

TRADITIONAL TRANSPORTATION: QAYAQ MEASUREMENTS GR: 6-12 (LESSON 3)

Elder Quote Belief:



“People took a year or two to gather stuff for their qayaq (kayak). They were always looking ahead to find the certain pieces of driftwood. They had time.”
 -Nick Tanape Sr., Nanwalek¹

Grade Level: 9-12

Overview: The Sugpiaq of the Chugach Region made qayaq/kayaks to fit each hunter. Each part of the wooden qayaq frame was measured according to their body size then the materials were cut/ carved accordingly and the frame was assembled together with lashings. The qayaq was traditionally covered with sea lion skins that were waterproof stitched together with sinew.

Standards:

<i>AK Cultural:</i>	<i>AK Content:</i>	<i>CRCC:</i>
B (2) Culturally-knowledgeable students are able to build on the knowledge and skills of the local cultural community as a foundation from which to achieve personal and academic success throughout life.	E (3) Science and Technology: A student should understand the relationships among science, technology and society.	S (6) Students should know how to make tools from natural resources in the outdoor environment.

Lesson Goal: Learn how to use basic body measurement techniques and find the dimensions of a qayaq for an individual person.

Lesson Objective(s): Students will:

- Learn and share notes on the traditional technique to measure for individual qayaq from the enclosed articles and books.
- Follow a series of directions to measure their body, and document the results for a personalized qayaq.

Vocabulary Words: Sugt'stun Dialects

English	PWS	Lower Cook Inlet	Eyak
Kayak	qayaq	qayaq	gAyAXgug
Bow	Nanguna	Nucuguia	qu'LXaad
Stern	nucuguia	Aqua/ kingua	
Ribs	unarat	atuna	
Keel	atuna	Nanguna	

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).
- [Chugach Eskimo](#) pg. 45-49
- *Qayaqs and Canoes; Native Ways of Knowing* by Jan Steinbright
- The Hunter and the Hunted; Alutiiq Seal Hunter and Harbor Seal by Pratt Museum
- Tape Measures (classroom set)
- Qayaq (Kayak) measurement form (attached)

Teacher Preparation:

- Contact your Local Education Coordinator for a list of Elders that could share their expertise on the lesson content.
- Before the Elder or Recognized Expert arrives, please review with all of the students, ways to show respect for the Elder during their visit.
- Prepare copies of [Chugach Eskimo](#) pages 45-49 for each student.
- Make copies of Qayaq (Kayak) Measurement Form for each student.
- Connect video resource to classroom smart board or projector.
- Split class in the small working groups.

Opening: The qayaq has played a vital role in the cultural history of the Sugpiaq in the Chugach region. Each hunter was equipped with a personally measured qayaq made exclusively for their body. Qayaqs were made in the kneeling and sit down body position. In this lesson you will measure yourself sitting in a qayaq using instructions by Nick Tanape from Nanwalek, Alaska.

Activities:**Class I:**

1. Introduce Elders/Recognized expert to class to share TEK on qayaqs and traditional measurements. Allow time for questions.
2. Divide students into small groups, assisted by the teacher.
3. Have students read *Chugach Eskimo*, pages 45-51 and *The Hunter and the Hunted* individually or in assigned small groups. If in groups, assign one student from each group to take notes on key points of the article.
4. After the small groups finished, ask them to share their notes and 10 facts from the articles.
5. Hand out a tape measure and Qayaq (kayak) Measuring Form to each group.
6. Following the directions students will measure their bodies and record the findings on the form. Each group member will assist with measuring and documenting.

7. Students will work as a team to record accurate measurements of their body and complete the Qayaq Measurement Form with their results.

Assessment:

- Student groups documented ten or more notes from the readings and shared findings.
- Each student recorded their qayaq body measurements on the Qayaq Measurement Form.
- Students can describe the traditional techniques for measuring a qayaq for a personalized qayaq according to their worksheets and notes.

¹ Qayaqs and Canoes; Native Ways of Knowing by Jan Steinbright; pages 101-119

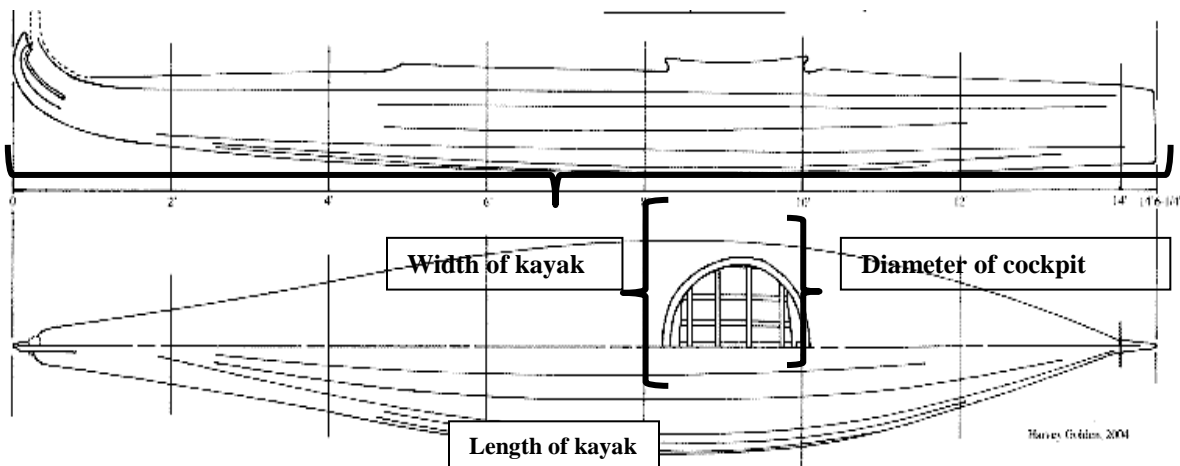
Qayaq (kayak) Measurement Form

Measurement Directions:

1. Arms Outstretched- 3.5 times for Qayaq (kayak) length. _____
2. Fists on Hips- Qayaq width. _____
3. Diameter of cockpit; Lower arm plus hand length. _____
4. Small of back to balls of feet- deck beam length to foot brace. _____
5. Small of back to knees- where knees rest on forward deck beam of cockpit. _____

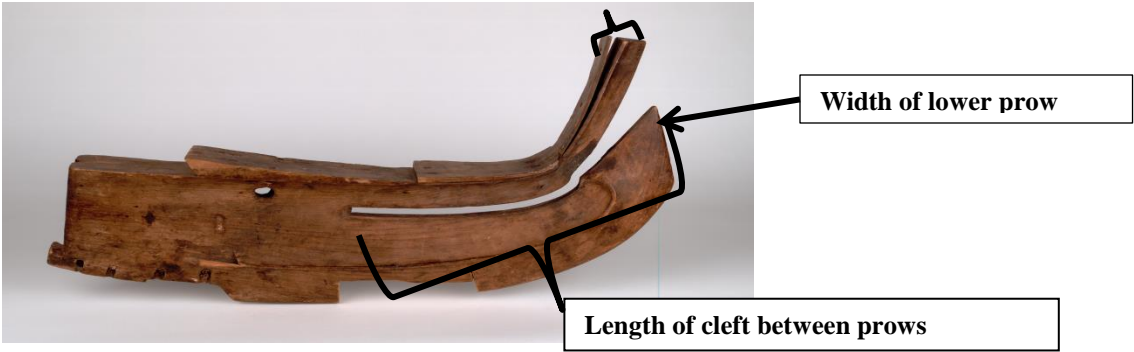
Measuring the Bifurcated bow:

1. Width of Lower Prow; three finger widths _____
2. Width of upper prow; four finger widths _____
3. Length of cleft between prows; two hand widths with outstretched thumbs plus to thumbs.



Width of upper prow

Bifurcated Bow



*Actual Seal Skin Covered Bifurcated Bow from Traditional Qayaq located in Cordova Historical Museum
Photo courtesy of Nick Jordan*