

TRADITIONAL TRANSPORTATION: BUILDING A MODEL QAYAQ GR: 6-12 (LESSONS 1&2)

Elder Quote/Belief: *“A bidarka is a long boat with three cockpits in it. Hunters, who travel in it, keel down to paddle, and have blankets rolled up for a cushion.”*
-Wally Braizaloff, Chenega Diariesⁱ

Grade Level: 6-12

Overview: The Chugach qayaq was developed over thousands of years of innovation. Each qayaq was hand carved, and lashed together with sinew or baleen. The development of the bifurcated bow allowed the qayaq to cut through ocean waves and deflect water away from the paddler. With each wave the qayaq was designed to flex with the wave, moving through the water with ease.

Standards:

<i>AK Cultural:</i>	<i>AK Content Science:</i>	<i>CRCC:</i>
<p>E4: Culturally-knowledgeable students demonstrate an awareness and appreciation of the relationships and processes of interaction of all elements in the world around them. A student should determine how ideas and concepts from one knowledge system relate to those derived from another knowledge system.</p>	<p>B2: A student should understand and be able to apply the concepts, models, theories, universal principles, and facts that explain the physical world.</p>	<p>MC1: Different kinds of wood have different qualities and different uses; wood can be obtained from the forest and from driftwood.</p>

Lesson Goal: Students will build a model of a qayaq from the Chugach Region.

Lesson Objective(s): Students will:

- Learn about the purposeful design and characteristics of the qayaq.
- Build a model of a traditional Sugpiaq/Chugach qayaq.

Vocabulary Words: Sugt'stun Dialects

English:	Prince William Sound:	Lower Cook Inlet:	<u>Eyak:</u>
Kayak	Qayaq	Qayaq	<u>gAyAXgug</u>
Keel	Nanguna		
Bow	nucuguia	cuunga	<u>qu'LXaad</u>
Stringers	unarat	nugluku	
Ribs	atuna	rraatan	

Materials/Resources Needed:

- If possible, invite an Elder or Recognized Expert from the Region to share their traditional ecological knowledge (TEK) and expertise to enrich the lesson(s).
- Mitch Poling's Model Qayaq lesson (attached below)
- *Chenega as I saw it - its people*. Anchorage, AK: Chugach Alaska Corporation. Junction, AK: Voice of Alaska Press.
- Golden, H. (2015). *Kayaks of Alaska*. Portland, OR: White House Grocery Press. (in kit)
- PowerPoint presentation: The Story of Chenega by Mitch Poling
 - PowerPoint located on the [Traditional Transportation resources page](#).
- Video: The Last Baidarka of Prince William Sound by Andrew Elizage (25:44 minutes)
 - <https://vimeo.com/79394382>

Supplies needed:

- Basswood for sternpost and stringers from National Balsa Wood Company;
 - <http://www.nationalbalsa.com/>
- Reed for ribs and cockpits (VI Reed Company)
- Nylon stockings for qayaq cover
- Hot glue gun
- Hot glue sticks
- Small spring clamps.
- Utility knives for cutting Basswood
- Pre-Cut Bifurcated Bow and Stern

Teacher Preparation:

In preparation for class collect the included materials and resources from the kit included in the Materials and Resources list. Students will be building traditional qayaq models. This activity will take multiple days to complete.

- Invite an Elder or Recognized Expert that could share their expertise on the lesson content.
- Before the Elder or Recognized Expert arrives, please review with the students, ways to show respect for the Elder during their visit.
- Gather and prepare individual kits to include all necessary parts and pieces. (Could also contact Chugachmiut Heritage Preservation Department to see what supplies are available to use.)
- Create small working groups to share ideas and tools.
- Make copies of *Chenega: As I Saw it- It's people* by Bobby Stamp; regarding the Baidarka, pages 19-21
- Make copies of Mitch Poling's Model Qayaq building directions (attached below).

Opening:

The Chugach qayaq was built from local wood, female sea lion skins, sinew and specially designed bifurcated bow. This hand carved two part bow is extremely efficient by cutting through waves, adds buoyancy and disperses the wave from cresting on to the paddler. This design was developed hundreds if not thousands of years ago, allowing the people of the Chugach Region to travel safely through the rugged and powerful oceans of region

Activities:

Class I:

1. Introduce the lesson by reading a selection from; *Chenega: As I Saw it- It's people* by Bobby A. Stamp; *Baidarka* pages 19-21
2. Watch "[The Last Baidarka of Prince William Sound](#)" located on the Chugachmiut Heritage Traditional Transportation Website.
3. Students write and describe ten facts about qayaqs and qayaq building from the selected reading and video. Students to focus specifically on qayaq design, materials, bow and gender of sea lion used for the skin covering.
4. Review classroom and tool safety procedures, hand out included form for parent signature.

Class II:

1. Turn in signed Carving and Woodworking Safety checklist.
2. Hand out materials to each student to organize.
3. Review directions below from the lesson provided by Master Baidarka Boat Builder, Mitch Poling.

Assessment:

- Students can describe the use of the bifurcated bow, wood design and covering and why it was so efficient and important to the design of the qayaq.
- Student follows directions and successfully completes the model of a traditional qayaq.

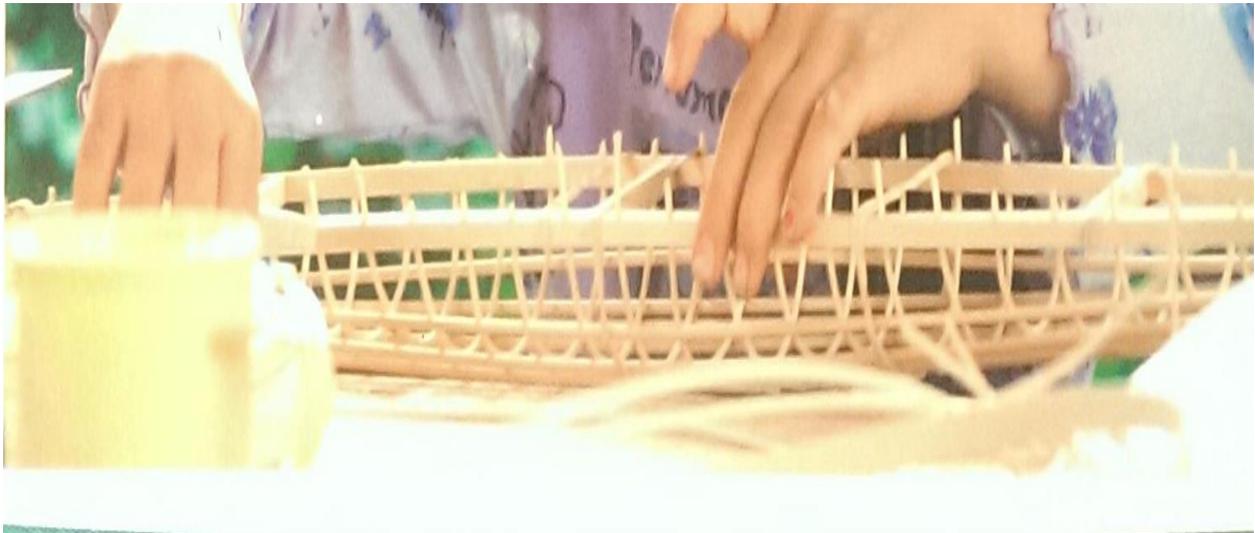
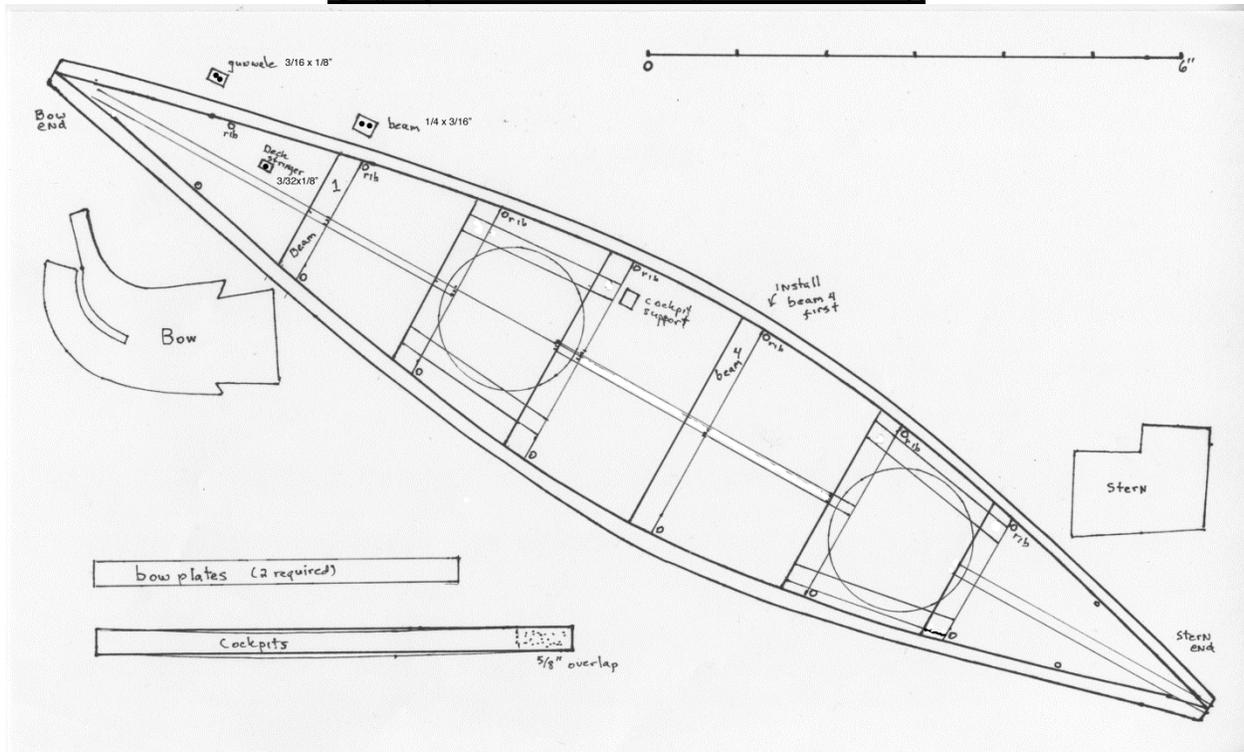


Photo Credit: Chugach Alaska Corporation: Nuchek Spirit Camp, John Johnson

¹ *Chenega Diaries: Stories and Voices of Our Past*, Pg. 244

Qayaq Model Lesson by Mitch Poling



The Qayaq model will take approximately five class periods of fifty minutes with assistance. This activity will include measuring, cutting wood with utility knives, hot glue and use of small clamps.

Materials:

- Hot glue gun and hot glue
- Small wood spring clamps
- Wood Glue
- Nylon Stockings for frame cover
- Rubber bands

Wood Materials:

- Basswood strips (from National Balsa)
 - Gunwales: 3/16 X 1/8 X 36"
 - Beams: 3/16 X 1/4
 - All Stringer 3/32 x 1/8 X 36"
- Basswood flat stock (from National Balsa)
 - 3/16 X 3" X 24" for Bow and Stern
- Flat Reed (from Basketweaving.com)
 - 3/16" for bow plates, cockpits, and ribs.

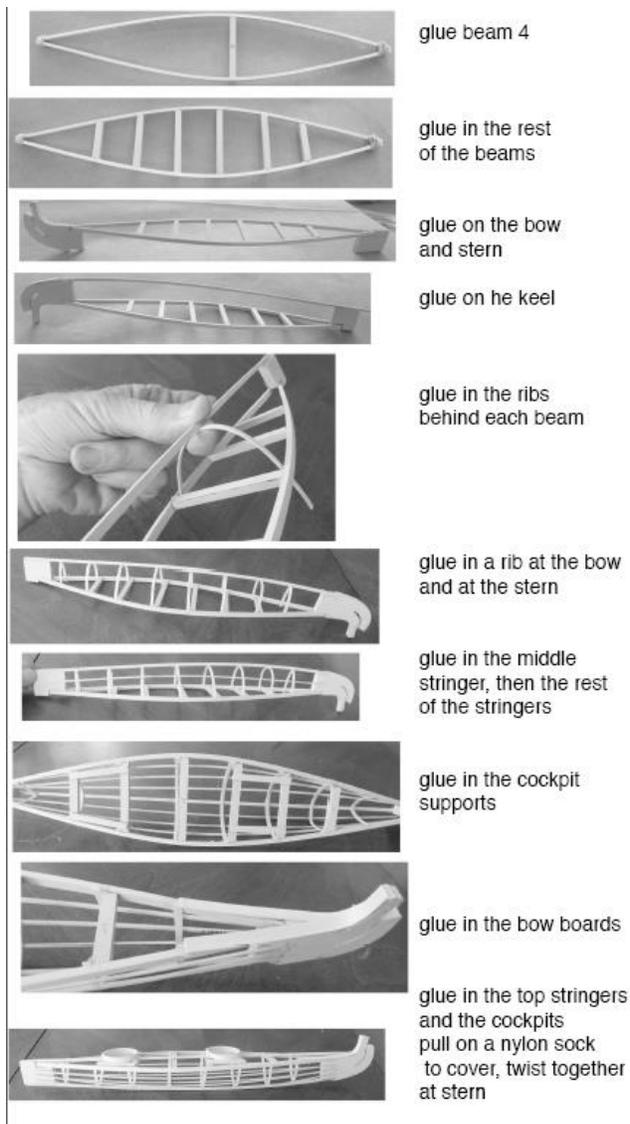
Each kit will need to have the bow and stern pieces precut with a band saw using the included template.

MODEL PAGE 1

Sizes of wood pieces:

- Gunwales #1 & #2: 15 inches
- Center Keel: 15 inches (cut to size)
- Beams: #1- 1.5 #2-2 #3-2.5 #4-2.5 #5-2 #6-1.5
- Cockpit Supports: 2" (cut to size)
- Ribs: Measure to fit: will need 8 total
- Cockpit: 5 5/8 inch
- Bow Plates: 4 inch
- Deck Stringers: 5 inch, 4 inch, 3 inch

Follow the included direction sheet provided by master boat builder Mitch Poling.



MODEL PAGE 2

Carving, Wood Working Safety Checklist

1. Judgement
 - Knives and other carving tools are not toys.
 - Carve only under the direction of a teacher or adult supervision.
 - Carve only when you can focus on your work. Avoid distractions
 - Never bring a knife to school for carving.
 - Horseplay is not allowed near or around carving and knives.

2. Caring for your tool.
 - Keep tools and knives sharp and clean
 - Wear protective safety gear, such as: carving gloves, safety glasses and mask.
 - Store tools in a safe place and never bring tools home.

3. Work Environment
 - Use a clamp, and carving board for better control when carving small or shaped objects.
 - Use a clamp to hold down wood while using a coping saw.
 - Use a bench, sturdy chair and appropriate lighting.

4. Handling Knives
 - Never pass a knife across to other people at the table.
 - Never carve in your lap or near your face or wrists.
 - Take small carving strokes for more control.
 - Never “muscle” a project when carving.
 - Always make sure your knife is sharp. Dull knives are challenging and dangerous to carve with.
 - Never pound or “hammer” your carving knife to make a cut.

5. Choices
 - Choose the correct wood for a project.
 - Lay out your project and have plenty of space around you while cutting them out.

Student Signature _____ **Date** _____