TRADITIONAL TRANSPORTATION: BOAT STYLES GR 3-5 (LESSON 1)

Elder Quote/ Belief: "During the spring seal hunts, it would take seven female sealskins to cover a bidarka frame". Andy Selanoff[i]

Grade Level: 3-5

Overview: The Sugpiaq and Eyak used a variety of boats to travel throughout the region and beyond. Each boat style was used for different activities. The kayak was used for hunting, moving from camp to camp, traveling long distances and transporting family. The open skin boat was primarily used for traveling with large groups of people going to celebrations such as weddings, funerals, subsistence camps. The boat was also used to travel to trade or war. It was known that the boat could be turned upside down and used as a shelter during long trips. The dugout canoe was used in similar ways as the open skin boat, but could be as long as 40 feet. Each boat has a purpose in the life of the Sugpiaq and Eyak.

Standards:

AK Cultural:	*AK Content*:	*CRCC*:
D2 Culturally-knowledgeable students are able to engage effectively in learning activities that are based on traditional ways of knowing and learning.	**A3** A student should understand and be able to apply the processes and applications of scientific inquiry.	**S6** Students should know how to make tools from natural resources in the outdoor environment.

Lesson Goal: To identify different styles of traditional boats from the Chugach Region.

Lesson Objective(s): Students will:

- Learn about the different types of boats used for travel.
- Become familiar with the different styles of watercraft and materials.
- Learn Sugt'stun words for qayaq/kayak, open skin boat.

Vocabulary Words: Sugt'stun Dialects

English	PWS	Lower Cook Inlet	Eyak
Kayak	Qayaq	Qayaq	gAyAXgug
Open Skin Boat	Anyaq	Palagg'uutaq Anyaq	AX
Sea Lion	wiinaq	wiinaq	k'umah
Spruce	napak	napak	lis, AdAlis
Dugout Canoe	pattakun	pattakun	AXAkih

Materials/Resources Needed:

Boat Models (Qayaq, Anyaq Dugout Canoe)
Roll up banners included in kit.
Story paper that has drawing space with lines, color pencils / markers

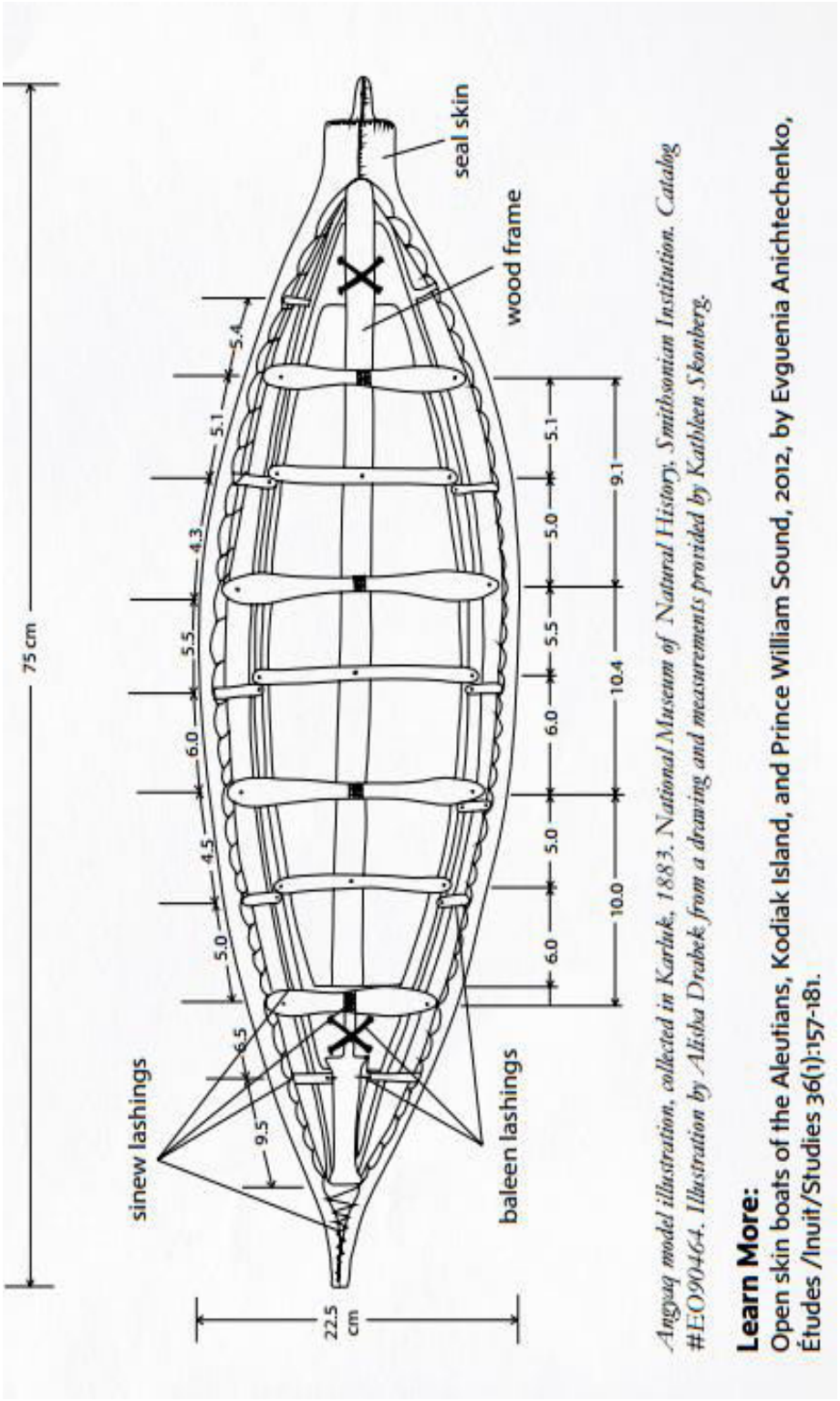
Books: *Qayaqs and Canoes; Native Ways of Knowing*
Kayaks of Alaska by Harvey Golden (page 101-143)
Eyak Legends (photo pages in the back of book)

Teacher Preparation:
Locate items needed for lessons.
Display the three different models, posters, photos and banners around the classroom.

Opening: Students gather on the floor with a view of the photos on the roll up banners and the traditional boats models. The Sugpiaq and Eyak people traveled throughout the Chugach Region in kayak, open skin boats and dugout canoes. Travelling by boat happened year round, in all types of weather and tidal conditions. How did the Sugpiaq and Eyak develop sea worthy vessels? Let us explore these watercrafts.

Activities:
Class I:
1. Using the roll up display Traditional Watercraft, and the books provided in the kit, share the various types of boats from the Chugach Region. Practice as a group repeat the Sugt'stun and/or Eyak words for kayak, open skin boat and dugout canoe.
2. Pass out paper for students to write observations and answers to questions.
3. Allow the students to view the three boat models; Qayaq, Anyaq (Open Skin Boat), and Dugout Canoe.
4. Pose the Questions:
   a) What are the different styles of boats used for?
   b) What is your hypothesis on the types of natural materials and tools used to build the three different boats?
   c) Why were certain natural materials used over others?
5. Students will answer questions and asked to draw a scene that must include:
   a) One Chugach style traditional boat.
   b) One Sugt'stun/Eyak vocabulary word use in context.
6. Ask students to illustrate an activity that shows what the Sugpiaq/Eyak performed while using watercraft through the region. Select a type of watercraft to use in drawing and label with Sugt'stun/Eyak word.
   a) Examples could be: hunting, traveling, fishing, etc.

Assessment:
- Students can describe the various types and uses of watercraft used in the Chugach Region.
- Students completed an illustration that showed one traditional watercraft with correctly labeled components using Sugt'stun/Eyak vocabulary.



Picture from: *Alutiiq Traditions* by Amy Steffian and April Laktonen Counceller

Qayaq at Chenega Bay

Dugout Canoe Model; Photo by Bill Smith

[i] Smelcer, J. E. (2006). *The day that cries forever: stories of the destruction of Chenega during the 1964 Alaska Earthquake*. Anchorage, AK: Chenega Future, Inc.

TRADITIONAL TRANSPORTATION: FINDING THE WAY- LAND TRAVEL GR: 3-5 (LESSON 2)

Elder Quote/Belief:

" I used to walk twelve hours, thirteen hours from Port Graham to Port Chatham to Portlock (Koyuktolik Bay) when I was twelve or thirteen, whole bunch of us…… we walked and talked twelve or thirteen hours all day.
-Anesia Metcalf, Port Graham

Grade Level: 3-5

Overview: The Sugpiaq traveled by land and water to trade, hunt, and fish. Land trails through the region connected villages, hunting sites, and allowed the Sugpiaq to portage their qayaq due to bad weather and take an overland route to another body of water.

Standards:

AK Cultural:	*AK Content Science*:	*CRCC*:
D (1) Culturally-knowledgeable students are able to engage effectively in learning activities that are based on traditional ways of knowing and learning.	**F (3)** A student should understand the dynamic relationships among scientific, cultural, social and personal perspectives.	**G (2)** Students should be able to read local, regional and navigational maps.

Lesson Goal: To learn about traditional land travel throughout the Chugach Region.

Lesson Objective(s): Students will:

- Learn methods used by the Sugpiaq/ Eyak people to mark a trail.
- Create trail markers from various materials for a local trail.

Vocabulary Words: Sugt'stun Dialects

English:	Prince William Sound:	Lower Cook Inlet:	Eyak:
Tree	nuguwaggtuq	napaq	lis
Blazing		nallunaiggkutaq	
Travel I am traveling They are traveling	ang'asik ang'asiggluni ang'asigglutukut	ang'asik	qe (Travel by boat)

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 Region Map
- *Alexandrovsk* No. 2 pg. 54; Trails
- 20 Whistles with lanyards
- Trail Marking Materials (rocks, paints, tin can lids, wood stakes)
- BLM Marking lines for corners
    - **https://www.blm.gov/cadastral/Manual/73man/id161.htm**
- OPTIONAL: To enhance lesson, use the SimTable (borrow from Heritage Preservation)

Teacher Preparation:

- Contact an Elder or Recognized Expert 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.
- Work with the local Tribe, school, State Park, National Park or Forest Service to develop appropriate signs for use on a local trail.
- Make Copies of *Trails* from Alexandrovsk No. 2, page 54
- Make Copies of BLM Marking lines for corners.
    - **https://www.blm.gov/cadastral/Manual/73man/id161.htm**
- If using the SimTable, review the SimTable Prompt for set up

Opening:

The coast line of the Chugach Region is dynamic, and challenging in all weather conditions. The Sugpiaq/Eyak people used to travel by water via the qayaq, anyaq, and dugout canoe. When bad weather stopped water based travel our ancestors used established trails to travel through the challenging terrain. The Sugpiaq/Eyak people would create their own trail markers to help guide their way home or to their next destination. The regional trails were limited by glaciers and challenging terrain.

Trail markers known as "trail blazing", or *cultural modified* trees (CMT) were used through the region. Traditionally the Sugpiaq would modify trees on a pathway using a stone adz. This marking (modification) would be located at eye level and alternate between the sides of a trail to keep the traveler on the path. The trees are referred to as *Line Trees or Sight Trees* used for navigation along a path.

In the article, "Trails" from *Alexandrovsk* pg. 54, you will notice that blazing is mentioned when the Civilian Conservation Corps. (C.C.C) trails were established. Many years before the C.C.C trails were cut into the forests, the Sugpiaq used these trails to travel. The blazing helped guide their way from villages, hunting/fishing sites and to celebrations.

Activities:

Class I: Trails

1. If available, introduce an Elder or Recognized Expert to share stories about traditional trails used in the area and map the locations on google maps.
2. Read article "Trails" from *Alexandrovsk* No. 2 pg. 54
3. The map can be displayed on smart board or individual computers. Look at the topography, elevation, distance and obstacles.

4. OPTIONAL: If using, have students gather around the SimTable to build up the area map that shows the topography, elevation, distance and obstacles of walking.
5. Review locations as described in article and repeat activity for two locations.
6. Have a discussion with the students about whether their community has trails for different uses?
    a. What are the trails used for? (berries, hunting, trapping, gathering, fishing)
    b. Are there trails for traveling to other villages or towns?
    c. If so, have you or someone you know used the trail?
    d. What is the distance?
    e. How long did it take?
    f. Were there markers to make the trail easy to find?
7. Explain to the students that they will be making trail markers from natural or recycled materials for a local or personal trail. Review different trail marker ideas, such as;
    a. Interpretive Sign with researched information
    b. Painted Rocks
    c. Plastic bottle caps nailed to trees to follow
    d. Painted soup can lids attached to paint sticks or wood stakes
    e. Flagging tape
    f. Rock stacking

Class II: Trail Games:

1. Review safety rules for trail games and trail use.
    a. Take at least one teacher or adult volunteer with each group.
    b. Stay together as a group while playing games or walking on trails.
    c. Make sure each group member has a whistle and knows only to blow the whistle for emergencies.
        - **EMPHASIZE:** If someone becomes separated, stay together in one place and blow your whistle until help arrives!

2. Hide and seek: Divide into two groups: Trailblazers and Trackers.
    a. The Trailblazers lay a trail using a specific trail marking method.
    b. Once the trail is marked, then the Trailblazers will hide as a group.
    c. After 15 minutes the Trackers group will set off to follow their trail.
    d. When the Trackers find the Trailblazers, the groups will switch roles.
        - **NOTE:** This game can be used with various markers and different trails.

3. Treasure Hunt: Lay a trail and hide something special at the end for the Trackers to find.

4. Trail Home: mark your own trail when you go exploring. Then use it to help find your way back.

Assessment:

- Students able to map out local traditional trails and trail locations from the article "*Trails*" and Elder knowledge, on google maps. (and SimTable if used.)
- Students developed two trail markers from natural or recycled materials for a local trail or personal hiking trail.
- Students are able to describe the trail markers and any culturally modified trees (CMT) seen on the hike.

A cultural bearer from the Eyak Culture Camp is examining a culturally modified tree in the forest. Scarred trees were sources for essentials for life such as food, planks, and clothing. Photo courtesy of Heather Hall, USFS

Tree Carving, Juneau Alaska on Mt. Roberts. Eagle

Map of the Chugach Region
Cook Inlet
Anchorage
Seward
Chenega
Nuchek
Prince William Sound
Kiniklik
Tatitlek
Valdez
Eyak
Cordova
Nanwalek
Port Graham
ALASKA
NORTH
Scale 1" = 40 miles

Resource from https://www.blm.gov/cadastral/Manual/73man/id161.htm

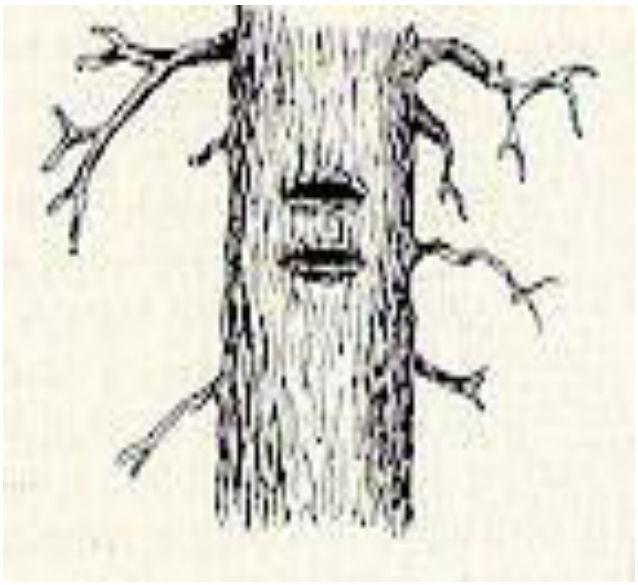


Figure 61. - Hack marks on a line tree

Figure 62. - A line blaze...

A blaze is a smoothed surface cut upon a tree trunk at about breast height. The bark and a small amount of the live wood tissue are removed with an axe or other cutting tool, leaving a flat surface which forever brands the tree. The size of the blaze depends somewhat upon the size of the tree, but should not be made larger than the surface of the axe blade. A blaze five or six inches in height and from two to four inches in width is usually ample.

A hack is a horizontal notch cut well into the wood, also made at about breast height. Two hacks are cut to distinguish them from other, accidental marks. A vertical section of the finished hack marks resembles a double-V extending across a tree from two to six inches depending upon the diameter of the tree.

The blaze and hack mark are equally permanent, but so different in character that one mark should never be mistaken for the other. The difference becomes important when the line is retraced in later years.

Trees intersected by the line have two hacks or notches cut on each of the sides facing the line, without any other marks whatever. These are called sight trees or line trees. A sufficient number of other trees standing within 50 links of the line, on either side of it, are blazed on two sides quartering toward the line, in order to render the line conspicuous and readily to be traced in either direction. The blazes are made opposite each other coinciding in direction with the line where the trees stand very near it and approaching nearer each other toward the line the farther the line passes from the blazed trees. Figure 63.

The lines should be so well marked as to be readily followed and the blazes plain enough to leave recognizable scars as long as the trees stand. This can be accomplished by blazing just through the bark into the live wood tissue. The blazes should be narrow so that they will heal before decay begins, and special care should be taken not to loosen the cambium layer around the blaze, since this will prevent overgrowth. Where trees have branches growing to the ground, the blazes may be omitted unless it is necessary to remove the branches to permit sighting.

Figure 63. - Marking a line through timber.

Lines are also marked by cutting away enough of the undergrowth to facilitate correct sighting of instruments. Where lines cross deep wooded valleys, by sighting over the tops, the usual blazing of trees in the low ground when accessible will be performed. The undergrowth will be especially well cut along all lines within distances of 5 chains of corner monuments and within 2 chains of arteries of travel, but the cutting of the undergrowth may be omitted in deep untraveled ravines unless necessary for accurate sighting or measurement.

Line trees and blazing are marked only with reference to the established true line. Where lines are run by the "random and true" line method, the marking of line trees and the blazing is accomplished by returning over the line after all corrections or adjustments to the final line are definitely known. A sufficient number of temporary stakes should be set along a random line to render it generally unnecessary to rerun the true line instrumentally merely for the purpose of blazing the line through timber. This can usually be accomplished by properly estimating the distance from the temporary stakes, but intersections with line trees will be made with precision, and distances thereto accurately measured.

SIMTABLE PROMPTS

Overview:
SimTable is a interactive digital sand table (crushed walnut shell- ****see allergy warning below****) that allows users to create and shape 3D projected maps. The SimTable mapping options include Bing satellite imagery, ERSI imagery, USGS topographical maps, and open street maps. Additional maps and mapping services can be searched for by using Chrome browers and opened on Simtable in a new tab.

Goals: The goal of SimTable is to have students interact with maps to enhance their understanding of the local landscape, regional topography/oceanography, map locations, input points, lines and polygons, and run different scenarios.

Objective(s): Students will:

- Learn topography of a specific area.
- Create maps of certain areas within the Chugach Region.
- Develop scenarios that include (watershed, climate change, traditional place names, nomadic movement, wind direction, tidal movement, release flow, etc.)

Materials/Resources Needed:

- SimTable kit
  - Projector and Computer
  - Base and Four sides labeled (1&2 3&4) Photo #2
  - Plastic Base
  - Tripod
  - Four Bags of sand (crushed walnut shell)
- Two Folding Tables (2.5 x 6 feet each)
- Strong WiFi
- Power outlets
- Dedicated space for set up and use

Teacher Preparation:

- Review *SimTable Instructional Manual*
- Review AnyHazard Manual located in SimTable kit
- Set up SimTable (follow Chugachmiut SimTable directions of use)

Mapping Resources for SimTable (Links are set on tabs with in SimTable web browser)

- AnyHazard tools: apps.simtable.com
- ADFG: Alaska Freshwater Fish Inventory (AFFI)
- NOAA: Bathymetric and Fishing Maps; Interactive Map Viewer
- Alaska Ocean Observing System: Gulf of Alaska Data Portal
- SNAP: Scenariors Network for Alaska and Arctic Planning

If you find additional mapping resources that work with SimTable please record and share with Chugachmiut for continuous improvement.

Set Up: (pictures below)

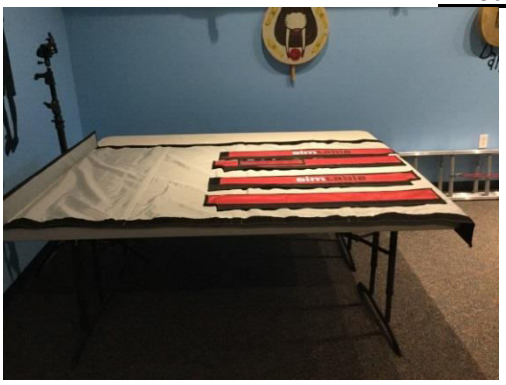
1. Set up two folding tables (a minimum size of ’x6’) with electrical outlet close by.
2. Lay out the base of SimTable and locate the four sides
3. On each side, lay out upright sides (1 & 2) (3 & 4)
    a. Take note on end tabs, these will ahead to the corners of the base.
4. Once the sides are securely in place and upright; layout plastic visqueen from the SimTable materials located in gray tote. *This step is important as it helps with the clean-up process!
    a. Flatten plastic and tuck ends under the table. Use binder clips to clip plastic to sides of base.
5. Add the sand (crushed Walnut shell, **see allergy warning below**).
    a. Pour in one bag at a time slowly. Use the trowels located in the materials box to smooth out the sand and fill the space.

****Allergy Information: This material is made from crushed walnut shell and could cause an irritation or allergic reactions. Consult with your school nurse to address any students or staff whom may be allergic to nuts and/or walnuts. This is a find powder and some individuals w/ asthma could have an irritation from the “sand particles”****

6. Installing Projector and Computer:
    a. Unpack unit from Pelican box, use assistance if needed.
    b. Remove tripod head and install onto the frame of the projector and computer unit.
    c. Attach projector to the tripod and secure. You will need to adjust the height based on the table height. Set the tripod to approximately 6’ 7” in height.
    d. Center the unit on one of the long side of the SimTable. (Photo #13)
    e. Plug in cords to outlet using the power strip. An extension cord is also available, if needed. Two plugs are required.
    f. Proceed to turn **ON**, both the projector (remote) and Apple mini computer on the tripod stand.

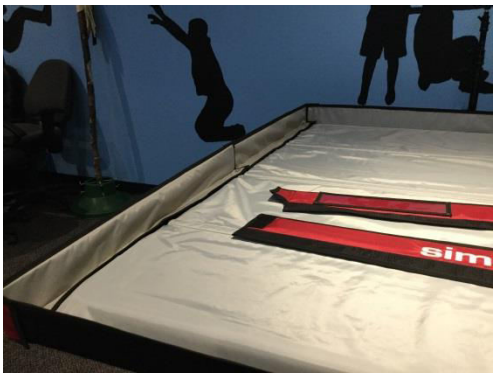
7. Running AnyHazard:
    a. AnyHazard is the application where you can create, manipulate maps, label and run live scenarios (fire, watershed, rain events, release, wind etc…)
    b. Single click on AnyHazard logo on side bar. Follow directions centering tripod camera and flatten sand.

Photos of SimTable Set Up:



1) Lay out SimTable bottom on tables

2)Match up numbered sides

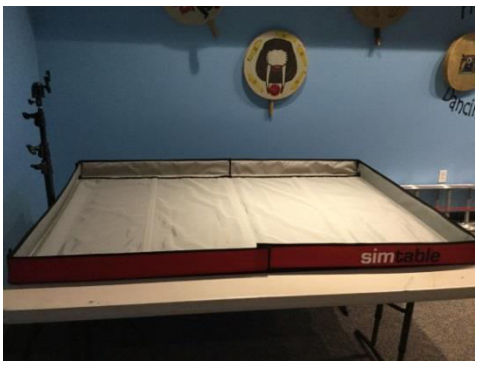


3) Sides fit together using velco

4) Attach sides and smooth out

5) Corners wrap around ends

6) Corner wrapped trapping sand

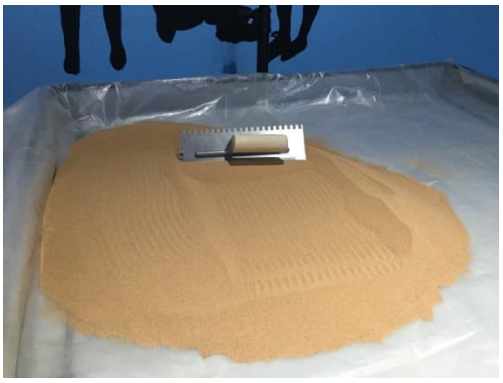


7) Table complete

8) Lay visqueen out flat

9) Use binder clips to secure to sides

10) Four bags of "sand"



11)Slowly pour bags one at a time on table

12) Smooth with trowel

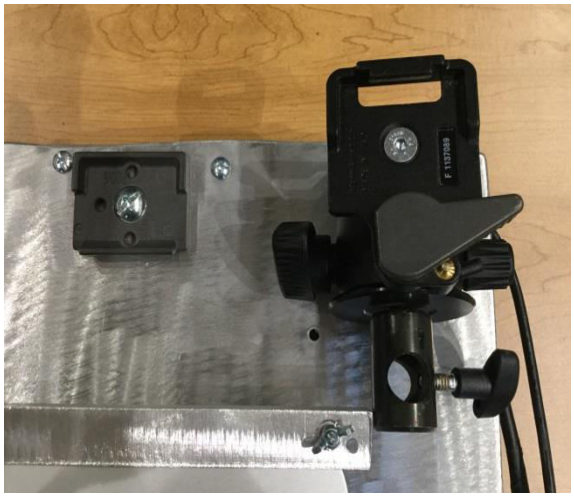
13) Center Tripod along the long side of table

14) Simtable computer and projector (packed)

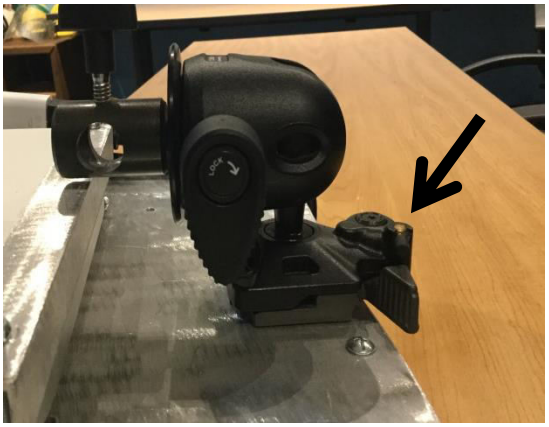
15) Keyboard, mouse, projector remote, pointer

16) Projector and MacMini

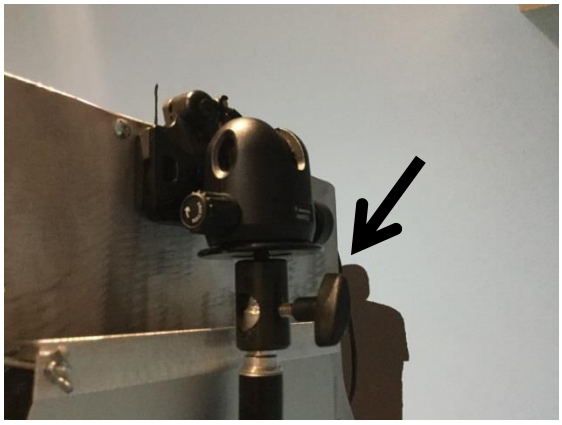
17) Tripod



18) Tripod head to connect to projector base



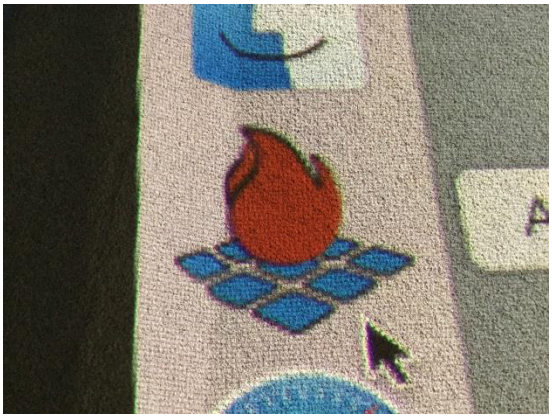
19) Tripod head connected to projector base making sure the latch locks in place.



20) Place base on top of tripod and secure the tighting screw.

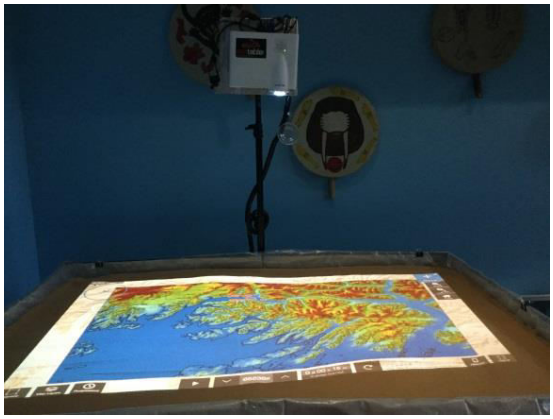
21) Set on tripod, tighted and adjust to proper height for projection.

22) Level the projector with slight adjustments This can be challenging we have used packing tape from the projector base to the tripod to assist with leveling.

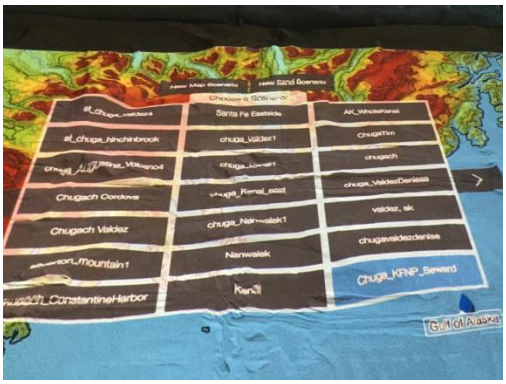


23) Turn on computer and projector

Adjust camera and launch AnyHazard.



24)Example of SimTable with slope shading on.



25) Window showing map and new map options

23) Cover with visqueen when not in use.

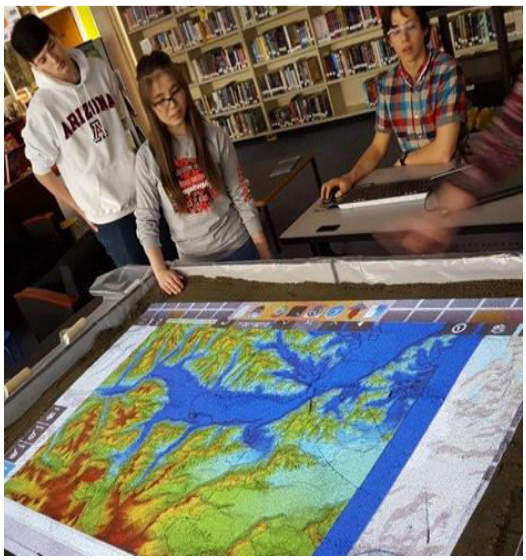
Clean Up:

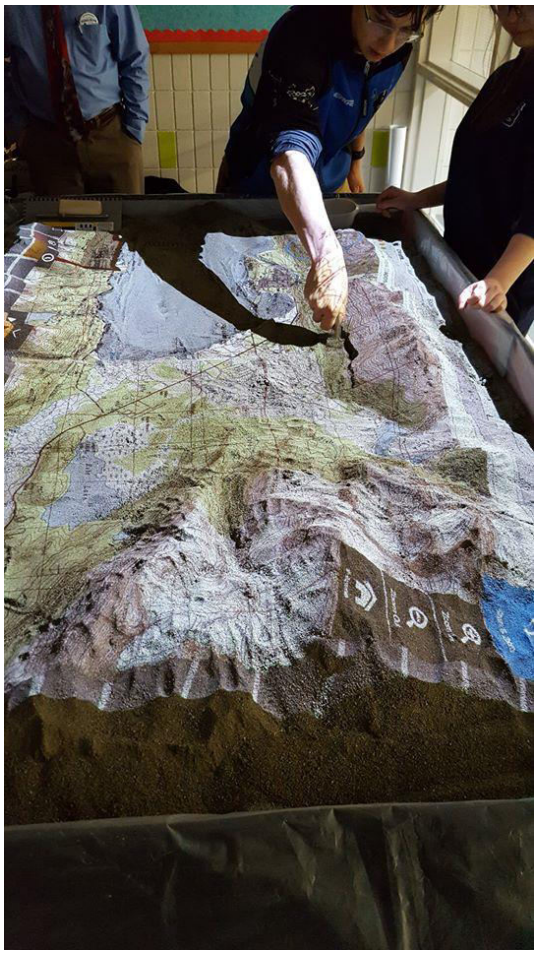
1. Included in the kit are scoops, dust pans and small hand broom to assist with cleaning. Bag the "sand" in provided dry bags up to the fill line. Gather as much sand as possible from the SimTable.
2. Use the Ryobi vacuum to clean remainder of sand from the SimTable base, especially the velcro connections.
3. Clean and carefully fold visqueen and return to gray tote.
4. Use the inventory list to account for all SimTable parts and items before returning.

Inventory:

- Two pad locks and key
- Pelican case
- Logitech K520 Wireless key board
- Logitech M310 Wireless Mouse
- Laser pointer (Black) Staple brand
- (1) Laser Pointer (Black) Staples brand
- Projector Remote
- Tripod (Large)
- Projector
- Mac Mini
- SimTable base and (4) sides
- (2) sheets of plastic Visqueen
- (4) Bags of Crushed Walnut Shell + Four dry bags
- Plastic Tub (Gray)
- Any Hazard manual
- (1) white scoop
- (2) Black dust pans
- (2) Mini Broom
- Ryobi Vacuum w/ 18volt battery / charger
- (1) Orange Extension cord
- (1) Trowel
- (1) Power strip

SimTable in the Classroom





TRADITIONAL TRANSPORTATION: QAYAQ MATERIALS GR: 3-5 (LESSON 3)

Elder Quote/Belief: "When it came to covering a Baidarka, everything was a communal effort. All the women got together because there were no set patters. The way the seal skins were cut they were just cut to fit the bairarka with whatever they had, so all the seams were kind of irregular in that manner. They'd get together and try to fit the skins the best they can without waste and they'd sew all the seams together and sit here and chew on the seam, and all the sewing was down with the porpoise sinew. -Bill Hjort, *Chenega Diaries*

Grade Level: 3-5

Overview: The Sugpiaq qayaq is made from a wooden frame and covered with the sewn skins from a sea lion. The qayaq frame is constructed where no nails are needed. Each material used in the qayaq frame and outer skin are collected by hand and built with hand tools.

Standards:

AK Cultural:	*AK Content Science*:	*CRCC*:
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: Understand the process of gathering materials and building a qayaq/kayak from driftwood, seal or sea lion skin, and sinew.

Lesson Objective(s): Students will:

- Learn Sugt'stun/ Eyak vocabulary
- Learn about materials used in traditional qayaq/kayak construction.
- Learn where to find materials used in qayaq/kayak construction.

Vocabulary Words: Sugt'stun Dialects

English:	Prince William Sound:	Lower Cook Inlet:	Eyak:
Qayaq/Kayak	qayaq	qayaq	gAyAXgug
Driftwood	Tep'ak	Tep'ak	Wood: dAkinh
Sea Lion	winaq	winaq	k'umah
Seal	qaigyaq	qaigyaq	geeLtaag, keeLtaag
Sinew			
Porpoise	qaniq	mangtak	qe'xuutl'
Skin	amiq	amiq	tah

Materials/Resources Needed:

- Story from *Alexandrovsk*: "Skin Boats" by Sergius Moonin (attached to lesson)
- *Chenega: As I saw it-It's People* by Bobby A. Stamp (page 20)
- *Alutiiq Traditions:* "Kayaks-Qayat" article on page 13
- Kayak Display of Wooden Frame and Skin Frame and Small Model
- Materials: Seal Skin, sinew, Sea Lion Skin, Driftwood
- View Video: The Gathering Tamamta Katurlluta (Pratt Museum)
    - **https://www.youtube.com/watch?v=FRyHIMe9oIM**

Teacher Preparation:

- Set up the roll up displays and model of traditional qayaq/kayak.
- Gather samples of skins, wood samples, and sinew.
- Locate, review and tag the stories and articles for easy access to read out loud to the students.
- Review and set up the video to show students.
- Make copies of **Qayaq Observation Chart** for each student.

Opening:

As you quietly look at the displays and models, I want you to think about what type of materials were used to build the traditional qayaq? I am going to hand out a *Qayaq Observation Chart* worksheet and want you to quietly complete just the **pre** observation portion at this time. Once finished please sit down and raise your hand so we can continue.
What are some of your answers for materials used? After a few minutes of answers, then we are going to delve into materials used for the traditional qayaq construction.

The Sugpiaq qayaq is made from a wooden frame and covered with the sewn skins from a sea lion. Can you believe that the traditional qayaq frame was constructed not using any nails? They used sinew of animals to tie the frame together. Each material used in the qayaq frame and outer skin were collected by hand and built with hand tools. Discuss the where the materials came from that were used in traditional qayaq building (listed below). Ask the students to gather information on materials, construction methods, and where materials were found.

List of qayaq materials:

Sinew: porpoise tail, sea lion or seal gut
Qayaq frame: hemlock, spruce, driftwood
Qayaq Cover: Sea lion (typically female) or seal skins
Oil to preserve qayaq cover: Seal oil
Qayaq lashing: Spruce root, sinew, braided dried kelp

Activities: Class I:

- Students will be asked to fill out the pre-observation part of the worksheet.
- Students will then gather to view and investigate the displays of the skin on frame and wood frame of the qayaq.
- When students have completed the pre-observation chart, share the story 'Skin Boats' by Sergius Moonin, and the article Kayaks-Qayaq (Alutiiq Traditions on pg. 13) for students to listen and gather new information.

- Students will make observations on materials, construction methods, how and where materials were found.

Assessment:

- Students can explain the materials used to build a traditional qayaq.
- Students correctly completed *Post Qayaq Observation Worksheet.*
- Students can recall and retell the contents of the Skin Boats and Kayak-Qayat articles.

Qayaq Observation Chart (Pre and Post)

Pre Observations:

What materials were used to build the traditional qayaq/kayak? _____

_____

What was used to stitch the qayaq/kayak together? _____

_____

How many seals or sea lion skins were used to cover a qayaq/kayak? _____

Which sea lion skin would they like to use most? Male or Female? Why? _____

_____

Where would the Sugpiaq and Eyak find the correct materials to build a qayaq/kayak? _____

_____

Post Observations:

What materials were used to build the traditional qayaq/kayak? _____

_____

What was used to stitch the qayaq/kayak together? _____

_____

How many seals or sea lion skins were used to cover a qayaq/kayak? _____

Which sea lion skin would they like to use most? Male or Female? Why? _____

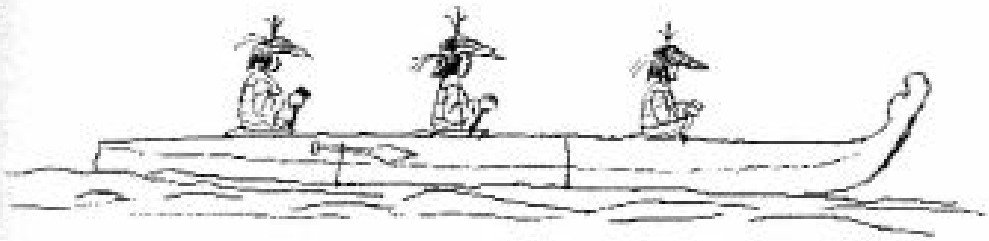
Where would the Sugpiaq and Eyak find the correct materials to build a qayaq/kayak? _____

_____

Taken out of *Alexandrovsk*

SKIN BOATS

By Sergius Moonin



People used to build their own kayaks. Kayak builders were very skilled carpenters. When they get the wood, they know what kind of tree and how long and straight(it should be) for the kayak. They know how many long strips they need. Then they bend them and lash them together.

There were no nails (back then) so they used a small tree root. They dug it up, split it, soaked it and they tied it up. It was (so) tight you couldn't move it. All kinds of tools (were used). Some tools were hard to handle. Different sizes of knives (were used).

After you have your frame finished, let it set in the sun all day. It has a sharp bow. It is nice and straight.

Then comes the skin. You use exactly nine seal skins to make a fair-sized kayak. I know, 'cause my mom's uncle was a kayak builder. An angyag (a big, open, skin boat) takes 36 seal skins. They cover the skin with moss and soak it in a banya (bath house) and pour on the hot water. Next day, scrape off the hair and stretch it outside. Let it dry. Now, you cover the frame and the ladies have to sew it with a whale sinew cut really fine.

When the kayak is finished, let it dry and tighten. Then oil it with seal oil. Then it will last a long time. Next year or two, change the skin.

47

TRADITIONAL TRANSPORTATION: DUGOUT CANOE GR: 3-5 (LESSONS 4, 5, 6)

Elder Quote/Belief: "Summer came and they would go around by boat. They made their first dugout canoes. They chopped down large cottonwood, and fashioned that into a canoe. They went in that into Eyak Lake. Then they tried spruce instead of cotton wood. That too was good. They carved large boats out of spruce." -Anna Nelson Harry Recorded in 1965, Yakutat.[i]

Grade Level: 3-5

Overview: The Eyak carved dugout canoes from cottonwood, spruce and cedar from the Copper River Delta. The Eyak canoe was largely adapted for the delta but inspired by the larger, more sea worthy canoes of the Tlingit.

Standards:

AK Cultural:	*AK Content Geography*:	*CRCC*:
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.	**E.** A student should understand and be able to evaluate how humans and physical environments interact	**MC1**: Different kinds of wood have different qualities and different uses; wood can be obtained from the forest and from driftwood.

Lesson Goal: Learn about the carving and steaming of dugout canoes. Students will carve a dugout canoe from soap with carving tools.

Lesson Objective(s): Students will:

- Learn Eyak and Sugt'stun vocabulary for dugout canoe
- Learn the uses and purpose of the dugout canoe
- Learn about cultural groups who also carved and used the dugout canoe for travel.

Vocabulary Words:

English:	Sugt'stun Dialects Prince William Sound:	Lower Cook Inlet:	Eyak:
Canoe	pattakun	pattakun	AXAkih
Spruce	nupuk	nupuk	lis, AdAlis
Adze			XAt'aa
Steam	arillaq	arillaq	dAq'aagdaatl

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).
- Soap bars
- Plastic Carving Tools
- Model of Dugout Canoe
- Laminated photos of Dugout canoe.

Books/Documents:

- *Qayaqs & Canoes; Native Ways of Knowing* by Jan Steinbright; pages 101-119
- Article, *"Qayaqs and Canoes"* http://www.echospace.org/articles/273/sections/665.html

Websites/videos:

- The JayHawk Institute Canoe Legacy Project :history and background of the dugout canoe
    - https://vimeo.com/83392411
- Sea Alaska Canoe Project video https://vimeo.com/195491983

Teacher Preparation:

- Invite an Elder or Recognized Expert that could share their traditional ecological knowledge (TEK) and 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.
- Collect the materials and resources needed for lesson.
- Prepare working groups of 4 to 6 students whom will share soap carving tools.
- Make sure to have enough bars of soap so each student will receive one bar of soap to carve.
- Gather the equipment for the steam experiment; a hot plate, a large pot for water, water vessel and thermometer.
- Display the *Traditional Transportation Watercraft* roll up banner of dugout canoe.
- Make Copies of Echo's article for each student to read.
    - http://www.echospace.org/articles/273/sections/665.html
- Set up Smartboard with links to the videos listed above.
    - The Jay Hawk Institute Canoe Legacy Project (14 video series) https://vimeo.com/83392411
    - Sealaska Canoe Project video of carver Steve Brown on how to make a dugout canoe. https://vimeo.com/195491983

Opening: There are three distinct styles of boats that were made by the Sugpiaq and Eyak people of the Chugach Region. These styles are the qayaq, anyaq and dugout canoe. Today, we are going to learn more about the dugout canoe made by the Eyak people. One major component to making the dugout canoe, besides the carving out of a log, was the use of steam.

Steam allowed the wood of the carved canoe to soften and bend. This process allowed the builders to open the carved log up wide to make the canoe more sea worthy. We will research the use of steam for the shape and designs of Eyak, Tlingit and Pacific Coast Indians used on their dugout canoes.

Once we review these designs we will be carving a dugout canoe from a bar of soap using the canoe model as an example.

Activities:

Class I:

1. Gather students to view model and poster of dugout canoe. The model can be passed around to see the craftsmanship it took to build the canoe.
2. Students will watch the recommended videos on smartboard of the carving and steaming processes.
   Video #1: SeaAlaska Canoe Project **https://vimeo.com/195491983**
   Video#2: JayHawk Canoe Legacy Project **https://vimeo.com/83392411**

3. Following the viewing of the short videos. Ask the students to answer the following questions:
   a. What creates steam?
   b. Where else do you see steam? (Ask for a couple examples)
   c. Describe how the Eyak would "traditionally" created steam for the use of opening up their canoe.

Class II:

1. Making steam in your classroom. In this experiment you will need a hot plate, a large pot for water, water vessel. Thermometer for testing the temperature of steam vs. boiling water. Questions for students to think about and understand steam:
   a. What are the different forms of water? (Solid, liquid and gas). Ask for examples.
   b. How does water change? Liquid to gas, liquid to solid and back.
   c. Prepare water to boil on hot plate, have students make observations while the boiling process is happening.
   d. Explain when the temperature of liquid water gets to 212 degrees Fahrenheit it is at its boiling point and the bubbles form and steam (gas) begins to escape.
   e. Steam is the gas state of water. How hot do you think is the steam? *For additional information and experiments see the link below and/or attached lesson.
      a. http://www.ankn.uaf.edu/publications/Alaska_Science/Steaming.html

Class III:

1. Following the reading, explain to the students they will be making a dugout canoe from a bar of soap. Students will use provided pictures and dugout canoe model to help with their carving design.
2. Explain the safety rules when using carving tools.
   a. Provide each student with a bar of soap and plastic carving tools.
   b. Using the included plastic tools students can carve and hollow out their bar of soap to make a dugout canoe.

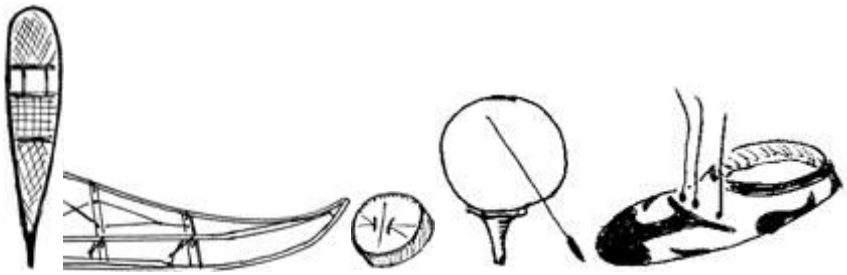
Assessment:

- Students can correctly retell the ECHO Space article *"Qayaq and Canoes"* they read.
- Students can describe the dugout canoe steaming process and uses of steam.
- Students successfully complete the dugout canoe soap carving.

[1] Eyak Legends of the Copper River Delta, Alaska; page 104; Eyak History and Language by Anna Nelson Harry 1965 Yakutat

http://www.ankn.uaf.edu/publications/Alaska_Science/Steaming.html
Alaska Science Camps, Fairs & Experiments
TO ORDER THIS PUBLICATION:
Contact the ANKN offices at 907-474-1902 or email publications@ankn.uaf.edu.

Steaming

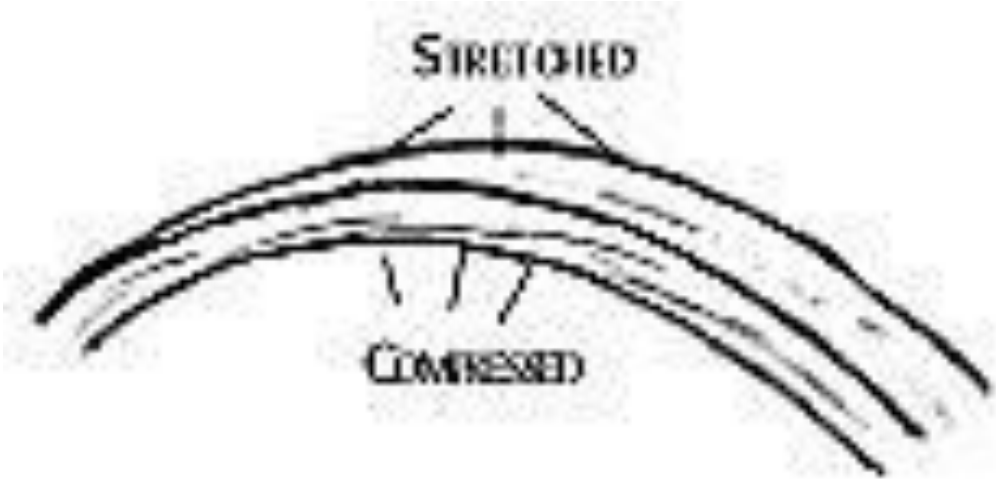


For untold centuries old timers have been bending natural materials. Some materials bend more easily than others. We have always been looking for ways to improve the bending of natural materials.

The most common traditional applications of bending are: Aleut bentwood hats, snowshoes, drum frames, canoe ribs and sled parts.

When we bend materials, there are two stresses.

- The inside of the bend is being compressed.
- The outside of the bend is being stretched.



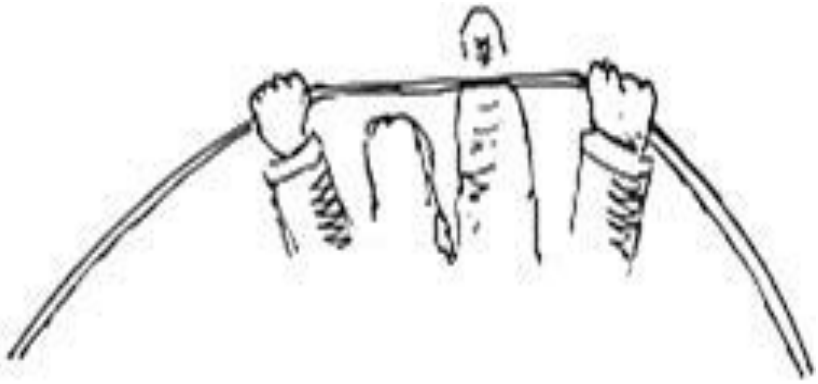
Obviously, the thinner the material is, the easier it is to bend as the inside is compressed less and the outside stretched less.

Old timers spent much time looking for the choice piece of wood that would not break when it was bent.

Steaming

When wood is dry it isn't very flexible. Wetting the wood helps the bending process. Steaming helps even more. However, there are advantages and disadvantages of each. Excessive steaming weakens the wood.

Many people wrap the wood with a hot steamy towel as it comes out of the steamer. This keeps it from drying and cooling until bending is complete.



It is important to bend the wood gently, flexing it gradually, being careful not to bend too much in one place. If there is a spot that doesn't want to bend, we put it over our knee at that place and gently flex it. If it still doesn't bend, we take a timeout, and thin it at that spot with a hand plane or knife.

WRAPPING TO PREVENT SPLITTING

If the fibers start to split off, quickly wrap that place with string, keeping the fibers intact. Continue bending gently.

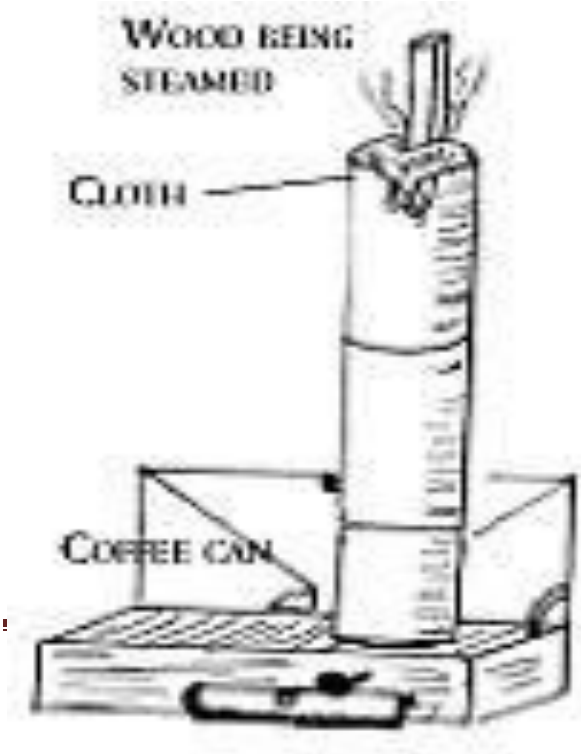
EXPERIMENT

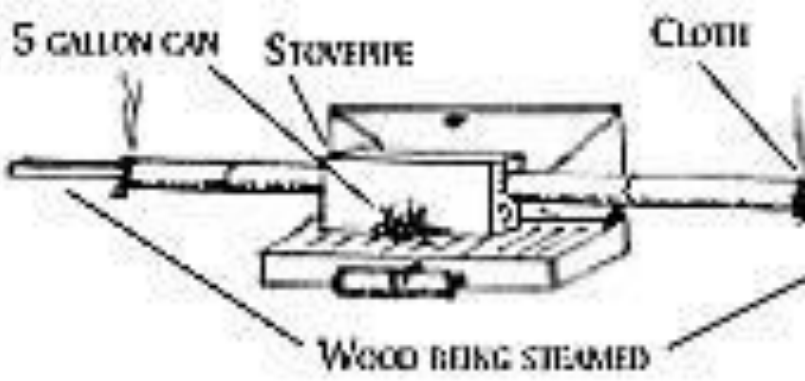
Cut or split identical pieces of green wood about two feet long. Identify which side is from the outside of the tree and which side from the inside. Try bending two ways: inside of tree on the outside of the bend, and outside of the tree on the outside of the bend. Which way seems to bend the easiest? Which way breaks more easily than the other.

EXPERIMENT: EASE OF BENDING

Cut or split identical pieces of green wood. Try to bend the first piece. Try to bend a second piece after it has been soaked in cold water for a time. Try a third piece after it has been soaked in hot water and a fourth piece after it has been steamed. What differences do you notice?

You can make a steamer like either of the ones illustrated here.





Be careful, as steam and hot water can inflict severe burns. Use gloves and eye protection. Some people say the

steamer needs to have a great deal of water, and to use a drum.

Try bending different materials, birch, spruce, willows, and other natural materials after they have been steamed or soaked in hot water. Many people have spent hours shaping a piece of wood, only to have it crack before taking shape. Learn how to steam on scraps first. Then steam and bend carved pieces.

Traditional Steaming

In parts of Alaska, steaming was done by digging a pit, and making a fire in the pit. The ashes were scraped from the hole. The wood was wrapped in seaweed or wet grass. The wood was placed in the hole and buried with hot dirt and topped with hot coals, the moisture from the seaweed was heated by the dirt and coals, and the wood rendered soft and pliable.

EXPERIMENT: WEAKENED BY STEAMING?

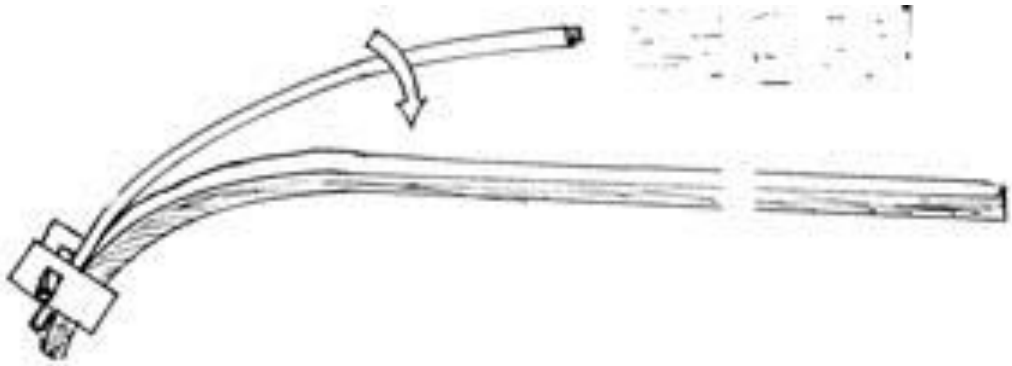
Cut or split two identical pieces of wood. Soak one in very warm water, bend it, and let it dry. Steam the other piece for quite a while, and bend it and let it dry. Test both pieces. Is the piece that was steamed for a long time weaker or stronger than the piece that was only soaked in warm water?

Since it is impossible to find two pieces of wood that are identical, it might be best to try to bend four pieces, two in warm water and two steamed.

Bending Jig

When wood is bent, we often need a form or shape to bend the wood upon. Many such forms or jigs are possible. Below is a jig to bend sled runners. The runners are clamped to the jig until they dry. Slow careful drying prevents cracking.

Snowshoes are bent around a jig that shapes them to the proper size and form.



Aleut bentwood hats are often bent around a frame, and then the pieces are held together with clamps. The wood is soaked in a wide pan of hot water, not steamed.

Drum makers often cut very thin strips of wood, steam them, and then bend them around a circular jig, gluing the different layers together into a very strong round frame.

BENDING A DRUM FRAME IN THIN STRIPS
THAT ARE GLUED TOGETHER.

Following information taken from ECHO Education through Cultural & Historical Organizations http://www.echospace.org/articles/273/sections/665.html

Qayaqs and Canoes

Dug-out canoes

Haida-style dugout canoe in the water

This 20-foot red cedar Haida-style dugout canoe, named "Against the Wind," is fully functional with paddles representing the Eyak, Tlingit, Haida, and Tsimshian cultures of Southeast Alaska. This boat was the first in more than 100 years to have been built following the traditional style.

Without blueprints, squares, levels, compasses, or curves, the complex shapes of the bow and stern were chopped out with an adze so the canoe would cut the water cleanly. The sea mammal hunters, halibut fishermen, and traders needed a vessel that would glide swiftly and noiselessly through the water.

Long ago, when guests arrived in ocean-going canoes like this one, they announced themselves in song, and host villagers answered them with another song, followed by dancing, feasting, and speeches.

Alaska Native Languages

The Haida people have historically lived in the dark purple area of the map -- part of which is in Alaska, but most of which is in British Columbia, Canada. Similar canoes were used by the Eyak (yellow on the map), Tlingit (orange), and Tsimshian (green), all in Southeast Alaska. Although the languages of these people were unrelated to each other, their material culture and social structure were similar.

The canoes were so seaworthy that they were used not just for interisland voyages to visit relatives or allies, but also to wage war and to engage in trade missions over hundreds of miles. In fact, dugout canoes plied the waters between Southeast Alaska and Kodiak Island in the days before the coming of Europeans.

Wayne Price and Vanessa Pazar

Master boat builder Wayne Price (Ian.xi) an Eagle Wooshkeetaan Tlingit who was brought up in Haines, Alaska, is shown here with a model of his boat. Behind him is his apprentice, Vanessa Pazar. "Against the Wind" was the fifth dugout canoe Wayne had built. He explained,

"Every log I've been on is very different. . . . I went to Wrangell and actually found out where the old-timers had picked their trees from. I went and I picked a tree. . . . I'm still learning about the dugout canoe. . . “

"[Vanessa] didn't know anything about carving a canoe, but I knew she was a real hard worker. . . . We had ten to twelve hours a day on a regular basis and we only had two days off in sixty days."

Vanessa (Kaalkeis', an Eagle Kaagwaantaan) noted, "When I think of the traditional ways, sometimes I just have to sit back and go, 'Whoa, they did this with stone tools.' . . . I'm the first female canoe carver for this style and I get to see thousands of females come to this place every day and every one of them is gung-ho for it. So I know there is going to be some future women canoe carvers out there."

Tlingit carver Wayne Price

Wayne explained the canoe-building process, after the blessing of the log: "The first cut I made was the very bottom cut. . . . We started chopping on her and first thing we noticed is that the blades were a lot tougher than the adze handles. We smashed four or five handles in the first week."

After fashioning the outside shape, Wayne and Vanessa began the eight-day process of hollowing out the log. Then, came the steaming process to expand the gunwales from the round

shape of the log. They filled the boat with salt water and placed hot lava rocks inside to make steam. Wayne noted, "George Bennett brought about a thousand pounds of lava rocks from Sitka for the steaming."

This process expanded the canoe's width eight inches, flattened the bottom, and increased its height at the bow and stern by six inches.

Adze marks on Haida canoe

The entire surface of the boat was finished by hand. This photo shows Wayne's even adze marks. This distinctive texture is a hallmark of the dugout canoes of Southeast Alaska and the British Columbia coast.

"Against the Wind" Haida-style canoe

The finished boat, carved from a log donated by Sealaska Corporation, now hangs -- upside down to preserve its shape -- in the Alaska Native Heritage Center's foyer. It was painted traditional colors, red and black. During the summer of 2000, it was launched into the waters of Kachemak Bay, a triumphant end to a long process that extended from finding the log to its inaugural sail.

TRADITIONAL TRANSPORTATION: SUGPIAQ PADDLES GR 3-5 (LESSON 7, 8)

Elder Quote/Belief: "….no weapons of any kind were noted with their kayaks, the single-bladed paddles were made from light spruce wood…." From the log of P.K. Zaikov (1793) [i]

Grade Level: 3-5

Overview: Paddles were hand carved from driftwood, spruce or cedar. Each paddle was painted and adorned with traditional designs and colors from natural paints. Paddles were built for specifically for the owner based on height and hand size. The single blade paddle was designed for efficiency and for sound reduction while hunting.

Standards:

AK Cultural:	*AK Content Science*:	*CRCC*:
D5: Culturally-knowledgeable students are able to engage effectively in learning activities that are based on traditional ways of knowing and learning.	**F1:** A student should understand the dynamic relationships among scientific, cultural, social and personal perspectives.	**S7:** Students should know how to make tools from natural resources in the outdoor environment.

Lesson Goal: Learn how paddles were measured and carved for each individual owner.

Lesson Objective(s): Students will

- Learn the parts of a paddle in English and Sugt'stun.
- Learn about the specific design of the Sugpiaq paddle.
- Sand and paint a pre-cut mini paddle

Vocabulary Words: Sugt'stun Dialects

English:	Prince William Sound:	Lower Cook Inlet:	Eyak:
Paddle	Paqun	Paqun	kAwusgL
Driftwood	Tep'ak	Tep'ak	Wood: dAkinh

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).
- Pre-Cut Mini Paddle
- Sand Paper 120 and 220 Grits
- Acrylic Paints
- Paint Brushes (small to large: classroom set)
- Tape Measures (set of 10)
- Book: *The Chugach Eskimo* pg. 45-51

- Book: *Kayaks of Alaska*
    - Reference pages 460-466 (Sugpiaq Paddle #16-27)
    - Reference Paddle Plate XI-XII(for traditional designs and colors) #16-26
- Video: Sven Haakanson; www.vimeo/184085247
    - Minutes 16-18:15

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.
- Pre-order a classroom set of pre-cut mini wooden paddles from the Chugachmiut Heritage Preservation program (If available- if not, perhaps locate someone in community to provide.)
- View video with Sven Haakanson, Alutiiq Museum; https://vimeo.com/184085247
    - Minutes 16-18:15
- Prepare the chart to measure students for paddle height and blade width.
- Make each student a copy of My Sugpiaq Paddle Dimensions worksheet.
- Organize sand paper by grit and cut into small squares.
- Organize painting supplies.

Opening:

The Sugpiaq and Eyak of the Chugach Region used (primarily) single bladed paddles to navigate their qayaq, anyaq and dugout canoe. The paddles were carved from single pieces of driftwood, spruce or cedar. The length of the paddle is determined by: type of boat, paddler's height and hand width. These paddles look similar but vary in length. The qayaq paddle is the shortest of the three. Each paddle was carved and/or painted using traditional colors. In the book *Kayaks of Alaska*, Sugpiaq paddle color plates VI-VII are referenced as #16-26 (located in the middle of the book). The paddles are decorated with various designs.

Today, we will be measure ourselves with a tape measure to see how tall an actual sized paddle would be based on traditional measuring methods. We will then make a mini paddle from a pre-cut template. This will require sanding with various grit sandpapers and then paint a design based on traditional designs from the referenced book, *Kayaks of Alaska*.

Activities:

Class I:

1. Gather students to view paddle examples and learn the parts of a paddle in Sugt'stun.
2. Measuring student height and hand width.
    a. Have students work in small groups to measure and record information.
        - For paddle height: students lay on floor with arms at sides. Using a tape measure, students in the group will measure their height from feet to top of head.
        - Blade width: Students will measure hand by holding out their hand flat. Students will measure from side of thumb to side of pinky.
        - Blade length: With arms out stretched; measure from tip of fingers to center of chest.

- Shaft length: Paddle Height minus (-) Blade Length = Shaft Length.

3. Students will record measurements on *My Sugpiaq Paddle Dimensions* worksheet
4. Record class findings on attached; Classroom Chart.
    a. The classroom chart can be used for further scientific inquires such as;
        - Student's height determines blade size?
        - What is the relationship between shaft length and blade length?

Class II:

1. Making the Paddle
    a. From the kit, show and pass around the full length paddle to show the shape, and taper of the blade. Keep this paddle available for students to reference during the sanding and shaping process.
    b. Each student will receive one pre-cut paddle, sand paper (grits 120-220).
    c. Students will sand and shape the paddle with a taper and pointed end.
2. Painting the Paddle
    a. Students will develop a design on a blank sheet of paper to re-create on their paddle. Reference the colors and designs in the book: *Kayaks of Alaska*.
    b. Paint paddle with designs using the provided acrylic paints.
    c. Kids present and explain their designs, and color choices to class.
    d. Display or take pictures

Assessment:

- Students will understand and demonstrate how to traditionally measure the blade width, blade length and over all paddle size and successfully complete the *My Sugpiaq Paddle Dimensions* worksheet.
- Students will successfully sand the paddle with a taper blade simular to the paddle provided in the kit. When painting the mini wooden paddle with traditional designs student need to use two elements of traditional Chugach designs from the examples in *Kayak of Alaska*.
- Students can successfully know and say the Sugt'stun word for parts of the paddle.

Classroom Chart:

NAME	Height	Blade Width	Blade Length	Shaft Length

English and Sugt'stun vocabulary (Eyak to come)

Paddle
Pakiutaq
Paqun

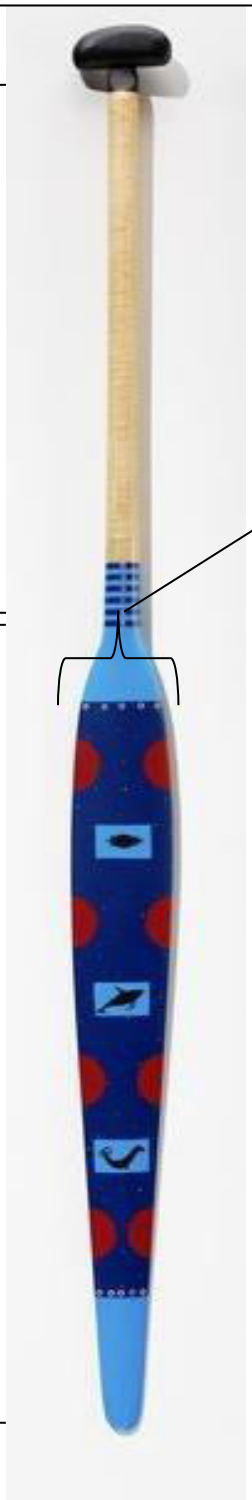
Handle
Pakiutem Ikua

Shaft
Uklucinampi

Shoulder
Tuik

Blade
Uklucinamp

My Sugpiaq/Eyak Paddle Dimensions



Shaft length: _____

Paddle Height minus (-) Blade Length = Shaft Length.

Blade Width: _____

Measure hand by holding out their hand flat. Students will measure from side of thumb to side of pinky.

Paddle Height: _____

Students lay on floor with arms at sides. Using a tape measure, students in the group will help measure student's height from feet to top of head.

Blade Length: _____

With arms out stretched; measure from tip of fingers to center of chest.

Paddle made by Jerry Laktonen
Whale Dream Studios

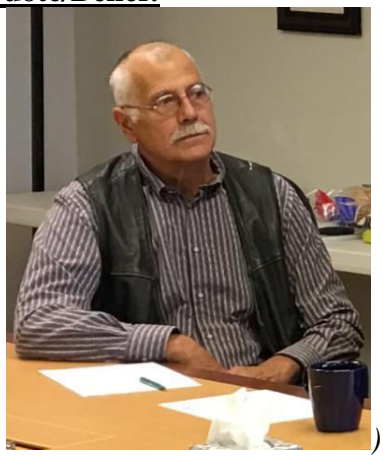
Sugpiaq Paddles from the Cordova, Alaska Museum

Photos taken by Nicholas Jordan

[i] *Alutiit/Sugpiat: A Catalog of the Collections of the Kunstkamera*; page 323

TRADITIONAL TRANSPORTATION: ANYAQ GR: 3-5 LESSON 9

Elder Quote/Belief:



)

"For the anyaq it was used in times of war and times of trade, or moving villages from summer to winter camps. Also, those boats were used to flip upside down and used as shelters"
-John Johnson
(During the Cultural Heritage Quarterly Meeting, September 13, 2017)

Grade Level: 3-5

Overview: The large open skin boat (anyaq) was used throughout the Chugach Region to transport groups of people. Anyaqs were made from female sea lion skins, and sewn with sinew around wood frames. It was important to note that the anyaq was sometimes used for shelter on land while traveling long distances by turning it upside down.

Standards:

AK Cultural:	*AK Content Science*:	*CRCC*:
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: To learn about the traditional anyaq our ancestors used to travel for trade, celebrations, war, and gathering food at seasonal camps.

Lesson Objective(s): Students will:

- Learn about the uses of the open skin boat (anyaq) from the Chugach Region
- Learn about materials, and design used in making the anyaq.
- Make a small replica of an anyaq from modeling clay.

Vocabulary Words:

Sugt'stun Dialects

English:	Prince William Sound:	Lower Cook Inlet:	Eyak:
Open Skin Boat	Anyaq	Anyaq / Angyaq	AX (Boat)
Sea Lion	winaq	winaq	k'umah

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 Regional Map
- Model of Anyaq
- Picture of Anyaq (attached)
- Modeling Clay

Books:

- *Chugach Eskimo* page 49
- *Go Home River* by James Magdanz

Teacher Preparation:

- 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 all of the students, ways to show respect for the Elder during their visit.
- Locate supplies needed.
- Review books to read.
- Prepare modeling clay for students (Each will need to get a small fist sized ball of clay.)

Opening:

The open skin boat (anyaq) was a very important boat for transporting groups of people, traveling to trade items, and gathering food. Each anyaq was built with a wood frame, lashed together with spruce roots, dried bull kelp and/or sinew and covered with hand sewn sea lion skins.

Typically open skin boats in Alaska ranged from twenty to thirty feet in length and can carry up to thirty people. The anyaq closely resembled the umiak built by the Inupiaq and Yupik from the norther coasts of Alaska. One main difference is the bulbous bow in the front of the Chugach style anyaq. This bow is similar to the bow of the Chugach Regions kayak/qayaq. The bow cuts through the water with an upper prow that displaces waves and adds extra floatation.

As the Sugpiaq traveled through Prince William Sound they would use these large boats, turned upside down, as a cover to camp under on the beach. They were light enough to easily be turned over and held up using the paddles. These boats were also portaged over land routes during poor weather or to access another waterway. The paddles for the anyaq are longer in the shaft than of the qayaq. In some cases the anyaq was used along with a sail to propel the boat faster across the water, conserving energy by not having to paddle.

Activities:

Class I:

- Share pictures (included in resources and banners) of the Chugach anyaq.
- Read the story *Go Home River* as this story highlights the northern umiak as a family travels downstream to the ocean. This story could easily be related to the anyaq.

- Students will receive a small piece of modeling clay. Each student will make a clay replica of an anyaq. Once the students are finished, label each students anyaq and allow it to dry.
- Once each anyaq has dried, students can use Crayola Markers to color and make designs.

Assessment:

- Student can recite three facts about the anyaq.
- Student completes model of anyaq replica with modeling clay.

Photos Courtesy of the Arctic Studies Center; Smithsonian

TRADITIONAL TRANSPORTATION: TRAVEL AND TRADE GR 3-5 (LESSONS 10)

Elder Quote/Belief:

"I used to hear these little stories we do this masking in January and people would actually walk that same evening and go dance here to Port Graham and back then to Port Lock… that's a long stretch and just to dance, wow those guys were full of energy to walk that far."
-Wally Kvasnikoff, Nanwalek, Alaska
11/15/2016

Grade Level: 3-5

Overview: Alaska Native cultures throughout traveled by land and water to trade and share ideas. The Sugpiaq and Eyak of the Chugach region traveled extensively using the qayaq and dugout canoe.

Standards:

AK Cultural:	*AK Content Science*:	*CRCC*:
D (1) Culturally-knowledgeable students are able to engage effectively in learning activities that are based on traditional ways of knowing and learning.	**F (3)** Cultural, Social, Personal Perspectives and Science: A student should understand the dynamic relationships among scientific, cultural, social and personal perspectives.	**G (2)** Students should be able to read local, regional and navigational maps.

Lesson Goal: Learn how our ancestors got around to trade throughout Alaska specifically in the Chugach Region.

Lesson Objective(s): Students will:

- Listen to the story *Alaska's First People* by Judy Ferguson.
- Create a drawing of what they comprehended from the story.

Vocabulary Words: Sugt'stun Dialects

English:	Prince William Sound:	Lower Cook Inlet:	Eyak:
Trade		Cimigiuq	
Grandpa	Uppa	Uppa	WeeshGAshah (mothers Father) uhshah (fathers Father)
Travel		ang'asiigluni	qe (travel by boat)

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 Region Map
- Book: *Alaska's First People* by Judy Ferguson
- Drawing paper
- Crayons, Colored pencils or Watercolors
- Eyak Dictionary: www.eyakpeople

Teacher Preparation:

- 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 all of the students, ways to show respect for the Elder during their visit.
- Preview the book *Alaska's First People* and the Traditional Transportation kit contents.
- Prepare drawing paper
- Gather art supplies for students to use.
- Practice the included Sugt'stun vocabulary words

Opening:

The watercrafts of the Sugpiaq and Eyak people of the Chugach Region were the qayaq (kayak), anyaq and dugout canoe. Today, we will be reading *Alaska's First People*, and while reading, please pay close attention at the illustrations to find examples of the different types of watercrafts. We also will need to listen for what did they do and see while traveling.

Activities:

Class I:

1. If available, introduce Elder or Recognized Expert to share their stories of traditional travel.
2. Together as class, read the story *Alaska's First People.*
    a. Make reference to the use of the qayaq (kayak) and dugout canoe (pages 7-15). Was there an anyaq?
3. Practice the included Sugt'stun/ Eyak vocabulary words while reading the story.
4. Discuss how the Sugpiaq/ Eyak traditionally traveled over land and water in the Chugach Region, referring to the regional map.
5. Make a chart and ask the students to guess how many miles did Tahita and his Grandpa travel?
6. Fill out the chart with student's guesses.
7. Using the classroom smartboard and Google maps, trace the approximate route according to the map next to the title page of *Alaska's First People*.
8. Ask students to return to their tables for an art and writing project.
9. Hand out drawing paper and art supplies to students.

10. Ask students to answer one of the questions below and create an art project including at least two of the artistic requirements to represent their answer:
    a. Questions (**choose one**):
        i. Why was/is travel so important to the Sugpiaq and Eyak?
        ii. What kinds of items were traded in the story?
        iii. A new fact you learned in the story
    b. Artistic Requirements (**choose two**):
        i. One element of trading
        ii. One element of water travel
        iii. One animal from the story
11. Allow time for the students to work on the project.
12. Share projects with class.

Assessment:

- Student completes the art and writing project with an answer to one question and includes two artistic elements into the drawing.
- Student correctly pronounces the Sugt'stun/Eyak vocabulary words
- Student can explain how they calculated the mileage and/or mapping the route taken by Tahita and his Grandpa