TRADITIONAL TRANSPORTATION: FINDING THE WAY; LAND TRAVEL GR: 6-12 (LESSON 4&5)

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
(Interview on 11/15/2016)

Grade Level: 6-12

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 qayaqs due to bad weather or to 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)** 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 about land travel throughout the Chugach Region.

Lesson Objective(s): Students will:

- Learn methods used by the Sugpiaq to mark a trail.
- Create trail markers from various materials for a local trail.
- Develop a map on of local trails with Elder knowledge on Simtable if available, if not use google maps.

Vocabulary Words:

Sugt'stun Dialects

English:	Prince William Sound:	Lower Cook Inlet:	Eyak:
Tree	nuguwaggtuq	napaq	lis
Trail Blazing (?)		nallunaiggkutaq	
Hike	ang'asik	ang'asik	

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/ Area maps
- *Alexandrovsk* No. 2 pg. 54; Trails
- Article: BLM Marking lines for corners (Attached to lesson)
- Trail Marking Materials (rocks, paints, tin can lids, wood stakes)

Optional materials/equipment to enhance lessons:

- Simtable (Located at Chugachmiut Cultural Heritage Department, available to borrow)
- GPS devices
- Avenza application (Download onto smart devices) and PDF map of area

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.
- 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 the article *Trails* from Alexandrovsk No. 2 , page 54
- Make Copies of BLM Marking lines for corners (Attached).

Optional:

- Decide if want the Simtable to enhance lesson- if so- request in advance
- Locate GPS devices to use
- Download the Avenza app and PDF map files of area

Opening:

The coast line of the Chugach Region is dynamic, and challenging in all weather conditions. The Sugpiaq used to travel by water via the qayaq, anyaq, and dugout canoe. When bad weather stopped water based travel the Sugpiaq used established trails to travel through the challenging terrain. These were not any marked or maintained trails as the trails were used by both people and animals.

Trail markers known as “trail blazing”, or *cultural modified* trees (CMT) were used through the region. The Sugpiaq 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. 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. The Sugpiaq used these blazed trails to travel from villages, hunting/fishing sites and to celebrations.

In these lessons, we will use prior knowledge learned in previous land travel lessons regarding making trails and incorporate technology to locate trails, look at the terrain, interview Elders and make a project about traditional trails.

Activities:

Class I:

1. Introduce the Elder to share their knowledge on traditional trails that were used in the area.
2. Allow time for questions.
3. Have map available for the Elder to point out the location of traditional trails.
4. Ask the students to read article "Trails" from *Alexandrovsk* No. 2, pg. 54
5. Have a discussion if they know of anyone else in the community who may know of traditional trails that were used.
6. Assign a project for students to interview Elders/Recognized Experts regarding traditional trails. Look at the Interview Prompt located on the webpage for an example and revise as needed. Questions such as:
    a. Does your community have trails for different uses?
    b. What types of trail does your community have access?
    c. Trails for resources? (berries, hunting, trapping, gathering, fishing)
    d. Trails for traveling to villages or shelter?
    e. Any other trails that were not mentioned?
7. Map the locations on google maps. The map can be displayed on smart board or individual computers. As a group, closely examine the topography, elevation, distance and obstacles.
8. Remind students to use this map as they interview the Elder/Recognized Expert.
9. Allow time for students to finish their interviews.

Class II:

1. As a group, have a map available to point out the location of trails as students share their interviews.
2. Have the students edit their interviews with inserts of maps that were marked with the trail.
3. Have the class compile the interviews into a video to share.
4. As a group, use the Simtable (set this up prior to class) to closely examine the various trails Elders who were interviewed discussed.
    a. Emphasize the terrain along the trails.
5. As the students are working through the trail locations on maps and Simtable, inform them that we will be going on a field trip using technology like GPS (or Avenza) to locate the trails and look for any trail markers.
6. Hand out parent permission slips to each student for a field trip to locate the trails. Give a couple days to get these forms all returned.

Class II:

1. Before the field trip, have a discussion on different trail-marking, specifically culturally modified trees (CMT).
    a. What are CMTs? Blazing. Traditionally, a stone adz was used to mark trees along a trail. Show pictures of blazing. Stress the importance that we will not be doing blazing in this class.
    b. What about other types of trail markers? Emphasize trail markers made from natural or recycled materials for a local or personal trail.
        i. Interpretive Sign with researched information
        ii. Painted Rocks
        iii. Plastic bottle caps nailed to trees to follow

iv. Painted soup can lids attached to paint sticks or wood stakes
v. Flagging tape
vi. Rock stacking

2. Hand out and review the worksheet the students will have to answer upon return from field trip.
3. Teach how to use the GPS devices (or Avenza app downloaded onto their smart devices to use.) PDF maps are available for downloading off of the Traditional Place Names webpage.
4. Encourage the students to take photos along the trails.
5. While on hike, have the students look for markers.
6. Ask the students:
    a. Do you see any markers?
    b. What types of trail markers are being used?
    c. Do the markers make sense?
    d. Who marked the trails?
7. Name/ describe 3 additional ways trails can be marked.
8. As they described the marked trails, ask following questions:
    a. Are these trails for humans or for humans and animals?
    b. Why would an animal use a human developed trail.
    c. Do you see any signs of a culturally modified tree (CMT)?
    d. Traditional modifications or modern modification?
9. Upon return at the classroom, share their photos, answers and discuss.

Assessment:

- Students successfully made an Elder Interview video project on traditional trails used around community.
- Student successfully mapped out local traditional trails and trail locations from the article *Trails*, Elder interviews, through the use of SimTable, google maps.
- Student successfully located trails with GPS or Avenza, answered all worksheet questions and provided documentation of their observations of any culturally modified trees, trail markers on hike.

A culture bearer from the Eyak Culture camp examining a culturally modified tree found 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

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

A blaze is a smoothed surface cut upon a tree trunk at about breast height.

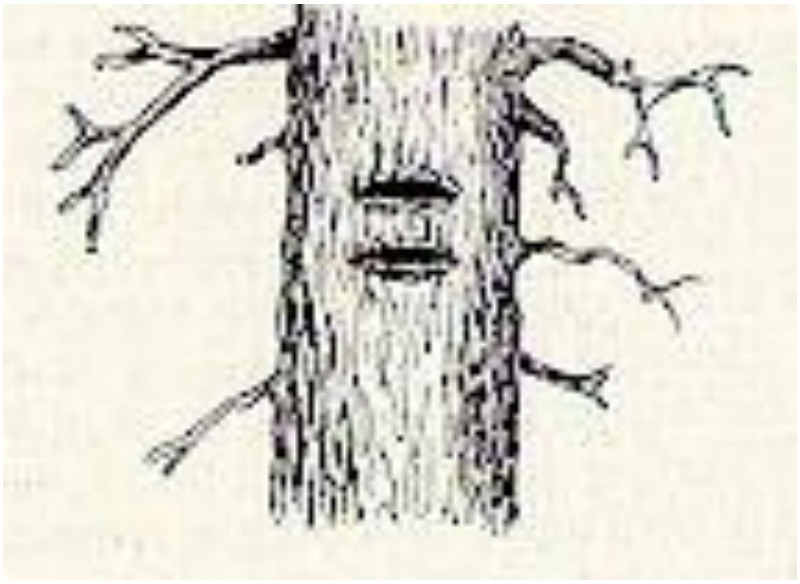

Figure 61. - Hack marks on a line tree**.**

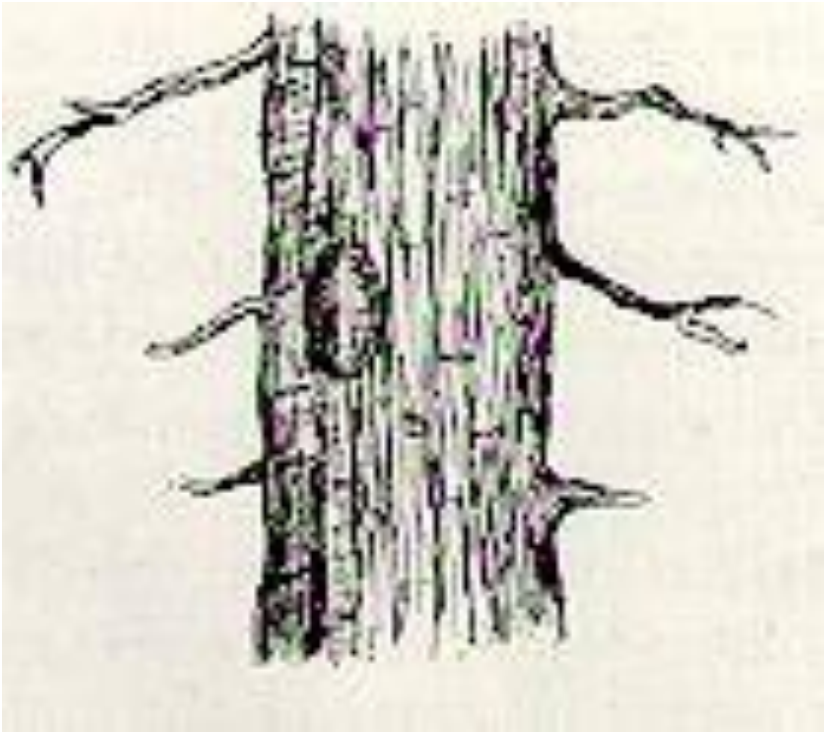

Figure 62. - A line blaze.

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.

Journal Questions about Local Hiking Trails

1. What types of trail markers are being used?
    a. Do the markers make sense and why?

2. Who marked the trails?

3. Describe three additional ways trails can be marked.
    a.

    b.

    c.

4. Are these trails for humans use or animals?

5. Why would an animal use a human developed trail?

6. Did you see any signs of a culturally modified tree (CMT)? Traditional modifications or modern modifications?

7. Describe a local feature (tree, mountain, rock) you could use as a reference point if you happen to get lost while hiking.

8. Why is trail blazing not encouraged for marking trails?

Photo of Stone Adze from the Chugach Region

In this photo the stone adze is shaped with a point for digging, and wood splitting. A wooded handle would be attached to the back and wrapped through the notches on the adze.