

**CLOTHING: LEARN THE WATERPROOF STITCH WITH GUT GR: 6-12 (10 CLASSES)**

**Elder Quote/Belief:**

“She had a little box that had strands of porpoise sinew, and you could peel a piece off as thin as you wanted it. That’s the way. It would peel off the whole. If you wanted a real fine piece of thread, you start it that way, and that’s the way it would come off the whole sinew anyway. They chew on the sealskin seams for the baidarka and there was some sort of chemical reaction between your saliva, the sealskin, and the porpoise sinew that created a waterproof seam. How that came about, that I don’t know.” -Bill Hjort talking about his grandmother using the waterproof stitches on seal skins for the outside of a kayak.

“They are made of skins. Aleuts make them. You should see them. They are beautiful. Women sewed them. I don’t know how they could sew them. It’s so fine. They don’t leak. I saw a few of them when I was a kid. It is made of some kind of guts. The guts are used for parkas for rain stuff just like plastic you see nowadays.” –Sophie Borodkin interview in *Out of Our Times the Storytellers*.

“They used-I don’t know-they used some kind of needles. They used porpoise sinew and on the tail of the porpoise there’s a bunch of sinew, and they used that for thread. That’s how my mother used to make raincoats.” –Don Kompkoff statement out of *Chenega Diaries: Stories and Voices of our Past*

**Grade Level: 6 - 12**

**Overview:** “Looking at what cultures create, especially their textiles and clothing, is an intimate way to begin to know people. Gut and Fishskin textiles and clothing, the historic reference and inspiration for this exhibit, are not complex, structural puzzles to be analyzed. They are part of something larger, a system of belief, unification- a hunter wearing a gut parka when hunting a seal, a fisherman wearing protective clothing when catching salmon.” (Hickman, 1987)  
A gut parka was a very necessary possession for the Chugach people, in addition to keeping him protected from the rain, no Chugach could travel by baidarka without one.

**Standards:**

<i>AK Cultural:</i>	<i>AK Content Science:</i>	<i>CRCC:</i>
<b>A3:</b> Culturally-knowledgeable students are well grounded in the cultural heritage and traditions of their community.	<b>F1:</b> Develop an understanding that culture, local knowledge, history and interaction with the environment contribute to the development of scientific knowledge, and local applications provide opportunity for understanding scientific concepts and global issues.	<b>CE2:</b> Students should have knowledge of traditional and contemporary sewing and clothing using skins and furs.

**Lesson Goal:**

To become aware of the waterproof stitch used to make the traditional rain proof parkas worn by the Chugach people. Sinew or grass was the two commonly used materials for stitching

waterproof garments. Often used in combination, both could swell with moisture and keep the parka waterproof. The waterproof seam most frequently used is a two thread combination, using a running stitch and parallel elements, often grasses, carried along and secured in place with the running stitch.

**Lesson Objective(s):**

Students will:

- Determine the different materials used to create the waterproof gut parka.
- Learn two different stitches used to make a small gut basket and a small model gut window.
- Watch YouTube video *Material Traditions- Sewing Gut* and learn the waterproof stitch used to make a seal gut parka.

**Vocabulary Words:**

Sugt'stun Dialects

English:	Prince William Sound:	Lower Cook Inlet:	<a href="#">Eyak:</a>
Gut parka	qitehsutet	qitehsutet	<a href="#">kAnaa'd</a> (coat)
Waterproof			<a href="#">giyah</a> (water)

**Suggested Materials/Resources for lesson:**

- Pork casing ordered from Amazon or find at your local grocery store or sausage making company.
- **Amazon.com Natural Hog Casings for Sausage**  
By [Oversea Casing](#)
- **Amazon.com TSM White/Gold High Barrier Sausage Casings, 65mm (2 1/2")**  
By [The Sausage Maker](#)
- Embroidery needles
- Embroidery floss or yarn
- Nylon thread preferably beading thread size D
- Imitation waxed thread
- Dried beach grass
- Rit dye
- Water in a small bowl
- Scissors
- Small set of pliers
- Small dowel or gathered piece of driftwood for wall hanging
- Cotton material, felt, or ribbon for bias along the gut model window

**Books:**

- *Alutiit Traditions: An Intro to the Native Culture of the Kodiak Archipelago* (pp. 32-34).
- *Alutiit/Sugpiat* (seal gut window covering- pp.169-172, sinew -pp. 184-185, headgear - pp. 218-219, clothing- pp. 236-237, 240-245).
- *Chugach Eskimo* (pp. 65-66, 77).

- *Crossroads of Continents* (pp. 52-57).
- *Etholen Collection* (gut parka- p. 148- 171, hats- pp. 182-185, boots- p. 233, hat- p. 235, bags- pp. 187-193).
- *Innerskins Outerskins Gut and Fishskins* (pp.5-10, 23-32).
- *Living Our Cultures/Sharing Our Heritage* (pp.128, 144).
- *Secrets of Eskimo Skin Sewing* (pp. 94-96).
- *Women's Work/Woman's Art* (sinew- pp. 52-53, bear intestine- p. 48).

### **In Kit-**

#### **DVD:**

- *Smithsonian Arctic Studies Center of the Anchorage Museum- Material Traditions- Sewing Gut*

### **Websites:**

- <http://ankn.uaf.edu/curriculum/units/sliparka.html>
- [http://www.pathickman.com/images/innerskins\\_outerskins\\_guts\\_and\\_fishskin.pdf](http://www.pathickman.com/images/innerskins_outerskins_guts_and_fishskin.pdf)
- Smithsonian Arctic Studies Center Alaska YouTube channel  
<https://www.youtube.com/channel/UCNpC1tX-kqJaSU7ZSxUWafA>

### **Display Items in Kit:**

- Puppet-Cecil wearing gut parka
- Small Gut Skin Parka in frame
- Sample Waterproof Stitch piece
- Picture frame Seal Gut
- Seal Gut Coil
- Skin Thimbles

### **Teacher Preparation:**

1. Invite an Elder/ Recognized Expert who can share their knowledge of traditional materials used for sewing with gut.
2. Review with the students the proper ways to show respect for the guest speaker.
3. Locate and gather all materials needed for lessons.
4. Order the pork casing from Amazon or ask your local supermarket.
5. Review Material Traditions-Sewing Gut. Disc 1-Using an Alternative and Disc 2-Sewing Gut/ Sewing a Gut Basket/ and Sewing a Model Gut Window.
6. Familiarize yourself with the materials and resources in the kit.

**Opening:** “In order to make gut skin, the intestines are washed, turned inside out, coiled and dried. After being split lengthwise they are ready for sewing. A gut skin shirt is sewn in a spiral, starting from the bottom, and when it is finished, it is soaked in water and hung up in smoke from an alder-wood fire for one day. This prevents it from becoming too soft when it gets wet afterwards.

Sinew from large whales, porpoises, and seals were made into sinew thread. Porpoise sinew was used for fine sewing.

Sewing started from right to left. The kind of stitch used in making gut skin shirts is an ordinary running stitch. There is archaeological evidence of overcasting, running stitches and waterproof blind stitching.” (*Birket-Smith*)

When it rains, the ancestors would use the gut skin parka as an outer layer. The gut skin parka was ingeniously made from the intestines of whales, or some other large animal, prepared so skillfully. It is made to draw tight round the neck; its sleeves reach as low as the wrist, round which they are tied with a string; and its skirts, when they are in the baidarkas, are drawn over the rim of the hole in which they sit; so that no water can enter and kept the men entirely dry. When this parka is finished, then its sleeves are tied together and it is filled with water, and if there are no leaks, then it is pronounced good. If, in fine weather, a storm forces a Chugach hunter to don a gut parka, then he sprinkles it with water so that the heat of the sun will not crack it. (*Pierce*)

### **Activities:**

#### **Class 1:**

1. Hold up several pieces of natural fiber clothing (clothing made of wool, cashmere, silk, linen, hemp, wool or cotton.) Ask students if they know materials that were used to make this clothing. Ask student to look at the label on the inside of the clothing. What does it say? Clothing labels tell you what they are made from, where it is made, and care instructions.
2. Research project-Ask the students to research materials needed to make a raw fiber into a piece of clothing (wool, cashmere, silk, hemp, linen, or cotton.) Divide students in six different groups. Each group will research one of these material topics to find out how it is made into clothing Give the students fifteen minutes to research the fiber and write down the information that they collected.
3. Bring the students back together and ask what they learned about their natural fiber. Discuss with the students how most people take the process of clothing manufacture for granted, and how many people are unaware of how it is made into fabric for clothing.
4. Show students the small gut parka in window box frame, along with the gut stitch sampler, the roll of seal gut, and the gut baskets. Give the students an opportunity to look and feel the objects.
5. Teacher or students can read aloud from *Innerskins/Outerskins* page 4 and 5. Students can continue to read on through page 10, if they'd like to hear more on the sewing of gut into clothing.

#### **Class II-V: Make a Gut Basket**

Show the students the small gut basket. Talk about the stitch used to sew both of the pieces of gut together. The basket stitch is a little different than the waterproof stitch. Following are step by step photos on how to make a small gut basket, for students to learn the waterproof stitch for sewing gut parkas.

1. Explain that the imitation sinew represents sinew from a whale or seal. Show students the sinew in the kit. Explain the process.
2. Explain to students that the embroidery floss is there to replace the beach grass that was traditionally used. Show students the beach grass and explain that when they have the class on the waterproof stitch making a model window then they will be able to use the grass if they so choose to.

3. Talk with them about the waterproof stitch. Explain how the chemical reaction of the gut, saliva and beach grass combined made a waterproof stitch.
4. Pass around the sample gut and the waterproof gut sample provided in the clothing kit.
5. Show the students Smithsonian Arctic Studies Center Alaska channel
6. Sewing Gut- Sewing a Gut Basket.  
<https://www.youtube.com/watch?v=4ACVQN2wmNM&index=13&list=PL3wBN-dh9DMSg7p0pEeefVUxIT3oY7vTT&t=0s>
7. Pass out the small gut basket kit to each of the students.
8. Instructions to sewing this basket are following in the step by step photo instructions.

### **Class 6-10: Make a model gut window/gut sampler wall-hanging**

Start a discussion about the importance of the gut parka (reference *Looking Both Ways* page 173, *Chugach Eskimo* p. 65-66, *Alutiit/Sugpiat* pp. 236-237, 240-245.)

Explain the importance of the gut skin parka to the Chugach people.

- Show photographs of the gut parkas that are on display at the Ilanka Cultural Center and the Cordova Historical Museum. (Photos are attached to this lesson.)
- Show students the gut waterproof stitch wall hanging/sampler. Talk about the stitch used to sew both of the pieces of gut together.
- Following are step by step photographs on how to make the waterproof stitch on gut by June Pardue, Alutiiq from Kodiak Island. Same stitch as the waterproof stitch for sewing gut parkas.
- Show the students Smithsonian Arctic Studies Center Alaska channel- Sewing Gut- Sewing a Gut Window.  
<https://www.youtube.com/watch?v=y7qOxspNZAM&index=14&list=PL3wBN-dh9DMSg7p0pEeefVUxIT3oY7vTT&t=0s>
- \*Options for other class on sewing gut -  
 Study the parka located at the Ilanka Cultural Center. This parka was found at Makarka Point in Prince William Sound. Notice the burlap sack that they used as the trim on the bottom of this parka. As a class reproduce this gut parka, making a small model replica. Refer to the book *Women's Work Women's Art and Secrets of Eskimo Skin Sewing* on how to make a pattern. Put on display at the next Elder's Mug Up and students explain the process. Keep on display at your local Museum.

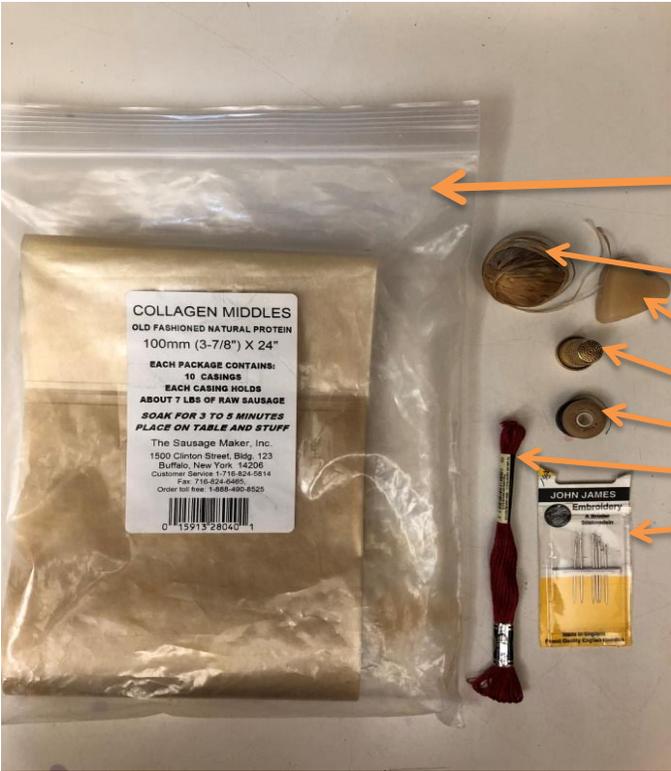
### **For more information regarding embellishments:**

- Embellishments of the Alaska Native Gut Parka  
<http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1127&context=tsaconf>

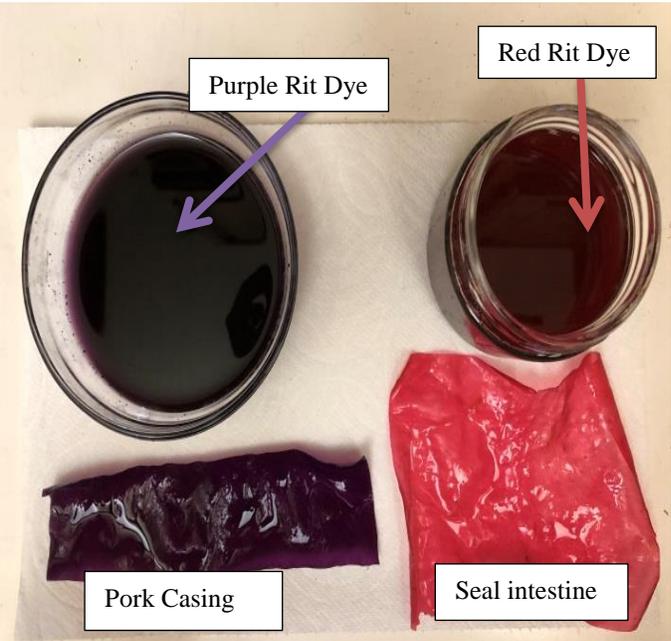
### **Assessment:**

- Students can identify the different materials used to create the waterproof gut parka.
- Students can demonstrate the two different stitches used to make a small gut basket and a small model gut window.
- Students can correctly say and point out the Sugt'stun/Eyak words for gut parka, and waterproof.

**Step-by-Step Photos and Instructions**  
**How to make a small gut basket while learning the waterproof**  
**stitch traditionally used for sewing gut parkas**



- #1-SUPPLIES NEEDED:**
- Alternative seal gut material (Pork casing can be purchased online or from local supermarket)
  - Imitation sinew
  - Bees Wax
  - Thimble
  - Nylon thread (Beading thread)
  - Embroidery floss
  - Embroidery needles-various sizes



- #2- DYEING THE MATERIALS**
- The pork casing on left was dyed with purple Rit dye.
  - The seal intestine on right was dyed with red Rit dye.
  - Both materials took the dye within minutes. The only difference is the pork casing shrunk while the seal gut kept its original size.
  - Set aside dyed gut to use as a decoration and reinforcement for the top of gut basket.

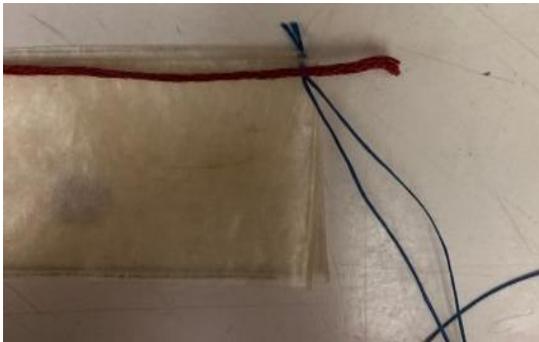
### #3- PREPARING MATERIALS

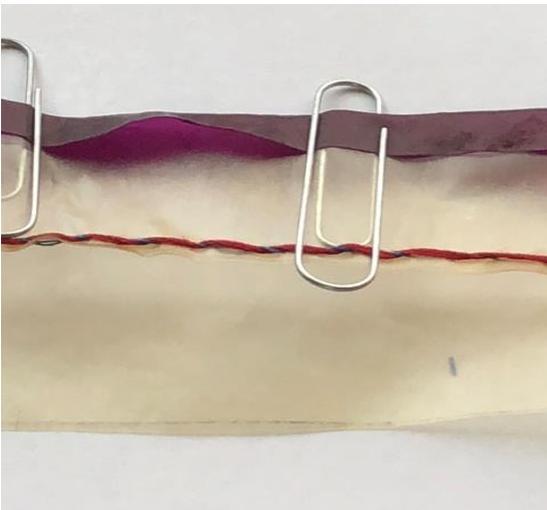
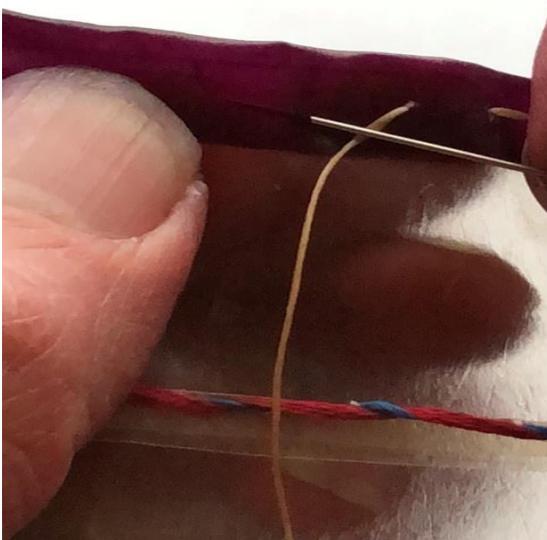
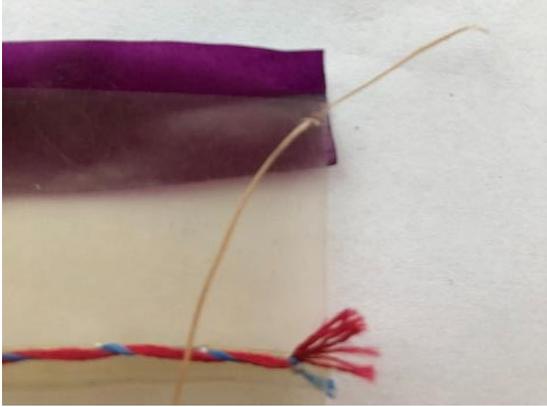
- Cut two pieces of gut (1- 1/4" wide X 8" long) each.
- Cut a piece of embroidery thread or yarn 10" long. **NOTE:** To make bigger basket, adjust by cutting these pieces wider and longer **but** remember to cut embroidery floss or yarn at least two inches longer.
- Thread embroidery needle with waxed nylon beading thread (Use bees wax to wax thread after you have it on the needle- double the thread and tie knot at the end, cut thread down close to knot.)

**HINT:** Have a small bowl of water close by to moisten your fingers and the top edge of the gut as sewing it together. Have a few paper clips close by to help hold gut pieces as you sew them together.

### #4-SEWING PIECES TOGETHER

- Lay the two pieces of gut with right sides together.
- Start 1/4 "from edge. Make first stitch from back to front, pull needle through both layers of gut.
- Lay the piece of embroidery thread down along top edge of gut leaving an inch tail of thread.
- Tack down embroidery thread with your first stitch, coming under embroidery thread, bring thread over embroidery thread, take a small stitch through both pieces of gut, pull snug, and REPEAT.
- Stitch from back to front, under embroidery thread. Over embroidery at an angle to the back (through both pieces of gut), small stitch through both pieces of gut, pull thread snug, notice the running stitch on back piece of gut, then REPEAT, same stitch across the top of the gut.
- **REMEMBER** to keep the top edge of gut moistened with your fingers☺
- When you reach the end of gut strip. Tie a knot.



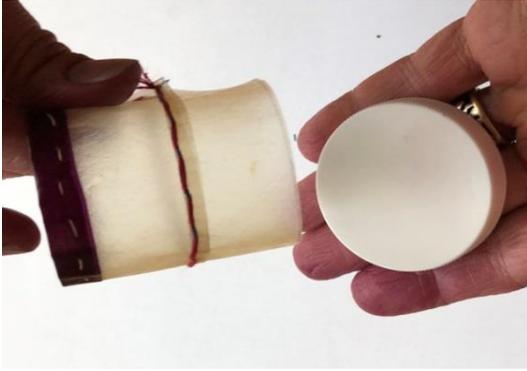


#### #5- REINFORCED DECORATION ON TOP OF BASKET

- Cut a strip of the dyed gut  $\frac{1}{2}$ ' x 9"
- Thread a piece of imitation sinew with embroidery needle.
- **NOTE:** No need to double the sinew thread- tie a knot at the end of thread.
- Fold in half and place on top edge of basket top.
- Hide your knot between top edge of gut basket and the inside of dyed gut top piece (\*Refer to top picture)

#### #6- RUNNING STITCH

- Sew a running stitch with imitation sinew along the top edge of basket (sewing through three pieces of gut.)
- When finish sewing all the way around basket, tie a knot at the end. Hide tail in seam.
- Notice how the paper clips were used to hold all three pieces together, making it easier for sewing together.

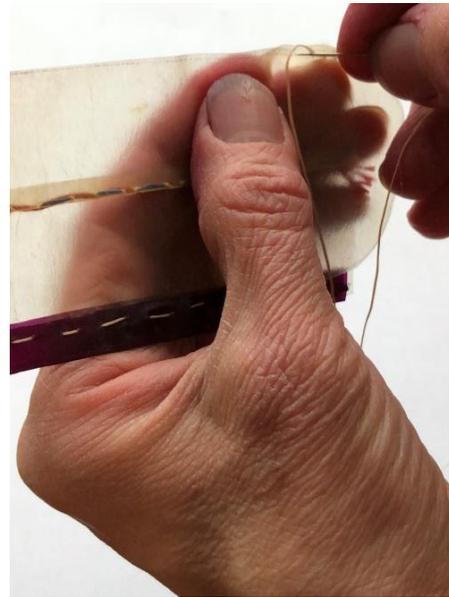
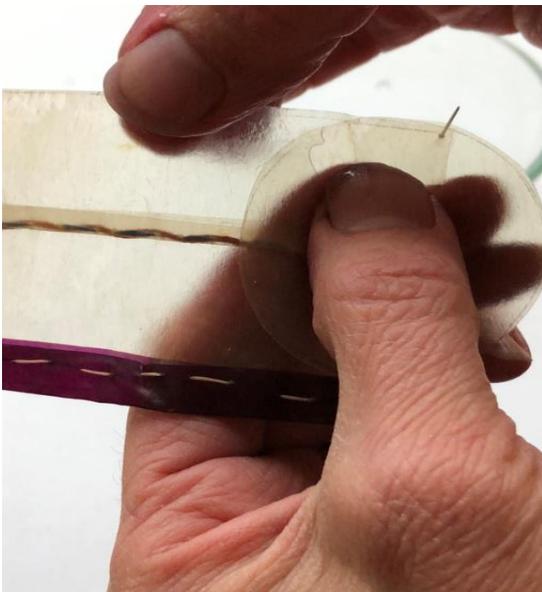


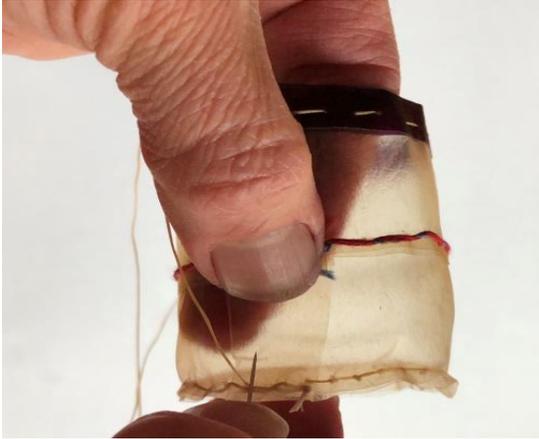
### **#7- BOTTOM OF BASKET**

- Find a round object that will fit the circumference of the bottom of the basket.
- Draw out the pattern on the gut
- Cut with scissors.

### **#8-SEWING THE BOTTOM TO BASKET**

- The following photos show the steps to finishing your beautiful gut basket.
- With your embroidery needle and imitation thread, start sewing bottom round to the bottom edge of your basket with a running stitch.
- I love how the gut is so transparent in these photos.





**#9-FINISH AND EMBELLISH**

- Almost finished! This last step is to sew along the edge of basket with imitation sinew to close it up.
- Tie off with a knot. Hide the thread tail in the seam ☺ GOOD JOB!
- **NOTE:** If student finishes before others, then they can embellish their basket with beads and feathers.

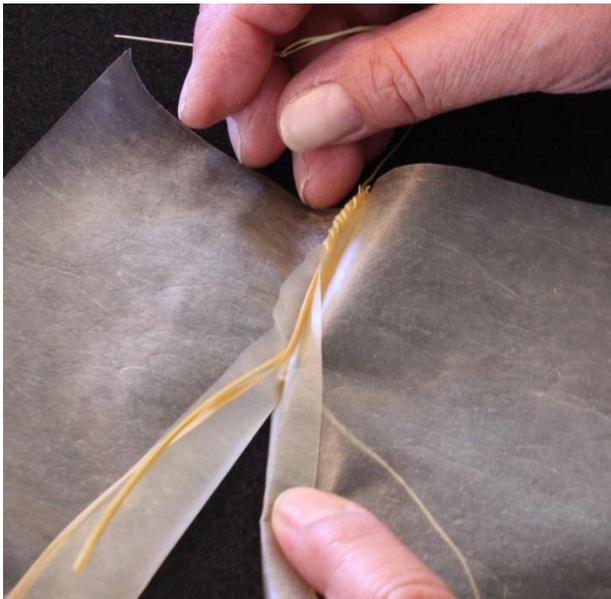


**Step-by-Step photos and instructions on how to make a small gut sampler/model window for students to learn the waterproof stitch for sewing gut parkas**



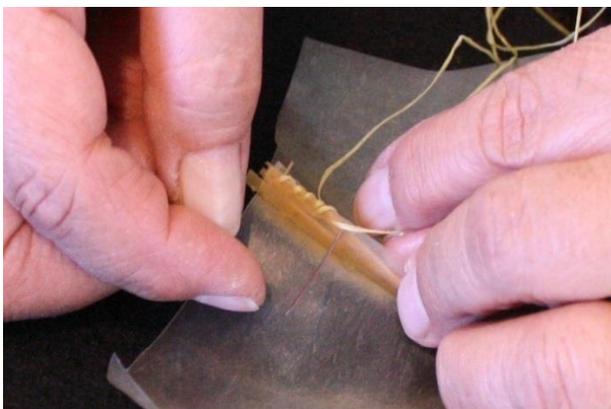
**#1 Supplies needed for gut sampler**

- Three pieces of gut 2½ x 9 inches
- Felt to reinforce bottom and top of basket
- Yarn instead of embroidery floss
- Imitation waxed sinew(thread) instead of waxed beading thread
- Beads, fabric, feathers, yarn, etc. to use for embellishments



**#2 Waterproof Stitching**

1. Cut three pieces of gut 2½" x 8" each.
2. Fold both sides, top edge down ¾ inches.
3. Thread embroidery needle with imitation waxed thread, knot at end.
4. With folded edges inside and laid flat against each other; sew a running stitch along the top edge.
5. After you finish sewing along the edge, instead of making a knot, sew thread into the stitching about 1½ inches and cut thread.
6. **NOTE:** make sure top edge of gut is continually moistened (not to wet), and take the folded seam and wrap around a piece of wet beach grass.
7. Whip stitch top edge closed with imitation sinew. Keep stitches close together. (Notice the photos)





### **#3 FINISH AND EMBELLISH**

- While stitching your top seam together, you can add embroidery thread or feathers as embellishments.
- Please notice the stitching and embellishments on the following photos of different samplers.

**NOTE:** on the sampler shown on the yellow tarp, the student sewed a running stitch along the top edge of seam to hold it in place. Then to attach the third piece of gut, student used basket stitch.



Valdez student's work-Waterproof Stitch on intestine sampler class with June Pardue. Photos courtesy of Denise O'Brien- Valdez School District Home Economics teacher.

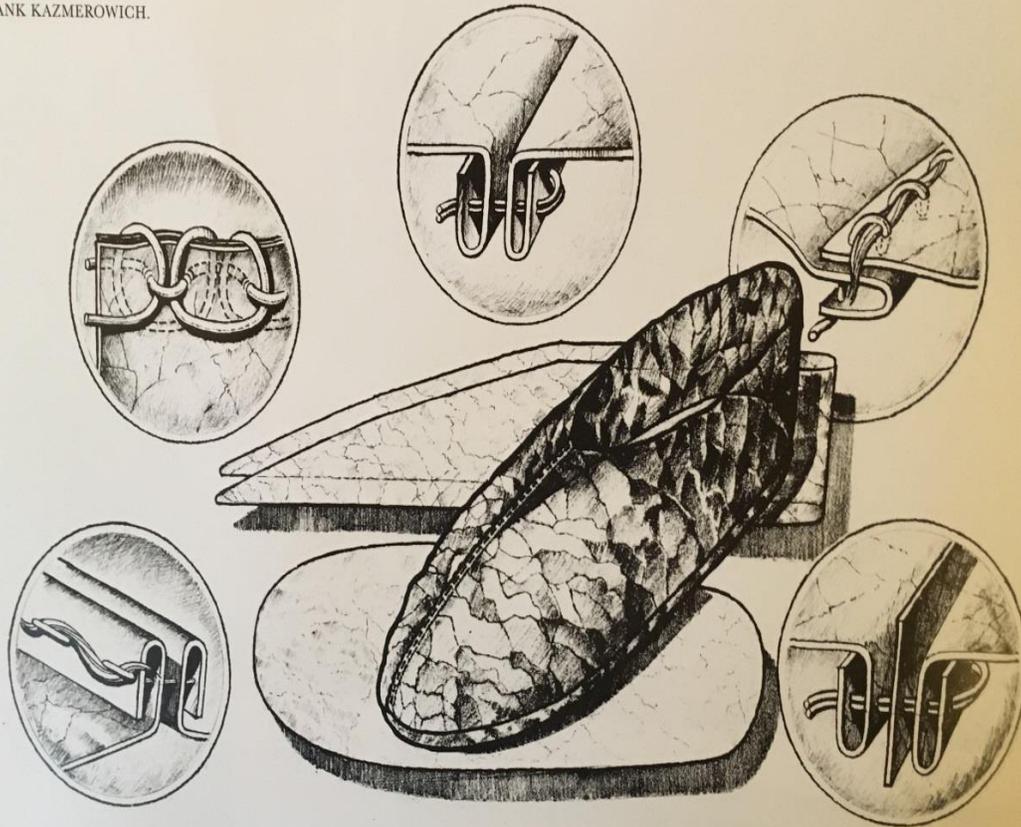


Waterproof stitch sampler made by June Pardue-Alutiiq/Kodiak Island



Valdez student's work-Waterproof Stitch on intestine sampler class with June Pardue.  
Photos courtesy of Denise O'Brien- Valdez School District Home Economics teacher.

**FIGURE 46.** Alaskan seamstresses employ several different stitches to sew intestines into garments. Some stitches incorporate grass, which strengthens the seams. ILLUSTRATION BY FRANK KAZMEROWICH.





### Makarka Point Seal Gut Parka

This seal gut parka was from the Peabody Museum at Yale University, and it was repatriated back to Chugach Alaska Corporation in 2016. Hooded parkas made from seal intestines (guts) were the ideal outer garments for wet weather and ocean travel. They were sewn with fine sinew thread and waterproof stitch.

Loan from Chugach Alaska Corporation

Anchorage, AK



## BEAR GUT PARKA

bear gut and porpoise sinew

made by Fred Tedishoff

1880-1964

Aleut-Russian

Tatitlek, Prince William Sound,  
Alaska



photo courtesy of Cordova Historical Museum

