

OUR WATER: "MERPET" HAULING WATER GR: 6-8 (LESSONS 1-2)

Elder Quote/Belief:

"...we have never lost our connection with the water. The water is our source of life. So long as the water is alive Chugach Natives are alive." -Walter Meganack Sr. past chief, Port Graham, 1989

Grade Level: 6-8

Overview: Each community in the Chugach Region accesses fresh drinking water from different types of water sources. How did your ancestors haul and store water? Clean water is vital for the health, sustainability and safety of the village. The modern convenience of running water is easy to get used to and we take for granted. Traditionally, water had to be hauled using various methods from water sources to camp or home each day.

Standards:

<i>AK Cultural:</i>	<i>AK Content:</i>	<i>CRCC:</i>
D (4) 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(7) Students should be knowledgeable about environmental and natural impacts of the area.

Lesson Goal: Learn about personal water usage and how water was traditionally hauled for everyday activities.

Lesson Objective(s): Students will:

- Calculate family and personal water usage
- Practice hauling water
- Make a traditional alder yoke to haul water

Vocabulary Words: Sugt'stun Dialects

English:	PWS:	Lower Cook Inlet:	Eyak:
Water		meq	giyah
Alder		uqgwik	
Pack water		mertaurluni	
Water container		mera'un	

Materials/Resources Needed:

- Water
- Milk jugs or containers with lids for hauling water

- Locally sourced alder branches about one to one and half inch diameter. One branch per yoke.
- Hand saw
- Table measure
- Draw knife
- Drill with 1/2inch drill bit
- Quarter inch rope approximately six feet per yoke
- Black Electrical tape
- 10 Empty and clean milk jugs
- Buckets with strong handle
- Stopwatch
- Video: How To Tie A Half Hitch Knot (Step-By-Step Tutorial)
 - <https://www.youtube.com/watch?v=8ewvDw9iDh8>

Teacher Preparations:

- If possible, invite an Elder into your classroom who recalls methods of transporting water from fresh sources
- Collect and clean 10 empty milk jugs with tops
- Set a course of 100 feet to practice hauling water based on water use calculations.
- Review the listed websites (below) for water calculations
- Find a location to harvest locally sourced alder that is approved to be cut by any land owners or tribal council if needed.
- Gather tools from community members or school listed above
- Review the video on how to tie a half hitch knot

Opening: Where does your water come from? Where do you think our ancestors or Elders gathered water in the past? It is important to understand where our water comes from and how our water is treated. Traditionally, water was hauled from a spring, creek or other water source for daily needs. Can you imagine the time and energy it took?

Communities throughout the Chugach Region have different types of water systems. During this activity, you will be investigating how your community water system works and research where the traditional water locations were found and how they hauled the water.

Activities:

Class I: Hauling Water

- How heavy is a gallon of water? As a class, weigh and record the weight of one gallon of water.
- Ask the students to record and calculate (estimate) about how much water their family uses for daily activities (drinking, cleaning, clothes washing and bathing).
 - Document on your paper each category of water usage.
 - As a reference use the below water calculator to measure individual water usage:
 - <https://www.watercalculator.org/>
 - <https://www.watercalculator.org/water-use/indoor-water-use-at-home/> for more information on water usage.

- Document and describe how to transport all the water you needed for daily activities on the same paper. Give two examples (without the use of motor vehicles).
- **Hauling water exercise:**
 - Fill 10 gallon milk jugs or buckets with water.
 - Students will individually haul water 100 feet from “water source” to “home”. Using a small sled or by carrying, transport the amount of water your family uses on a daily basis from your calculations earlier in the lesson. Start at the source and carry water to your home.
 - Record:
 - 1) How much time did this activity take you?
 - 2) How many trips you took back and forth for your water needs?
 - 3) How many gallons did you haul?
 - 4) Did you complete hauling all the water that your family needs?
 - 5) Did hauling water change your view of water usage at home?

Class II: Making a Yoke or carrying pole

The yoke or carrying pole has been used for water hauling in the Chugach Region and around the world. Today you will be making your own yoke from locally sourced alder.



- As a class, determine a place to harvest alder, you will be looking for alder 1 to 2 inches in diameter.
- Cut down alder with adult supervision using a handsaw. Trim all branches and return the remains to the woods.
- Cut the alder to approximately 48 inches. Look for a section with a slight natural curve that will form to your shoulders and neck.
- *Peeling Bark:* Secure your alder pole to a table with clamps or a vise. Using a draw knife slowly peel the bark in long strips from the alder exposing the underneath wood. *Wear carving or work gloves.*



- Drilling Holes: Find the top side of your pole, mark the location 2 inches from each end. Using a drill with a ½ inch drill bit. Drill a hole on your markings.



- Securing Rope: Measure out your ¼ inch rope. From center of chest to end of your fingers. Wrap the ends with black electrical tape to prevent fraying of the rope and cut in the middle of taped area to create lengths. Tie one over hand knot on each rope and fit through your previously drilled holes. You will have two ends of rope hanging from your pole. (see attached pictures)



*****Traditionally natural fibers or sinew would be used for rope, if possible, attempt use sinew or fake sinew as a replacement.*****

- Connecting to a bucket: Take the end of your rope and attach to your water buckets using either a half hitch knot or double half hitch. To learn about tying half hitches watch the video listed below. Practice tying half and double half hitches before tying onto the water bucket.
 - How To Tie A Half Hitch Knot (Step-By-Step Tutorial)
 - <https://www.youtube.com/watch?v=8ewvDw9iDh8>

OPTIONAL: You can try to use a branch hook. A branch hook can be sourced from alder along with your yoke stick. Drill a hole in the top, secure rope.



Branch Hook

Assessment:

- Student correctly calculates family water usage using the water calculator.
- Student successfully completes water haul challenge.
- Students actively participates and completes building the yoke.

Hauling water in the winter at Port Graham in the 1960s. Left to right: Dennis Anahonak and Pat Meganack. Courtesy of Luba Meganack
Alexandrovsk, vol. 2; Page 61



Making a Yoke Photos



Find an alder patch



Using Handsaw cut alder



Remove bark with drawknife



Drill holes with 1/2 inch bit



Tie an overhand knot and slip rope through pre-drilled hole in pole.





Tie half hitches to bucket handles.

In this photo you can see two types of yokes, one from alder and one from larger wood with cut out notch and tapered ends.