Project Archaeology: Investigating Shelter Series
No. 15    Investigating a North Slope Ivrulik
Sample Lesson: Part Two

Investigating a North Slope
Sod House Ivrulik

Sample Lesson

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North Slope Borough Inupiat, History, Language and Culture

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Materials developed in collaboration with the Inupiat Heritage Center
Investigation Materials
The students’ investigation is divided into two documents: “Investigating a North Slope Ivrulik: Instructions for the Teacher” (this document) and “Investigating a North Slope Ivrulik: Archaeology Notebook” (separate document). You must have both documents to teach the investigation effectively.

Instructions for the Teacher
This document contains all of the instructions you will need to conduct the investigation in your classroom plus some student materials that will be used in group activities. Within the instructions, two symbols will guide you to specific materials needed for each of the sections.

☐ Refers to pages in the Archaeology Notebook.

● Refers to pages or sections within the Instructions for Teachers.

Archaeology Notebook
The investigation contains all of the data sources and analytical tools the students will need to investigate an Ivrulik from historical, archaeological, and cultural perspectives. Ideally, each student should have a complete notebook of data and data collection sheets (Parts One to Four and the Assessment). Recognizing that providing each student with a complete notebook would require a lot of photocopying, we suggest the following alternatives:

• Make one notebook for each team of students.
• Have students print the notebook at home if possible. The quality of photographs would also be much better.
• Project the file on an LCD projector and work as a whole class.
• Have students work online, either individually or in teams.
• Have students answer questions in a journal or on separate paper instead of using the worksheets.

Teaching the Investigation
The investigation is comprehensive and uses the most authentic data sources available. It is organized into four instruction parts and an assessment which can be separated and taught over several days.

• PART ONE introduces Mr. George Leavitt and gives the students background information on the geographic location of the Ivrulik site they will be studying.
• PART TWO focuses on the history of the Ivrulik using historic photographs and information about Iñupiaq dwellings based on information from Mr. George Leavitt and archaeologists Glenn Sheehan and Anne Jensen.
• In PART THREE the students work with artifacts and quadrant maps of the Ivrulik site to make inferences about how the Ivrulik was used by the Iñupiaq people.
• PART FOUR connects the past with the present. Students learn the importance of preserving archaeological sites and how traditional Ivrulik architecture influences modern buildings that Iñupiat use today.
• In the ASSESSMENT students write an expository composition describing what they learned in the investigation and draw a modern day shelter incorporating at least three ideas from the Iñupiaq beliefs or way of life.

The investigation may be completed as a jigsaw project by dividing Parts One and Two into sections. For example, you might divide the students into two large or four smaller groups and assign each group one of the following sections:

● The Geographic Location of the Iñupiat
● Iñupiaq Ivrulik

The groups complete each of the sections and report their findings to the rest of the class. The information gathered from each of these sections must be available to all students when they complete their assessments.

Students will collect information from the data presented and make inferences. While there are no right or wrong answers, answer keys for each student activity provide you with examples of reasonable inferences students might make. They also include information about how archaeologists interpreted the data.
Part Two: History

Instructions for the Teacher

Materials

For Each Student

- Investigating a North Slope Ivrulik: Part Two (Archaeology Notebook, pages 11-19)

Preparing to Teach

1. Make a copy of Investigating a North Slope Ivrulik: Part Two for each student.
2. Post the Word Bank words.

Word Bank

sod: The top portion of the ground consisting of soil, grasses or sedges, and their roots.
Ivrulik: The Iñupiaq word for “house.” In this case, it is a sod-covered, half-underground house.
katak: The entrance hole leading from the entrance tunnel into the Ivrulik; the katak is in the floor of the Ivrulik.
qargi: The “men’s house,” where men and young boys prepared their tools and spent time during the day; also used for ceremonies in the winter.

Discover New Knowledge

1. Go over the cover sheet information for PART TWO and look at the data sources students will use in their investigation.
2. Assist students in defining the words sod, Ivrulik, katak, and qargi and add them to the Word Bank.
3. Remind students that if they are not Iñupiaq, they are now studying a culture different from their own. Using the background information in Lesson Three: Culture Everywhere, remind them that people of all cultures devised ingenious ways of living in their environment. Although people in earlier times all over the world used technology that might seem primitive today (for instance, there was no electricity, no running water), they were creative in ensuring that they and their children thrived in sometimes harsh environments.
4. Ask students: What did we learn when we analyzed the “Historic Homestead” photograph? Tell students: We will use the same process to look at an historic photograph of a Ivrulik. Have students continue working with their partners to complete Investigating a North Slope Sod Ivruliks: Observing and Collecting Data.
5. Students continue working with their partners to complete Investigating a North Slope Sod Ivrulik in History.” Point out that when the Iñupiat traveled to what is today Canada, there were no international boundaries. These boundaries were drawn as the United States expanded westward long after the Iñupiaq settled in the Northern North Slope.

Answer Key

Historic Photos of North Slope Sod Ivruliks: Observing and Collecting Data

1. Locations for Photo #1: on a slight rise somewhere on the tundra; Photo #2: on the tundra in winter.
2. Photo #1: The caption says before the 1950s, the cloth parka and cap on the man in front indicates it would be after the 1870s. The metal smokestack on the back house indicate it would be after the 1870s as well. Possibly in the springtime, since the people are outside without gloves and there is plenty of light; the snow looks old, well-trampled.
   Photo #2: Because of the telescope, smoke stack, and cloth parka, this would be after the 1870s. It appears to be in the winter, but possibly late winter, since there is sun.
3. Objects Photo #1: houses, clothing, smokestack, wood boards, snow, sod on roof; Photo #2: sled, smokestack, clothing, telescope, a frame around what appears to be a window.
4. Photo #1: They appear to be sitting in the sun taking it easy. Photo #2: Looking for game.
Answer Key

Analyzing and Interpreting the Data

1. Photo #1: as a record of Iñupiaq life; Photo #2: as a record of Iñupiaq life.
2. Photo #1: People seemed to have some time for relaxation and perhaps enjoyed the return of the sun in the spring. Photo #2: The Iñupiat made use of tools from Westerners in building their houses and hunting.
3. Answers will vary.
4. More information could be obtained from interviewing elders (if students live in the Iñupiaq region), checking Internet sources, and library research.
5. The photographs might have been taken at about the same time, but one shows people at rest, while another shows a man at work. Also, the first photograph shows both a man and a girl or woman, while the second shows only a man. The snow is far more trampled in the first photograph, suggesting that this photo might have been taken toward the end of the winter, or was inhabited by more people than the second.

Answer Key

Ivrulgich in History: Analyzing the Data

1. The Ivrulik kept drafts out because it was dug partway into the earth. It was well insulated with sod to keep it warm. It was made of readily available material, including driftwood, sod, and whale bones.
2. The Ivrulik was a good shelter because of its ability to keep people warm.
3. Both practices kept the Ivrulik warm: the first to prevent drafts, and to trap cold air below the floor boards in the entry tunnel, and the second to provide a thick layer of insulation.
In this investigation you will use geography, history, and archaeology to learn about the North Slope Sod House Ivrulik and the Iñupiaq people who lived in them. You will look at historic photographs and read an oral biography. You will “make” an archaeological site and classify artifacts. You will infer how the geography of the North Slope shaped the ivrulik. You will learn how the ivrulik is used to design buildings today and design your own futuristic house. In a final composition you will report what you learned.
You are an archaeologist. Your question is:

How can investigating the North Slope Sod House Ivrulik help us understand the Iñupiaq people and their culture?

Investigation Activities
1. Examine the “Historic Photos of Sod House Ivrulgich” (pages 12-13).
3. Read the article, “Ivrulgich in History,” based on information from Mr. George Leavitt and archaeologists (pages 16-18).
4. Complete data collection sheets for “Ivrulgich in History” (page 19).

Data Sources
Historic Photos of Sod House Ivrulgich (pages 12-13).
Ivrulgich in History (pages 16–18).

Word Bank
sod: The top portion of the ground consisting of soil, grasses or sedges, and their roots.

Ivrulik: The Iñupiaq word for “house.” In this case, it is a sod-covered, half-underground house.

katak: The entrance hole leading from the entrance tunnel into the ivrulik; the katak is in the floor of the ivrulik.

qargi: The “men’s house,” where men and young boys prepared their tools and spent time during the day; also used for ceremonies in the winter.
Historic Photos of Sod House Ivrulgich

Photo #1: Two sod ivrullak in Barrow, before 1950 (Courtesy of the Alaska State Libraries)
Photo #2: A hunter on top of his sod house, searching for game. Point Hope, Alaska, taken in the 1940s. (Photo courtesy of Alaska State Libraries)
Historic Photos of Sod House Ivrulgich: Analyzing the Data

Examine the historic photographs of the ivrulgich and answer the following questions.

Observing and Collecting Data

1. Describe the locations of the ivrulgich in each picture.
   Photo #1
   Photo #2

2. When do you think each picture was taken (year, time of day)?
   Photo #1
   Photo #2

3. List the objects you see in the photos.
   Photo #1
   Photo #2

4. What are the people in Photo #1 and Photo #2 doing?
   Photo #1
   Photo #2
Analyzing and Interpreting the Data

1. Why do you think the photos were taken?

2. What does each photo tell you about the past? What is your evidence?

3. What questions do you have about the photographs?

4. How could you get more information to answer your questions?

5. How are the photographs different? How are they the same?
Ivrulgich in History

Based on information from Mr. George Leavitt and Archaeologists Glenn Sheehan and Anne Jensen

The typical Iñupiaq sod ivrulik was a rectangle, about 12’ wide by 15’ long. People entered it through a low tunnel built underground. They crawled into the tunnel and came out through a hole in the floor called a katak. When they first crawled into the house, they would see a stone lamp that burned seal oil for light and heat, placed on the floor to the left of the katak. The floor, walls, and ceiling were covered with wooden planks. Along the back wall of the ivrulik, a wooden sleeping bench would be covered with skins for comfort. Under the bench, the family would store belongings. The kitchen was a separate structure, connected by the tunnel, but off to one side of the main part of the house. Inside the kitchen, a large whale skull served as a flue to let smoke from the cooking fires out into the air. Whale vertebrae served as work tables and sitting stools.

The Piŋusugruk ivrulik was home to 8 to 12 people, all related to each other. A household started with a married couple and their children. When the children grew up and married, this new couple might join the parents, bringing along a baby, until the house became too crowded. The original couple’s mother or father might live with them as well.

Iñupiat in different parts of the Arctic built their ivrulik slightly differently, depending on what materials they had and what the ground was like. The Piŋusugruk house was unusual because it was built on sand, whereas most ivrulgich were built on peat and tundra. After the Iñupiat had contact with Westerners, they added wooden doors and glass windows above ground, no longer using underground tunnels as entryways. They also added metal stoves with smokestacks sticking out of the roof.

The single-family ivrulik is not the only type of winter dwelling the Iñupiat used. In the Brooks Range, people lived in caribou skin tents called the itchalik (plural, itchalgiich), or sod and moss-covered dwellings called ivrulgich.

Throughout the Iñupiat region, from at least 1000 AD forward, people also built ceremonial buildings called the qargi. During the day, men and boys used the qargi as a work room where they built sleds, repaired skin boats, and made tools, recounting important points of knowledge and lore as they did so. At certain times in the year, people held ceremonies of thanksgiving and hospitality for travelers from other villages. Women brought food to the men as they worked, and also took part in celebrations and ceremonies inside the qargi.

During the summer, as temperatures warmed above freezing and the snow and frozen ground melted, the ivrulik became muddy and uncomfortable and the entryway flooded. The Iñupiat then left the sod ivrulik and moved into skin tents, often pitched next to their houses. People packed up their tents, carried them on their backs, put them on dogs’ backs, or loaded them into skin-covered boats, and traveled inland
or down the coast to follow fish, caribou, and other game, or to trade with far-away relatives and acquaintances. When winter came and the ivrilik was once again comfortable, people replaced sod on the outside, cleaned out the inside, and moved back in.

Even as a very young child at Cape Halkett, Mr. George Leavitt always lived in a wooden frame house built aboveground. But his father’s parents, who lived next door, stayed in a sod ivrilik, where Mr. Leavitt’s father, aunts, and uncles had grown up. Mr. Leavitt described the dwelling as a 12’ by 15’ rectangle with a sleeping bench along the back. The floor was covered in wooden planks. Wood beams formed the walls, which sloped upward to a flat horizontal ceiling, about 6 ½ feet at its highest. When Mr. Leavitt’s grandfather built the house, he covered the wooden structure with sod, which he replaced or repaired each fall as needed. When it got cold, the grandfather cut blocks of snow and stacked them 8” to 10” away from the sod walls, then filled the space between the sod and the snow blocks with soft snow. He tamped it down to form an insulating layer that kept the inside warm.
Mr. Leavitt’s family’s ivrilik boasted a metal wood-burning stove used for heating and cooking, located in the middle of one side wall. Chopping and gathering wood took much of the family’s time, but the results were worth it: Mr. Leavitt described the sod house as warm and inviting. In fact, he said, “Any place with Grandma was comfortable.” He remembers hearing the adults tell stories as they sat around in the winter. Some stories were unipkaat about the ancient days while others were about experiences the storytellers had had. Each story told important information about living in the Arctic.

Unlike the inhabitants of the ivrilik excavated at Piñusugruk, Mr. Leavitt’s grandparents lived in their house year-round. Its floor and entryway did not become soggy in the summer, so people did not need to leave it to live in tents. Still, the family often traveled inland and up or down the coast to hunt and fish, living in tents as they went.

Mr. Leavitt’s grandparents’ sod house had a long qanitchaq, or Arctic entry, which was not heated but where tools and outer clothing were stored. Connected to the qanitchaq was a side room where other tools and household goods were kept. The family stored perishable food, such as meat, oil, and berries, in their ice cellar, which was dug deep into the permafrost near their home. The location of the ice cellar was crucial: it had to be in a good spot where no water would drip in and where the inside would stay frozen year-round. Another storage area for food was a platform next to the house where meat and fish could be kept away from dogs and foxes. This was open to the weather, which made it useful as a drying rack for meat and fish.

People of the North Slope of Alaska no longer live in sod houses. Instead, they live in frame houses like this one, which Mr. Leavitt built in 1962.

The frame houses are insulated with fiberglass, but the strong arctic winds can still rattle the windows. Some villages are experimenting with building houses based on the ancient ivrilik model, with small rooms, heavy insulation, and a foundation that is built slightly into the ground instead of on top of it. The photograph below shows the first experimental house, located in the village of Anaktuvuk Pass, in the Brooks Range. It has solar panels on the roof to add to its energy efficiency.
1. Explain how the ivrulik was adapted for the environment of the North Slope. Think about the materials they used and where these materials came from.

2. Why was the ivrulik a good shelter for the Iñupiaq people?

3. Why do you think the Iñupiaq people dug into the ground for the ivrulik foundation? Why do you think they used sod to cover the wooden frame?