none"> • <i>We know that bundles of tall grass were sewn onto the wooden frame.</i> • <i>We know that a grassing needle and cordage were used to sew the grass to the frame. Do you remember what the needle was made from? [bone] What was the cordage made from? [tree bark]</i> <p><i>We don't have bundles of tall grass and we don't have enough cordage to sew with, but we do have a grassing needle and some string and our imaginations. I think we have what we need to practice sewing grass bundles.</i></p> <p>[Direct students through this activity following the directions and illustrations provided below.]</p>

Directions for Sewing Activity

1. If the grassing needle tip is sharp place a piece of tape loosely over it for this activity.
2. Choose 7 students to do this activity. 5 will be “bundles of grass” and 2 will be the people sewing the “grass bundles” to the “frame” (the poles).
3. Have the 5 “grass bundles” stand in a single file line facing the back of the person in front of them. Give them the **two pole segments** to hold so that one pole is held in each of their left hands and the other pole is held in each of their right hands. One pole should be stretched along each side of the line of “grass bundles.” Each pole represents a horizontal wooden pole on the grass house frame. Grass bundles are sandwiched between the wooden poles to help hold them in place.
4. Thread the **10’ nylon cord** through the grassing needle (tie a knot you will be able to untie at the conclusion of this activity). Tie the end of the string loosely to one of the poles in front of the first “grass bundle.” This pole will be on the “outside” of the grass house.
5. Have the 2 “sewing people” stand on either side of the line. One will be “inside” the house and other will be “outside” the house.
6. Explain that they will start by sewing the “grass bundles” to the “frame” in front of the first “grass bundle.” Then they will sew between the first and second “grass bundles,” then between the second and third and so on. They will end up sewing behind the last “grass bundle.”



Directions	Script	
<p>7. Start the needle with the “outside sewing person.”</p> <p>8. The “outside sewing person” should pass the needle under the poles, in front of the first “grass bundle.” The “inside sewing person” will take the needle from under the poles and return it to the “outside” person by passing it back over the poles. The “outside” person will then take the needle and begin the process again between the first and second “grass bundles.”</p> <p>9. The process will be repeated until all the “bundles” are sewn to the “frame.”</p> <p>10. Repeat the activity until everyone has had a chance to participate in some way.</p> <p>11. Please remove the nylon cord and the tape from the grassing needle before returning them to the trunk.</p>		<p>under</p>  <p>over</p> 

Day 2

Place the sentence strips and icons in the pocket chart before beginning this part of the lesson.

Directions	Script
<p>1. Use the “<u>Ten Facts About the Grass House</u>” <u>sentence strips</u> and the corresponding <u>grass house sentence strip icons</u> and the <u>pocket chart</u> to review facts about the grass house.</p> <ul style="list-style-type: none"> • First reading – Guide the students through a reading of the sentence strips using the icons to assist with word recognition. • Second reading – Do a choral 	<p><i>Yesterday we learned about one type of house Indians in Kansas built a long, long time ago. Can anyone tell what the name of this house is? [grass house]</i></p> <p><i>Today we’re going to review 10 facts about the grass house.</i></p> <p>Use the directions to the left to use the sentence strips to review 10 facts about the grass house.</p>

<p>reading of the sentence strips as the class reads the sentence strips along with the teacher.</p> <ul style="list-style-type: none"> • Third reading – The class reads the sentence strips. • Remove the icons from the pocket chart and distribute them to students. Have students match the icons to the corresponding text as they place them back in the pocket chart. The icons are numbered on the back for self-checking. 	
<p>2. Add information the students learned about the grass house on the <u>KWL chart</u>.</p>	<p><i>Let's add some of what we have learned to our KWL chart about Indian Homes in Kansas. What is one thing we learned?</i></p>