

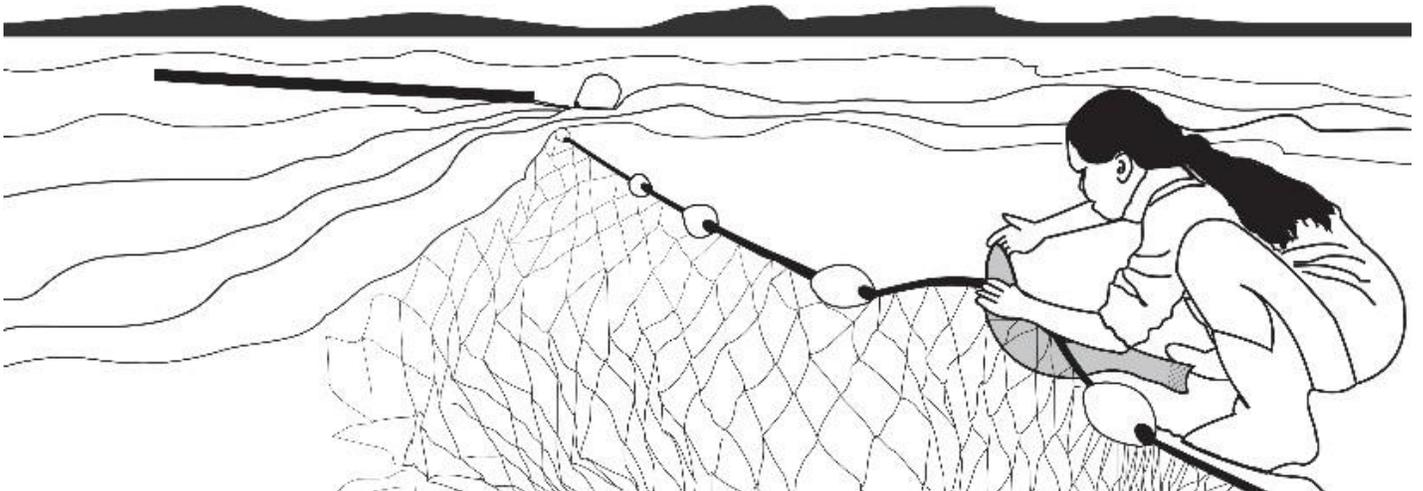
Alaska Native Transition Skills

Set Net Fishing and Cold-Water Safety

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UAA Center for Human Development
2019 (Updated in 2025)

Developed for the Dillingham School District and surrounding regions as a demonstration project to show how subsistence skills can be supported and integrated into transition planning for youth with IEPs.

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Nova Picks a Fish graphic by Rain Van Den Berg, based on photo by Robyn Chaney.

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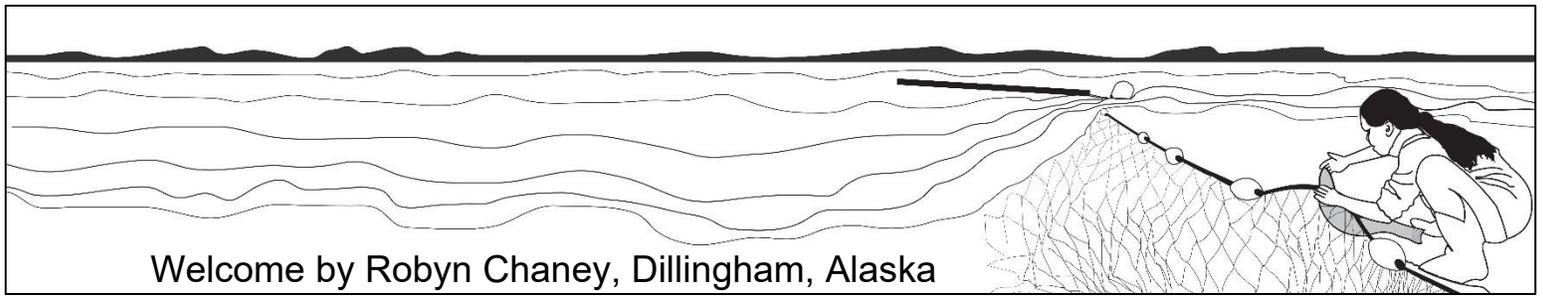
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Welcome by Robyn Chaney, Dillingham, Alaska

Camai from the Nushagak River!

In May and June in Bristol Bay, families gather gear and check the tides. King salmon and red salmon will soon be running. There are many tasks that must be completed before fish can be caught. Families that have regular beach sites set their pegs at the lowest tide of the month. My oldest boys take the metal post and drive it feet into the mud and gravel at Kanakanak Beach at our family site. The weather is mild and, even at 11 p.m., there is enough light to get the job done. Up the beach, our cousins are doing the same job, getting ready to set their nets out when the fish come.

Bristol Bay is home to the largest run of wild salmon in the world. There are strong commercial, sport and subsistence fisheries. The Bristol Bay region relies on salmon to such a degree that it is part of the local identity. In our rural community, many people's lives revolve around the traditional subsistence calendar and salmon is a cornerstone of that calendar. Most of the people in our region rely on salmon as a food staple. Families may put up more than a hundred fish each summer. Parents, grandparents, aunties, uncles and children all contribute to get the hard work done during the short season.

Families work together to get all of the many tasks done to prepare for the season. Some chores can be done during the winter and spring: twine ties into loops for the king strips, driftwood collected for the smoke house, smokehouses and hanging poles cleaned. Once the fish hit the beach, there are many jobs and roles to fill to get them from the beaches to the freezers and shelves. Everyone is expected to contribute in some way. My oldest boys put their net out and catch the fish with their grandpa. My youngest children wash the fish and pass them on to their grandma to cut. The middle kids head, gut, and tie the strips. The tallest kids hang the poles of fish in the smokehouse. Everyone contributes according to their skills and ability.

Traditionally, everything is shared: the work of preparation, sites, nets, gear, the joy of the catch, the laughter of communal experience, the clean-up of site, fish and gear, and ultimately, the final product of smoked, frozen, and jarred fish. The most important lessons taught through the traditional practice of subsistence are the concepts of reciprocity and the value of generosity. Work and reward are shared liberally and with pride. The first fish we catch is divided and given away to Elders to enjoy. The first strips out of the smoke house are shared with family and friends. Elders take pride in youth who learn traditional skills and show gratitude for their generosity in sharing their catch.

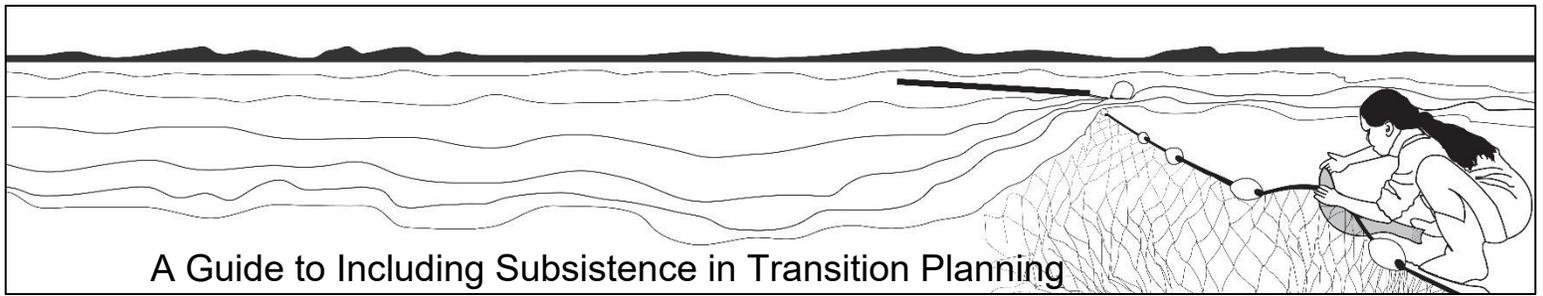
Students with disabilities can contribute and grow in traditional skills alongside other family members. They may start with collecting driftwood and washing fish. Traditionally, these skills are learned through observation and storytelling, but some disabilities make it harder to learn without direct instruction. If students can be given the opportunity to learn, observe and practice these skills at school, these students will be able to tackle more advanced work and be a valued contributor to their families and community. Additionally, these subsistence skills can translate into the commercial fishery and small business skills for students who seek work as they transition.

When my family fishes at the beach, cuts fish at the splitting table, and lights the smokehouse, we are not separated by disability. Everyone contributes according to their ability, skill level and knowledge. My children with disabilities learn alongside siblings and cousins. They all work to the best of their ability and stamina. All who contribute are valued and praised. Those who know what they are doing and can work without quitting, are welcomed, given responsibility and a role. Those who are unskilled and leave their jobs unfinished need to be kept safe from what can be a dangerous operation. Often they aren't invited back to help or are asked to stay inside.

It is imperative that schools acknowledge the traditional activities and lifestyle that define their students' identities. This can be challenging to accomplish when most teachers are from outside the community and State. Lessons, language, context and curriculum should reflect the cultures and values held by students and their families. In order for students with disabilities to transition into traditional life in their own communities, schools must offer options for subsistence-based curriculum that reinforces traditional knowledge and practice.

It is important for conversations about transition to begin early. Students who want to adopt subsistence and traditional skill building into their transition plans need exposure and practice to gain competency. They will need to make family and community connections to use the skills during and after transition. These community and family connections could be as much of a benefit to an educator as the student and families. The school can support traditional subsistence skills by building on a child's strengths and interests from an early age and by providing experiences so the child can explore interest areas. The school can be a partner in a meaningful transition to adulthood by teaching subsistence skills that the family and community values as part of the IEP.

Parents and families of students with disabilities in rural Alaska have identified the need for culturally relevant transitional plans for their children. This curriculum was developed to model the teaching of traditional skills and the sharing of traditional knowledge in the classroom. This curriculum demonstrates that local values and topics can be incorporated into the required transition objectives in IEPs for students over 16. It is designed for students age 14 and older who require functional skill development and support. This initial version includes units on Cold-water Safety (6 lessons) and Set Net Fishing (10 lessons). Hopefully, additional lessons may be added with future support and funding.



A Guide to Including Subsistence in Transition Planning

Introduction to IDEA and Transition

The Individuals with Disabilities Act (IDEA) describes the need for school districts to provide "effective transition services to promote successful post-school employment and/or education." The IDEA makes clear that transition services require a coordinated set of activities for a student with a disability within an outcome-oriented process. This process promotes movement from school to post-school activities, such as postsecondary education, vocational training, competitive integrated employment, community participation, and independent living (when needed). Transition services set the stage for success for the student as they enter adulthood. Transition planning helps ensure a smooth transition process as the student moves into adult services, and becomes a contributing community member.

The requirements under the IDEA related to transition are meant to ensure that the school is supporting needed skill development that will maximize the student's abilities to live independently and engage in meaningful work. This looks quite different in remote and rural Alaska than it does in conventional, urban, and suburban areas of the country.

- In rural Alaska, 78% of the population identifies as Alaska Native.
- Related to employment and resource acquisition, most households combine wild resource harvests with some commercial-wage employment (often seasonal). There are few year-round cash paying job opportunities.
- Economic activity usually takes place in small-scale family groups; economic goals tend to focus on benefit to whole households rather than specific individuals.
- Subsistence activities and community reciprocity relationships are essential to economic stability for individuals and families in rural Alaska.
- The harvest and processing of wild resources for food, raw materials, and other traditional uses are central to the customs and traditions of many First Nations people in Alaska, including Aleut, Athabaskan, Alutiiq, Haida, Inupiat, Tlingit, Tsimshian, and Yup'ik; they are also central to post-school outcomes for rural students with disabilities.

Alaska law and policy recognizes subsistence as a legitimate employment goal in Individualized Plans for Employment (IPEs) for Division of Vocational Rehabilitation (DVR) clients. Tribal Vocational Rehabilitation (TVR) also works with clients to increase their participation in traditional subsistence activities as an employment outcome. This curriculum offers a demonstration of how traditional subsistence activities can be integrated in the Individual Education Plans (IEP) to meet the IDEA requirements for transition.

Author's Note: This was the first white paper related to this project. See the *Alaska Native Post-Secondary Transition Skills: Create Meaningful IEP Transition Plans* by Rain Van Den Berg and Frances Gage (2024) for more updated content with many examples on the project web page.

Imagine two students who experience a similar level of disability with a goal to live in their rural village in Alaska. Which one will be better prepared for a meaningful life in their community?

	Student One	Student Two
Transition Assessment Used	World of Work	Student and Family Interview
Skill Development Focus	Learn skills to work in a retail setting.	Learn skills to support annual subsistence fishing and food preservation.
Example Activity	<ul style="list-style-type: none"> • Demonstrate filling out an online application to Walmart • Practice social skills related to following verbal directions. 	<ul style="list-style-type: none"> • Learn work safety skills related to cold-water safety, emergency preparation, and proper handling of set net gear. • Learn employment and independent living skills such as proper clothing and gear for set netting, understanding the tides, and knot tying for fishing activities. • Practice social reciprocity skills and communication through use of social learning stories.

Clearly, the first student’s scenario relates very little to future employment in their home community. Jobs in rural Alaska are found through word-of-mouth, and the nearest Walmart is hundreds of miles away. World of Work is an interest inventory which asks about little that matches life in a village. The second student will be much better prepared to engage meaningfully in village life than the first, by having objectives related to subsistence. Also, the same skills needed for subsistence fishing could lead to a job in the fisheries industry.

The school can be a partner in the student gaining relevant transition skills through:

- working with the student and their family to identify relevant transition goals and objectives,
- offering direct specialized instruction to gain measurable skills, and
- supporting time with culture bearers as an accommodation that supports reaching transition goals.

What must be included (by law) in the IEP related to transition services?

By the age of 16 (or sooner) the following must be included in the IEP:

- **2-3 Postsecondary goals related to Training and Education, Employment, and Independent Living (if applicable)**
- **A Statement of Transition Services**

These must reflect the student's preferences and interests.

(Alaska regulation 4 AAC 52.145)

(See Appendix 1 for more regulations and details)

Process for Developing the Transition Statement and Objectives

At its most basic, the transition planning process, starts with assessing three things:

1) Where is the student now? 2) Where do they want to go? And, 3) How do they get there? (Sitlington & Clark, 2007).

What Transition Assessments Should Be Used?

Though it is required that “age appropriate assessments” are used to guide the transition plan, there are currently no federal or state definitions of what should be used. IEP teams are left to select and conduct such assessments at their discretion. A good overview of such assessments can be found at the National Secondary Transition Technical Assistance Center: <http://transitionta.org/transitionplanning>.

Two Alaska-specific assessments that districts may find useful for transition purposes include the 11th grade (not required) Alaska Work Keys assessment (www.careerready.alaska.gov), and/or the Alaska Career Information System (AKCIS; akcis.intocareers.org) (Alaska SPED Guidance, 2017).

There are formal and informal assessments. Informal assessments are more commonly the type used in rural settings. (For more on formal and informal assessments, see Appendix 2.)

The Discovery Process

Another approach which relies almost solely on informal assessments, is called the “Discovery Process.” Instead of just asking what the person wants to do, this process really gets to know the person, their strengths, and what supports have worked in other situations. Using that information, the student can be matched with potential employment that would be a good fit for what they can offer.

Discovery Process Phases

Phase 1	Assess the individual’s strengths, present levels of performance, successful environments and activities, interests, and what kinds of supports have been effective.
Phase 2	Identify skills that are needed to improve independence in jobs at that site.
Phase 3	Determine what the employer would need in order to translate the individual’s skills into a job at that site.
Phase 4	Develop a profile that lays out the ideal employment scenario in detail.

(Condon & Callahan 2008)

This positive, strengths-based approach can be used in subsistence activity settings, though the process was developed with employers and urban job sites in mind. Once it is discovered what areas of subsistence the student is interested in learning, a task analysis of the various kinds of jobs for a given kind of subsistence activity could be done. These tasks could then be matched to a student based on their strengths and interests.

In rural Alaska, the interest inventories developed for urban and suburban areas do not reflect very well the options available in the local rural community. Include questions exploring ways the student can better engage in family and traditional activities in the discovery process.

- Does the family fish and hunt for food? If they rely on subsistence food sources, how could the student more meaningfully support harvesting and preserving the foods?
- Does the family have a small business? What activities are involved, and how can the student support the family business based on their strengths and interests?
- Are there Tribal DVR services available? What opportunities related to local employment and job shadowing can they offer?
- Are there cultural activities (dance, arts, music, Native language) that the student is interested in participating in and learning?

Standard Transition Domains and Considerations for Rural Alaska

Transition planning usually focuses on these domains: Education, Career, Community and Independent Living, Communication, Social Interaction, and Recreation and Leisure. Post-secondary goals related to employment and training/education are required domains to include in the transition plan. Through the discovery process, you can find out what other domains the student wants to focus on.

Standard Domain	Considerations for Rural Alaska
Education	Time and mentoring with culture bearer(s) Online degree and certificate programs that allow student to study while in local community, to gain skills for jobs in the local community.

Standard Domain	Considerations for Rural Alaska
Career	Include subsistence skills and work safety skills as career and employment goals/objectives. Work with Tribal Department of Vocational Rehab to identify local employment examples, including subsistence activities, to job shadow and learn about.
Community Independent Living	Self-determination and independence may look very different in rural Alaska. Be sensitive to the family's vision of what this can look like.
Communication	Communication skills can include interpreting non-verbal cues and learning through observation.
Social Interaction	Reciprocity and respect are core values that can be learned to support better community involvement and participation in subsistence activities.
Recreation and Leisure	Activities that encourage the development of cultural identity and connection, such as participation in dance, music, and traditional crafts.

Creating the Transition Statement and Post-Secondary Goals

After using either transition assessments or discovery to find an area of focus for the transition goals, the IEP team and the student write a transition statement. The student's transition statement is to be based on the student's needs, interests and preferences. Here is an example of a transition statement, and the assessment types used to develop the statement.

Example:

Transition statement based on the student's needs, interests, and preferences.	
The following transition information was gathered through the following transition assessment(s):	
<input checked="" type="checkbox"/> Student Interview	<input type="checkbox"/> Transition Planning Inventory
<input type="checkbox"/> Brigance Transition Skills Inventory	<input type="checkbox"/> AKCIS
<input checked="" type="checkbox"/> Parent Survey	<input type="checkbox"/> Other _____
Jason will improve his communication and social skills so he can participate in family and community subsistence activities. Jason will demonstrate cold-water safety skills so he can participate in summer fishing activities. Jason will describe safe fish handling and preparation for safe food preservation and storage. Jason will demonstrate knowledge of the gear used in set netting, including the function and care of gear. Jason will demonstrate the primary knots used in set netting, to assist in family subsistence fishing.	

Example objectives for this curriculum

Educational Need	Recommended Method	Example Objectives
Functional Communication/Social Skills for Daily Living	Specialized instruction	John will practice the social skill of reciprocity by offering to help a relative with preparing for fishing. John will demonstrate appropriate cultural norms by demonstrating how to address an Elder respectfully.
Daily Living Skills related to independent functioning within the home, including: Preparation for storing of fish and game meats for family use.	Specialized instruction	Esther will demonstrate knowledge of how to handle salmon with respect and proper care and preserve it for later use.
Self-help/work safety skills related to dressing appropriately for the weather and fishing and hunting activities.	Specialized instruction	Joshua will demonstrate knowledge of how to prepare for a day of fishing related to what clothing and gear is needed for varying weather conditions and subsistence activities.
Work safety skills related to working around cold-water.	Specialized instruction	Beth will demonstrate how to don and adjust a life-jacket for working on and near the river. Beth will demonstrate knowledge of cold-water rescue techniques related to how to respond if she falls into the water.
Work safety skills related to knowing how to identify, use, and care for set net gear.	Specialized instruction	Jason will demonstrate that he can identify, use, and care for set net gear.
Work safety skills related to knot tying used in set netting.	Specialized instruction	Leila will demonstrate how to tie the primary knots used in set net fishing, when to use each knot, and how to check that it is tied correctly.
Work safety skills related to emergency preparation for outdoor activities.	Specialized instruction	Jason will create a survival kit and know what each item is used for. Jason will demonstrate the steps for how to recognize he is in a challenging situation, and how to meet the challenge by thinking through what he has on hand, and what he needs to do.

Use of the Modification and Accommodation Section of the IEP to Support Transition Goals

Though the teacher can support direct and specialized instruction on specific skills and content, for most students, having time with a mentor who knows the skill can be a benefit. This can be included in the Modification and Accommodations section of the IEP.

Examples:

Transition Goal	Modifications and Accommodations
Jason will demonstrate the steps for how to recognize he is in a challenging situation, and how to meet the challenge by thinking through what he has on hand, and what he needs to do with assistance from a mentor.	To assist with Jason’s transition goals, Jason will have the accommodation of time with a mentor with the following characteristics: The mentor will have experience with emergency preparedness for outdoor subsistence activities.
Leila will demonstrate how to tie the primary knots used in set net fishing, when to use each knot, and how to check that it is tied correctly, with assistance from a mentor.	To assist with Leila’s transition goals, Leila will have the accommodation of time with a mentor with the following characteristics: The mentor will have experience with subsistence set net fishing.”

Making Progress Measurable

Here is an example of how the cold-water safety skill of selecting and putting on a life jacket could be reflected in the IEP as measurable goals and objectives.

ESER/Transition Inventory	Present Levels	IEP Goals/Objectives	Accommodations/Modifications
Vineland-II Communication 74 Daily Living Skills 72 Socialization 77 Motor Skills 83 Transition Inventory: {Student} would like to help in family fishing business after graduation.	Functional or Self Help {Student} contributes to family activities by assisting with fish camp. {Student} does not yet have cold-water safety skills, and needs to work on understanding when a life jacket is required, how to select appropriate size, be able to don/doff life jacket, and adjust straps for safety. Currently the student needs (# of physical, verbal, gestural	{Student} will demonstrate cold-water safety by utilizing a life jacket independently, in 5/5 observed opportunities, as measured by a prompt hierarchy indicating level of support needed for safety (1: physical prompt, 2: verbal prompt, 3: gestural prompt, 4: independent) -Given real life scenarios, {Student} will demonstrate understanding of the rules of when to use a life jacket in 5/5 observed opportunities with level 1 support	Explicit instruction in cold-water safety skills Opportunities to practice with real-life materials Mentor with experience in this area Modeling Task analysis Step by step directions

	<p>prompts) for safety and needs (visuals checklists etc.).</p>	<p>-Given a selection of life jackets, {Student} will select the appropriate size, in 5/5 observed opportunities with level 1 support -Given a life jacket {Student} will put on/off including buckles, in 5/5 observed opportunities with level 1 support -Given a life jacket {Student} will adjust straps, in 5/5 observed opportunities with level 1 support</p>	<p>Prompting hierarchy Visual supports to include checklists or picture schedules</p>
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Example provided by Kelly McBride, 2019

References

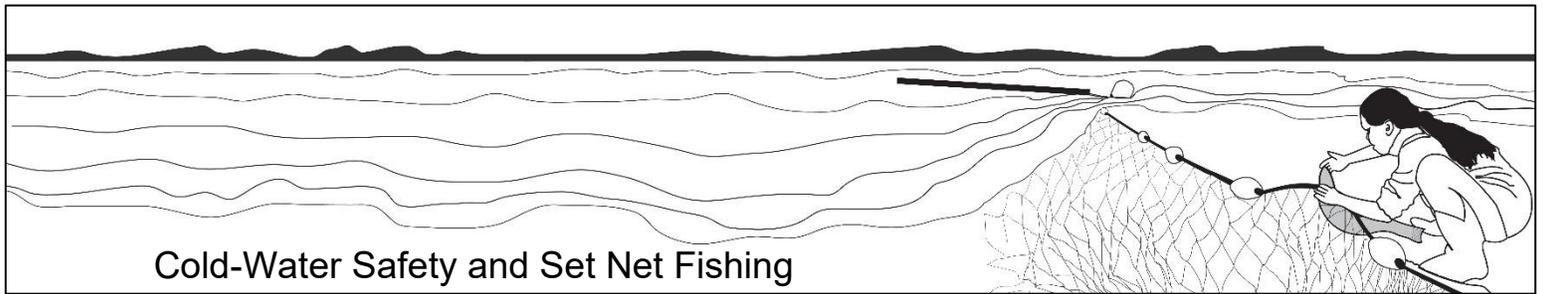
Career Development: The Process of Progression in Career Development, CDE, 2015. Accessed 7-2019. https://www.cde.state.co.us/cdesped/tk_tab05_careerdevelopment

Methods of Gathering Information, CDE, 2014. Accessed 7-2019. https://www.cde.state.co.us/cdesped/tk_tab03_methods

Condon, E., & Callahan, M. (2008). Individualized career planning for students with significant support needs utilizing the discovery and vocational profile process, cross-agency collaborative funding and social security work incentives. *Journal of Vocational Rehabilitation*, 28(2), 85-96.

Resources for teachers

- Transition Assessment Module for Parents (Colorado Department of Education) <https://www.cde.state.co.us/cdesped/transitiontrainingforparents> Accessed 8-2025.
- Sitlington, P. L., & Clark, G. M. (2007). *The transition assessment process and IDEIA 2004*. *Assessment for Effective Intervention*, 32(3), 133-142.
- The National Technical Assistance Center on Transition (NTACT) <http://www.transitionta.org/>



Cold-Water Safety and Set Net Fishing

There are two units in this curriculum: Cold-Water Safety Skills, and Set Net Fishing Skills.

Each lesson has:

- Overview
- Links to Alaska Cultural Standards
- Links to Yup'ik Values
- Learning objectives
- Materials including commercial resources (websites, videos, books)
- Vocabulary in accessible language
- Activities (with adaptation ideas for different abilities)
- Learning stories
- Evaluation
- Resources
- Student handout

Social Skill Development: There are many opportunities through the lessons to intentionally practice social skills that will support developing skills of empathy, reciprocity, independence, and confidence. Practice how to speak respectfully to an Elder or culture bearer who comes as a guest, role play the learning stories of helping a relative with fishing, practice helping each other during the activities. These are core skills to being part of a community, and will serve the student well in their adult years. [These skills relate to the Alaska Content Standards: Skills for a Healthy Life.](#)

Cold-Water Safety Unit

- Personal Floatation Devices
- Cold-Water Survival
- Be Prepared: Make a Float Plan
- Be Prepared: Survival Skills
- Be Prepared: Clothing
- Be Prepared: Weather

Set Netting Unit

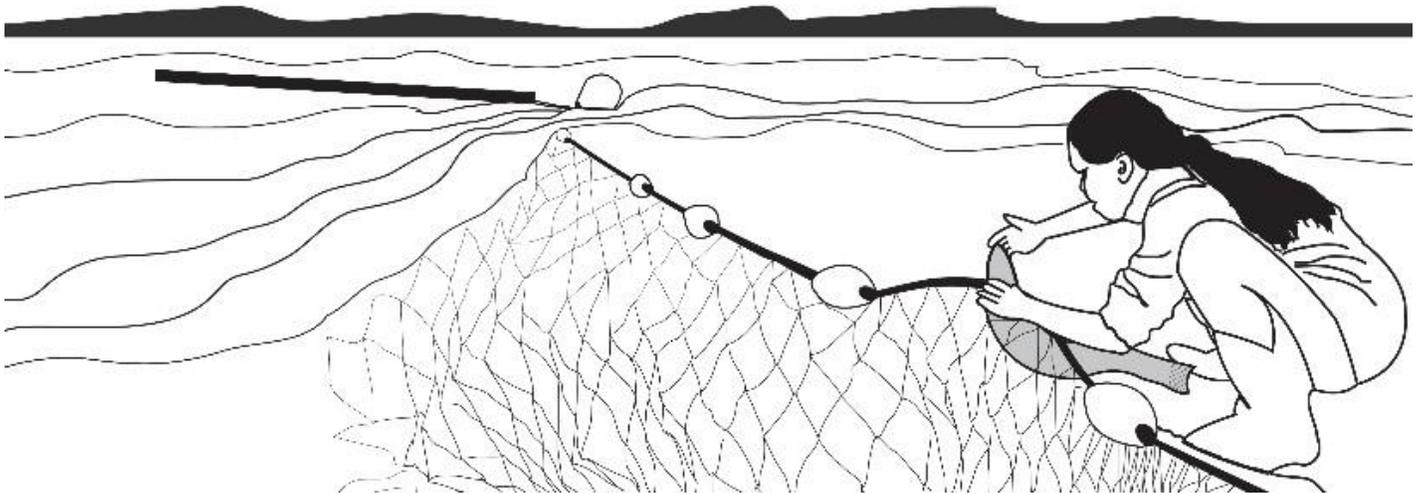
- Respect for Salmon and Fish
- Tides 1: Basics of the Tide Cycle
- Tides 2: How to read a Tide Table
- Tides 3: Tides and Set Net Fishing
- Knots: Overhand
- Knots: Bowline
- Knots: 1/2 hitch
- Knots: Square
- Set Net Gear
- Safe Fish Handling

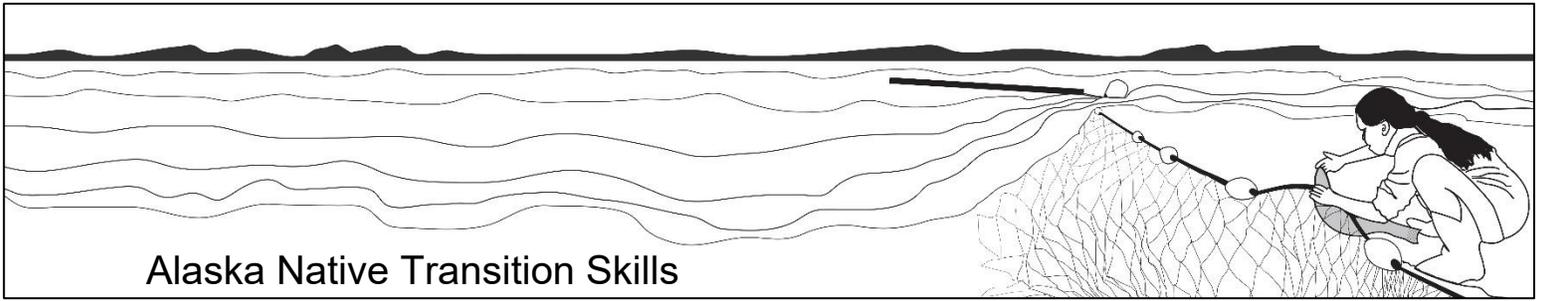
Alaska Native Transition Skills

Cold-Water Safety

Unit Lessons—

- Personal Floatation Devices (PFDs)
- Cold-water Survival
- Be Prepared: Make a Float Plan
- Be Prepared: Survival Skills
- Be Prepared: Clothing
- Be Prepared: Weather





Alaska Native Transition Skills

Personal Floatation Devices (PFDs/Life Jackets)

Overview

In this lesson, students will learn about the rules of wearing PFDs, the types of PFDs, and how to make sure a PFD is fitted correctly.

Alaska Cultural Standards

- A1, A4, A6, B2, C3, D6, E2

Yup'ik Cultural Values

- Pissuryaraq ayanillerkaq yuilqumi elitnauraqluku “Teach and learn outdoor survival and hunting skills”
- Ikayurtarluten yuullgutevnun “Be helpful to one another”
- Ilaten-llu angussaagucimaluki kesianek caiturcetetevkenaki “Provide for and take good care of your family”

Learning Objectives

The student will be able to:

- Demonstrate knowledge of what is required by law related to PFDs on a boat
- Demonstrate how to put on a PFD
- Demonstrate how to adjust a PFD and know when it sized and fitted correctly

Materials

- Handout: *Wear Your Life Jacket*
- Example PFDs: At the least, have an example of a type 1, type 2, type 3, and type 4 PFDs. Have a type 3 PFD that will fit the student(s) so they can practice putting it on, and knowing what it feels like when fitted correctly. Have one that fits you (teacher) so you can demonstrate. If you can have examples of the four types for the student to try on and know how to buckle, this is best.

Vocabulary

PFD	Personal Floatation Device, means something that helps you float in the water.
Life Jacket	PFDs are often called “life jackets” because they help keep you alive if you fall in the water.

Type 1 PFD	Best for offshore, rough water conditions, fishing. This type it meant to keep an unconscious person’s head out of the water. It is a little more bulky to wear when working in it.
Type 2 PFD	Best for calm waters, working near shore. May keep an unconscious person’s head out of the water, but works best when person is treading water. Use when rescue will happen quickly. More comfortable than a type 1, but also has less floatation and buoyancy.
Type 3 PFD	Best for calm waters, working near shore. Will NOT keep an unconscious person’s head out of the water. Use when rescue will happen quickly. More comfortable than a type 1, but also has less floatation and buoyancy.
Type 4 PFD	A PFD that can be thrown to a person who falls overboard. They can be a square “seat cushion” style, or a ring buoy, or horseshoe buoy mounted on deck. It does not keep an unconscious person’s head out of the water. Should only be used to assist a person who can swim, as it acts as an aid during rescue. All boats are required to have one of these on board in case someone falls overboard.
Type 5 Inflatable PFD	Best for calm waters, working near shore. Inflates when the person falls in the water. Good for working, as it is less bulky. Not recommended for people under the age of 16. May keep an unconscious person’s head out of the water. Use when rescue will happen quickly.
Overboard	When someone falls off the boat into the water.
Buoy and Buoyancy	Helps something float, the amount something floats.

Activities and Adaptations

- Begin by finding out what students already know about wearing life jackets, also called PFDs. Prompting questions (with sample answers in italics):
 - Why should people wear life jackets on boats? *Accidents can happen on boats where people end up in the water. Life jackets help a person float until they can be rescued and helped out of the water.*
 - Who is required to be wearing a life jacket? *Children under the age of 13 are required to wear a life jacket at all times on boats unless they are in an enclosed cabin. There must also be a throwable PFD on board. It is best if all on the boat are wearing their life jacket, but at the very least, it is required that a wearable life jacket is on board for each person on the boat.*
 - What is a life ring, or “seat cushion” floatation device used for? *This is a throwable PFD that a person who has just fallen overboard can use while they are being rescued.*

- How do you know if your life jacket fits? *If it is too big, it will pull up around your ears, and might not keep your head above water. Too small, it will be hard to zip or buckle it and it may not be enough to help you float.*
- Are there different kinds of life jackets? *Yes, there are many kinds. We will learn about the 5 most common kinds, and what they are good for. The best kind of life jacket is the one you wear!*
- Discuss the rules of life jackets (PFD) and why they are important. *Children under the age of 13 are required to wear a life jacket at all times on boats unless they are in an enclosed cabin. There must also be a throwable PFD on board. It is best if all on the boat are wearing their life jacket, but at the very least, it is required that a wearable life jacket is on board for each person on the boat. When you wear your life jacket, it helps you float until you can be rescued. Different kinds of life jackets will help more than others in cold-water rescues.*
- Introduce the 5 kinds of PFDs, ideally with real examples of them. See the “Wear Your Life Jacket” handout. Show the different kinds, and what they are intended for (the pros and cons).
- Demonstration:
 - Using a PFD that fits you, go through these steps:
 1. Examine the manufacturer’s label to make sure it is for your size and weight.
 2. Fasten the buckles (or zip it if it has a zipper). Adjust the straps. Talk about how it feels. It should feel like a gentle hug, but not a tight squeeze.
 3. Lift your arms straight up above your head, and have someone hold onto the tops of the arm openings, and gently pull up. If it fits correctly, it should not be able to be pulled up past the bottom of your ears.
- Help students find the right size by looking first at the labels to find the right size, then trying on the jackets and zipping and/or fastening the buckles. Make sure it has been fastened correctly, and talk about how it feels. If available, have them try on several different kinds.
- Float Coat Song and Dance: Watch the video on [How to do the Float Coat Song and Dance](#), and practice it in the class. There is also another video on [how the song and dance were created](#).
- Guest speaker ideas:
 - Have someone who survived a cold-water immersion because they were wearing a life jacket come and share their story.
 - The Coast Guard Auxiliary may be available to come and talk about life jackets to students.

Learning Stories

- Tell a story about the student(s) preparing for a day of boating and fishing by getting on their life jacket. Have them describe what they would do, and the steps they would take.

Evaluation

- Have the students define in their own words the lesson concepts and vocabulary:
 - Why should people wear life jackets on boats? *Accidents can happen on boats where people end up in the water. Life jackets help a person float until they can be rescued and helped out of the water.*
 - Who is required to be wearing a life jacket? *Children under the age of 13 are required to wear a life jacket at all times on boats unless they are in an enclosed cabin. There must also be a throwable PFD on board. It is best if all on the boat are wearing their life jacket, but at the very least, it is required that a wearable life jacket is on board for each person on the boat.*
 - What is a life ring, or “seat cushion” floatation device used for? *This is a throwable PFD that a person who has just fallen overboard can use while they are being rescued.*
 - How do you know if your life jacket fits? *If it is too big, it will pull up around your ears, and might not keep your head above water Too small, it will be hard to zip or buckle it and it may not be enough to help you float.*
 - Are there different kinds of life jackets? *Yes, there are many kinds. We will learn about the 4 most common kinds, and what they are good for. The best kind of life jacket is the one you wear!*

Additional Resources

- *Types of life jackets* <https://www.boatus.org/life-jackets/types/>
- *How to Choose the Right Life Jacket*
https://www.uscgboating.org/images/howtochoosetherightlifejacket_brochure.pdf
- *How to Fit a Life Jacket on a Child (videos)* <https://www.boatus.org/life-jacket-loaner/fit-video>
- *Origin of Float Coat Song (video)*
<https://www.youtube.com/watch?v=eCpabG7lhKE&feature=youtu.be>
- *How to do the Float Coat Song (Video)* https://www.youtube.com/watch?v=uF_wQKeFf-U
- *Rescue Ready Boating in Alaska Series: Life Jackets (video):*
<https://www.youtube.com/watch?v=habzTZmi1JE&list=PLgGrAXILoSh-4Y2-Khwr5Tcb8YHJYBvIQ&index=2>
- *Pledge to Live* Alaska Office of Boating Safety with many good resources.
<https://dnr.alaska.gov/parks/boating/>

Wear Your Life Jacket

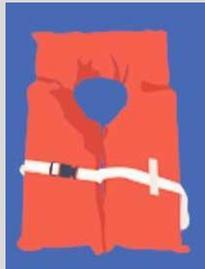
Life jackets are also called Personal Floatation Devices (PFD). There are many types of life jackets.

Here are the best kinds of PFDs for kids and young adults to wear:

Type 1



Type 2



Type 3



Type 4: This one can be thrown to someone who falls off the boat. All boats are required to have one of these or a life ring that is easy to get to.



Type 5: This kind inflates when a person falls in the water. People under 16 should pick a different PFD, it is not meant for children to use.

Lifejacket Images Source: <https://www.boatus.org/life-jackets/types/>

The Right Size and Fit

1. **Check the size.** It should be your size, and be able to fit your weight. If you wear one that is too small, it may not be enough to help you float in the water. If you wear one that is too big, it may slip up around your head and make it hard to swim and breathe.



ADULT X-LARGE
USER WEIGHT: More than 90 lbs. CHEST SIZE: 46-50 inches

What size is this life jacket?
Would it fit you?

Image Source: <https://adventure.howstuffworks.com/outdoor-activities/water-sports/life-jacket4.htm>

2. **Put it on and snap all the buckles (or zip it).**
Adjust the straps. It should feel like a gentle hug, but not a tight squeeze.



Image Source: Author

3. **Test the fit.** Have someone gently pull up on the shoulders of the life jacket. If it comes up over your ears, it is too big. Find a smaller size.



Image Source: <https://www.boatus.org/life-jacket-loaner/fit-video/>

Learning Story:



Image Source: ANTHC Boating Safety PSA <https://www.youtube.com/watch?v=HVDqunmwwn4>

You are going to help your uncle at a fish camp up the river. You have to get there by boat. When it is time to get in the boat, you look for a life jacket that will fit you, and you help a younger cousin find one that fits.

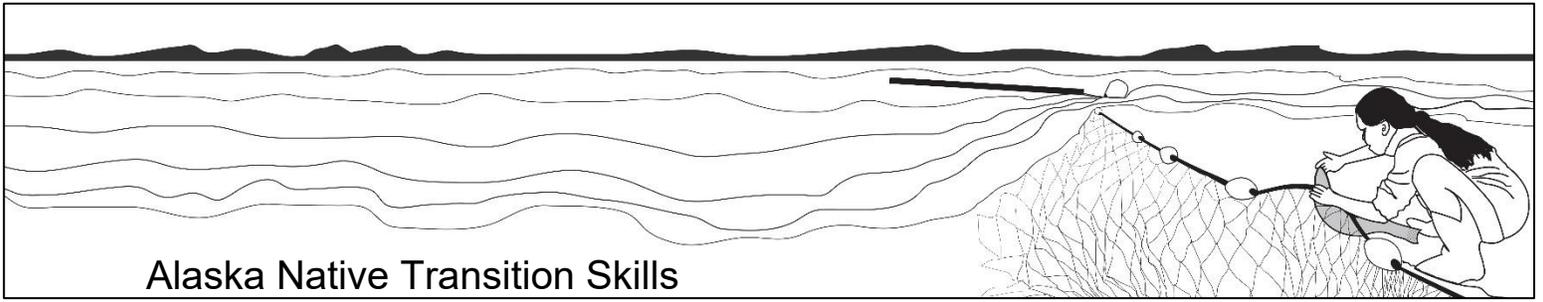
How do you know if a life jacket is the right size?

You put a life jacket on your cousin, and the strap is not long enough for the buckle to snap. *What do you do next?*

You find a life jacket where you can snap the buckles. *What do you do next?*

When you test the life jacket, it slips up over your cousin's ears. *What do you need to do?*

After trying on a few life jackets, and testing them to make sure they fit, you and your cousin are ready to get in the boat to go to fish camp.



Alaska Native Transition Skills

Cold-Water Survival

Overview

In this lesson, students will learn about ways they can survive cold-water immersion.

Alaska Cultural Standards

- A1, A4, A6, B2, C3, D6, E2

Yup'ik Cultural Values

- Pissuryaraq ayanillerkaq yuilqumi elitnauraqluku “Teach and learn outdoor survival and hunting skills”
- Ikayurtarluten yuullgutevnun “Be helpful to one another”
- Ilaten-llu angussaagucimaluki kesianek caiturcetevkenaki “Provide for and take good care of your family”

Learning Objectives

The student will be able to:

- Explain what happens to a person’s body when put in cold-water.
- Explain the best way to swim to shore if in a river.
- Demonstrate the positions to stay in if waiting for rescue in the water (individually or in a group).
- (Advanced) Explain the 1:10:1 Rule of Cold-Water Safety
- (Advanced) Describe how to decide to swim or not to swim to shore if in a lake or offshore in the ocean.

Materials

- Handout: Survive Cold-water
- Videos by the Alaska Department of Boating Safety (see lesson for links)

Vocabulary

PFD	Personal Floatation Device, means something that helps you float in the water.
Life Jacket	PFDs are often called “life jackets” because they help keep you alive if you fall in the water.

1:10:1 Rule of Cold-water Safety	This helps you remember what to do in a cold-water emergency: 1: Within the first minute, get your breathing under control 10: Within 10 minutes, perform meaningful activities for self-rescue (such as communication and signaling). 1: One hour of consciousness, do things to reduce body heat loss.
Cold Shock Response	First response to cold-water immersion. Rapid breathing and gasping for breath. It is important to have a life jacket on to keep your nose and mouth above water during this phase.
Cold Incapacitation	“Incapacitation” means “unable to move or function.” The second response to cold-water immersion is that your arms and legs stop working very well, making it hard to swim and do self-rescue activities.
Hypothermia	When your body temperature drops too low. It can start after 30 minutes or more in cold-water. Hypothermia makes it hard to think, move, or communicate. If it goes too long, a person may lose consciousness or die.
Float Plan	Share this plan with someone who is not going on the trip. It should include: Names of People Going, Where You are Going, When you will go, and when you will come back, What the Boat looks like (and its name and AK ID Number), Emergency Contact, What to do if you are overdue.
HELP Rescue Position	Heat Escape Lessening Position: Floating while hugging your knees to your chest while waiting for rescue alone. Saves body heat.
Huddle Rescue Position	If others are also in the water, and you can't get back in the boat, you can hold on to each other in a circle, and float together. This helps save body heat, and it make it easier to see your group for a rescue helicopter or boat.

Activities and Adaptations

- Begin by finding out what students already know about what happens if someone accidentally falls in cold-water. Prompting questions (with sample answers in italics):
 - Have you ever fallen in cold water? What did it feel like?
 - What does your body do when you fall in cold water? *Gasping, hyperventilating (breathing very fast), panic, flailing...*
 - What can you do to survive falling in cold water? *Wear a life jacket, get breathing under control, reduce loss of body heat, signal for help.*
 - How can you get warm again, if you have fallen in the water? *Get in dry clothes, or into a dry sleeping bag or emergency blanket.*
- Discuss the following concepts, and use the suggested videos to help teach the ideas:
 - What happens if a person falls in cold water? How does the body react? *Shock and breathing fast, arms and legs don't work as well, it is harder to think and move.*

- *Cold-Water Survival (Video)* <https://www.youtube.com/watch?v= XLXfQg-y58&list=PLgGrAXILoSh-4Y2-Khwr5Tcb8YHJYBvIQ&index=1&t=94s>
- Discuss the 1:10:1 Rule for Cold-water Survival. *Cold Water Boot Camp - 1-10-1 Principle* <https://www.youtube.com/watch?v= ZtAM5ZTn4k>
 - What can you do to get your breathing under control, if you fall in cold-water? *Count back slowly from 5, take deeper slower breaths. Float on your back until you have control of your breathing. If you feel panic, keep focusing on slowing your breathing down. Think, "I need to slow down my breathing so I can take care of myself and think better."*
 - What should you do after you calm your breathing, in the next 10 minutes after falling in? *Take the steps you need to be rescued. Use a waterproof radio or phone, a flare, or a whistle.*
- What do you do if you have to wait in the water for rescue? *Assume a self-rescue position (Heat Escape Lessening Position-HELP or Huddle) that helps keep your body heat in. If you are with others, make a ring. If alone, tuck your legs up and hold them. Flailing and trying to swim will use up more body heat. Swimming and flailing make you lose more body heat, and hypothermia will start sooner.* (<https://www.youtube.com/watch?v=aKc-0EDmmqk>)
- Swim or Don't Swim: How do you decide if you should swim to shore?
 - *In a river, swim and drift to shore with the current as these video show* (<https://www.youtube.com/watch?v=aKc-0EDmmqk>).
 - *If you are in the middle of a large lake or ocean, consider the following questions: What tools do I have? Can I signal for help? Are others in the group okay? Could they make the swim? Can I get myself out of the water? Do I think I can make it?*
 - *If you decide you need to swim, you will have about 45 minutes to reach the shore, so use your energy wisely. In a river, drift with the current as the video shows* (<https://www.youtube.com/watch?v= XLXfQg-y58&list=PLgGrAXILoSh-4Y2-Khwr5Tcb8YHJYBvIQ&index=1&t=94s>).
- *If you feel you will be rescued in less than 45 minutes, you may choose to wait for rescue, so use the HELP (Heat Escape Lessening Position) or Huddle (if with others).*

- Guest speaker ideas:
 - Have someone who survived a cold-water immersion because they were wearing a life jacket come and share their story.
 - The Coast Guard Auxiliary may be available to come and talk about life jackets and cold-water survival.

Learning Stories

- Tell a story about the student(s) preparing for a day of boating and fishing by getting on their life jacket. Have them describe what they would do, and the steps they would take.

Evaluation

- Have the students define in their own words the lesson concepts and vocabulary:
 - What happens if a person falls in cold-water? How does the body react? *Shock and breathing fast, arms and legs don't work as well, it is harder to think and move.*
 - What can you do to get your breathing under control, if you fall in cold-water? *Count back slowly from 5, take deeper slower breaths. Float on your back until you have control of your breathing. If you feel panic, keep focusing on slowing your breathing down. Think, "I need to slow down my breathing so I can take care of myself and think better."*
 - What should you do after you calm your breathing, in the next 10 minutes after falling in? *Take the steps you need to be rescued. Use a waterproof radio or phone, a flare, or a whistle.*
 - What do you do if you have to wait in the water for rescue? *Assume a self-rescue position (HELP or Huddle) that helps keep your body heat in. If you are with others, make a ring. If alone, tuck your legs up and hold them. Flailing and trying to swim will use up more body heat.*
 - How do you decide if you should swim to shore? *If you will not be rescued in 45-60 minutes, you may decide to swim to shore. You will have about 45 minutes to swim, so use your energy wisely. In a river, drift with the current.*

Additional Resources

- Alaska Office of Boating Safety with many good resources.
- <https://dnr.alaska.gov/parks/boating/index.htm>
- *Cold-water Survival Infographic* <https://www.boatus.org/cold-water-boating/infographic>
- *Cold-water Rescue Ready Boating Series (Alaska Office of Boating Safety)* <https://www.youtube.com/playlist?list=PLgGrAXlLoSh-4Y2-Khwr5Tcb8YHJYBvIQ>

Survive Cold Water

Though it is best to prevent falling into cold-water, you can increase your chances of surviving if you know some ways to stay alive.

If you fall in the water, the first few minutes are very important.

1. **Cold Shock:** The shock of hitting the water makes you breath in fast and hard. Your life jacket helps keep your head out of the water so you don't suck in water.



It is important to get your breathing under control, and to calm down. Count back slowly from 5, take deep slow breaths. Float on your back until you have control of your breathing.

2. **Your body stops working as well.** It is hard to move and do things with your hands. Your mind may start to get confused.
 - Think about what you need to do to survive, and take action.
 - Get with the other people that are with you.
 - Can you get back in the boat? If the boat is upside down, can you get on top of it?

If you are in a large lake or in the ocean, you need to save your body heat while you wait for rescue. If with others, huddle together. If alone, use the “Heat Escape Lessening Position” also called HELP. Being still will help you keep your heat in.



Image Credits:

Cold-water Shock http://pledgetolive.org/?ct_video=cold-water-survivors

HELP and Huddle: <https://www.boatus.org/cold-water-boating/help/>

Swimming to Get Out of a River



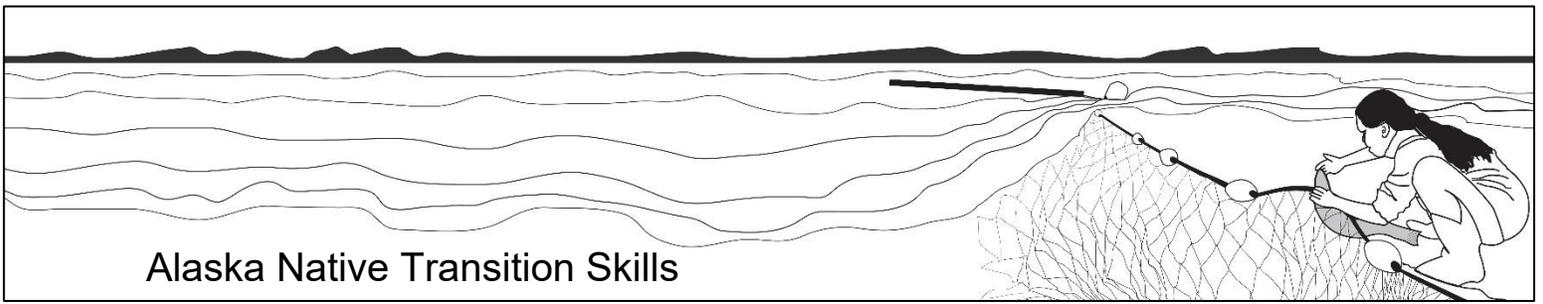
1. Float on your back and keep your feet up so you don't run into rocks.



2. Look toward the shore you want to get to, and back stroke with your arms.
3. When you feel your bottom hit the shore, roll over and crawl out.



Image Credit: Swim in a river: http://pledgetolive.org/?ct_video=rescue-ready-series-cold-water-survival



Alaska Native Transition Skills

Be Prepared: Make a Float Plan

Overview

In this lesson, students will learn about the importance of making a float plan when going out in a boat.

Alaska Cultural Standards

- A1, A4, A6, B2, C3, D6, E2

Yup'ik Cultural Values

- Pissuryaraq ayanillerkaq yuilqumi elitnauraqluku “Teach and learn outdoor survival and hunting skills”
- Ikayurtarluten yuullgutevnun “Be helpful to one another”
- Ilaten-llu angussaagucimaluki kesianek caiturcetevenaki “Provide for and take good care of your family”

Learning Objectives

The student will be able to:

- Describe what should be included in a float plan.
- Explain why it is important to make a float plan.

Materials

- Handout: Make a Float Plan
- Handout: Float Plan

Vocabulary

Float Plan	Share this plan with someone who is not going on the trip. It should include: Names of people going; Where you are going; When you will go and when you will come back; What the boat looks like (type, length, name, and AK ID Number); Emergency Contacts; and What to do if you are overdue.
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Activities and Adaptations

- Begin by finding out what students already know about making a float plan. Prompting questions (with sample answers in italics):
 - What is a float plan? *A plan that describes your trip, who will go, when you will go and come back, and who will be on the trip.*
 - When do you need to make a float plan? *Before you go, be as specific as you can. These details could save your life!*
 - Why is it important to make a float plan? *It helps the Coast Guard or other rescuers know where to find you, and get to you faster.*
 - Who should you leave your float plan with? *Someone who is not going on the trip, that will pay attention to your arrival time, and if they haven't heard from you can be counted on to call the Coast Guard for help.*
- Discuss the concepts above, and use the “Make a Float Plan” handout.
- Guest speaker ideas:
 - Have someone who survived a cold-water emergency because they were rescued come and share their story. If they had filed a float plan, even better!
 - The Coast Guard Auxiliary may be available to come and talk about life jackets and cold-water survival.

Learning Story

- Tell a story about the student(s) preparing for a trip to fish camp. They help their Uncle make a float plan for the trip, to leave with a family friend. Walk through what they would need to include in the plan, and why it is important to do it. Fill out the “Float Plan” handout as you talk it through.

Evaluation

- Have the students define in their own words the lesson concepts and vocabulary:
 - What is a float plan? *A plan that describes your trip, who will go, when you will go and come back, and who will be on the trip.*
 - When do you need to make a float plan? *Before you go, be as specific as you can. These details could save your life!*
 - Why is it important to make a float plan? *It helps the Coast Guard or other rescuers know where to find you, and get to you faster.*
 - Who should you leave your float plan with? *Someone who is not going on the trip, that will pay attention to your arrival time, and if they haven't heard from you can be counted on to call the Coast Guard for help.*

Additional Resource

- Detailed USCG Float Plan: <http://floatplancentral.cgaux.org/download/USCGFloatPlan.pdf>

Make a Float Plan

Make a float plan whenever you go on a trip on the water. Leave your plan with a person who can contact the Coast Guard or other people if you do not come back when you expect to. This will help people know where to search for you.

Your float plan should include:

- Names and emergency contacts for all people going.
- What your boat looks like (include the type, and the AK ID number)
- When you will go.
- When you will come back.
- When to be concerned if you are late coming back.
- What to do if you are late coming back.

FLOAT PLAN

Complete this form before going out on your boat, and leave it with a person who will notify the Coast Guard and local authorities if you are late in coming back.

1. Name of person filing this plan: _____ Phone #: _____

2. Description of boat:
Registration number: _____ Type: _____ Make: _____
Color: _____ Length: _____ Name: _____

3. People on board:

Name	Age	Emergency Contact and Phone #

4. We are leaving from: _____ on (date) _____ at (time) _____
and going to _____.

5. We will return on: (date) _____ at (time) _____.

6. When to be concerned: If we are not back by (date) _____ at (time) _____, call:
U.S. Coast Guard (Phone #) _____
Other Local Authority (Phone #) _____
Other (Phone #) _____

FLOAT PLAN

Complete this form before going out on your boat, and leave it with a person who will notify the Coast Guard and local authorities if you are late in coming back.

1. Name of person filing this plan: _____ Phone #: _____

2. Description of boat:

Registration number: _____ Type: _____ Make: _____

Color: _____ Length: _____ Name: _____

3. People on board:

Name	Age	Emergency Contact and Phone #

4. We are leaving from: _____ on (date) _____ at (time) _____
and going to _____.

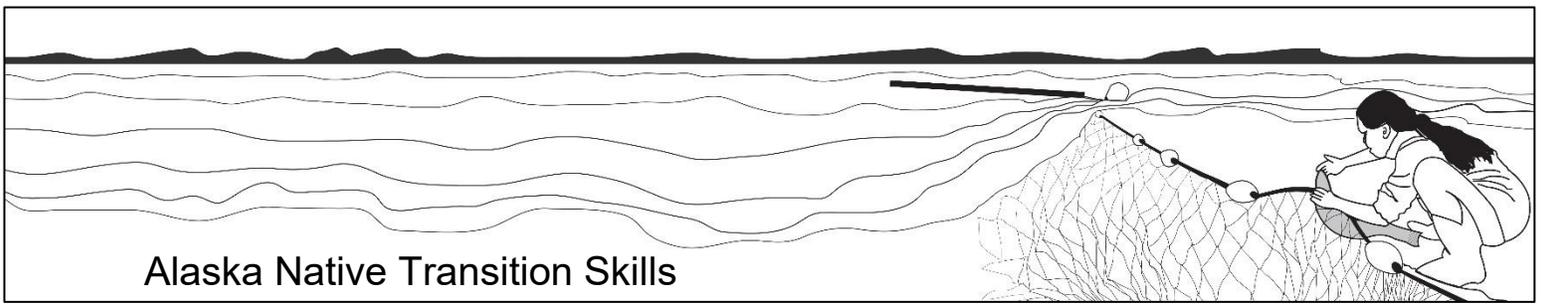
5. We will return on: (date) _____ at (time) _____.

6. When to be concerned: If we are not back by (date) _____ at (time) _____, call:

U.S. Coast Guard (Phone #) _____

Other Local Authority (Phone #) _____

Other (Phone #) _____



Alaska Native Transition Skills

Be Prepared: Survival Skills

Overview

In this lesson, students will learn about preparedness and how to use the items in a survival kit. Note to teachers: be aware of how you talk about the land. Going out onto the land to explore, hunt, fish, or collect berries is a natural thing to do. Rather than talking about going “out into the wilderness”, talk about going “out onto the land”. The land is to be respected and appreciated; it is not an adversary. In an emergency, the land can offer many forms of assistance to the people facing a challenge.

Alaska Cultural Standards

- A1, A4, A6, B2, C3, D5, D6, E2

Yup'ik Cultural Values

- Pissuryaraq ayanillerkaq yuilqumi elitnauraqluku “Teach and learn outdoor survival and hunting skills”
- Ikayurtarluten yuullgutevnun “Be helpful to one another”
- Qigcikluku nunamta atullerkaa “Have respect for our land and its resources”

Learning Objectives

The student will be able to:

- Identify one survival skill learned from an Elder or culture bearer.
- Explain why it is important to be prepared for emergencies.
- Identify two steps to take when lost.
- Describe what each item in the survival kit is important, and how it would be used in an emergency.

Materials

- Handout: *Be Prepared: Take a Survival Kit*
- Survival Kit Supplies:
 - Emergency Whistles (5 in 1)
 - Dice (Entertainment)
 - Aluminum Foil
 - Advil packets
 - Thin rope
 - Bandages
 - Emergency Blankets
 - Mirrors
 - Duct Tape
 - Fishing Line and Hooks
 - Small & Large hinged tins (to hold kit)
 - Waterproof matches
 - Electrical Tape

Vocabulary

Preparedness	The state of being ready to deal with disaster or emergency.
STOP	<p>STOP—</p> <p>Sit: Take a moment to take a deep breath. Unless you are in immediate danger, it is best to stay put.</p> <p>Think: Use your brain, don't panic. Think about what you have with you to help.</p> <p>Observe: Look around you to see what you have with you, and what you have in your environment that can help with your basic needs (shelter, food, water, signal).</p> <p>Plan: First treat any medical needs. Next, make sure you have shelter, and can stay warm. Next, find water. Figure out how you will signal people who come to look for you. Find food.</p>
Inventory	Make a list of things you have with you, and in your environment. In an emergency, things you have might be used in different ways than normal (such as shoelaces could be used to tie branches together, if you didn't have rope.)
Survival	Living through an ordeal, accident, or challenge.

Activities and Adaptations

- Begin by finding out what students already know about preparedness and what they should have with them when they go out onto the land. Prompting questions (with sample answers in italics):
 - If you are going out onto the land to explore, hunt, fish, or collect berries, what kinds of emergencies or challenges could happen? *Get lost, injured, too cold...*
 - If you are going out onto the land to explore, hunt, fish, or collect berries, what should you have with you in case things don't go as planned? *Plan for shelter, fire, water, first aid, food and signal.*
 - (Advanced) What do you do once you realize you are in an emergency? *Think about what supplies you have, and what you need to do first to make sure you are warm, with any injuries treated, with water to drink. Next make a plan for signaling or getting help. Lastly, consider what food is available.*
 - What should you bring in an emergency kit? *Collect ideas, and then add any that are not in the kit list to the list of additional items they can add.*
- What stories have they heard about people who have been in an emergency on the land? What helped them survive? What can they learn from these stories?

- Discuss the following concepts:
 - Preparedness: Elders teach the importance of being prepared in your mind and ready to be creative and resourceful. *There are things you should always have with you when you go out onto the land, which will help you survive. Use your mind to imagine what you will do, and what you will need if things do not go as planned. Warm clothes, a way to make a shelter, extra food and water, a first aid kit, a survival kit...these are all part of being prepared.*
 - Order of what to do in an emergency*:
 1. Recognize you are in an emergency, or lost. Use STOP: Sit, Think, Observe, Plan.
 2. Attend to any injuries the best you can.
 3. Plan how you will stay warm: Shelter/Fire/Sleeping bag.
 4. Plan how you will have water to drink.
 5. Figure out how you can signal rescuers.
 6. Plan what you will eat.
 7. Stay positive and alert.

*There are many resources online to teach the basics of building a shelter, building a fire, finding water, etc. Some of these are attached in the resources section as a reference to expand these lessons as the students are interested and able to learn.
 - Video: Hug-a-Tree and Survive (12:06): This video gives some basics for what to do if you are lost. It shows a scenario of a boy who gets lost on a camping trip. Though not culturally specific, it goes over survival basics using a story:
<https://www.youtube.com/watch?v=uXy5AK9FkBk>
 - Practice taking an inventory. Have the students inventory everything in their desk or backpack, including what they are wearing. Brainstorm ways that what they have could be used in different ways. *A pencil could be a tool to poke a hole, or paper could be used to start a fire, or shoelaces could be removed and used as rope, or clothing could be torn to make a bandage.* Introduce the idea that even if you don't have the exact items you think you need, you may be able to use something else in a creative way to meet the same need.
 - Survival Kit: These are the things you bring with you that can help you stay alive in an emergency situation. These give you the basics so you can treat basic injuries, stay warm, have enough food and water, and a way to signal for help. If you don't have your kit, you can still use your mind to figure out natural replacements for many of the items. Go over each item on the *Be Prepared: Take a Survival Kit* handout, what it is used for, and what could work in the natural environment as a replacement if they don't have their kit.

- Guest speaker ideas:
 - Have someone who survived a mishap because they were prepared come and share their story. Have the students prepare questions about what they had with them, what they did that helped them in the emergency situation.
 - Invite an Elder or culture bearer to share traditional ways to think about using your mind, creativity, and items on hand to overcome an unexpected challenge while out on the land.

Learning Stories

- Select one (or more) of the following scenarios to discuss with the student(s) and figure out how they would create a survival plan. Assume that they cannot use a cell phone to call for help, but that they DO have their survival kit with them. Talk through using STOP and the concepts of taking an inventory and making a plan for shelter, food, water, and signal.
 - They are out on the land to collect berries and get separated from their family members. All they have with them is a back pack with half bottle of water, a lighter, an extra sweatshirt, and the survival kit. They already had eaten all of their snacks.
 - You and a family member are out on a boat up river when a storm forces you to shore in a small protected beach. You have fishing gear, a PFD (life jacket), a cooler with ice, a rope (which is tied to the boat) and some extra gas for the boat motor in a container. The cooler contains ice, a sandwich and a soda. You hadn't yet caught any fish. You have your survival kit, and an old tarp. When the storm hit, you were soaked with rain, but were stayed fairly dry in your rain gear. It is early fall, and you know it will be getting cold at night.

Evaluation

- Students should be able to describe one survival skill learned from an Elder or culture bearer.
- Students should be able to describe why it is important to be prepared, and what they should be prepared for when going onto the land.
- Students should be able to describe why each item in their survival kit is important and when it would be used.
- (Basic) Student should be able to describe two important things to do when lost.
- (Advanced) Student should be able to describe the STOP approach to knowing when you are in an emergency, to take an inventory, and make a plan.

Additional Resources

- *How Can I Survive a Night in the Alaskan Wilderness?*
<https://adventure.howstuffworks.com/survive-night-alaska.htm>
- *11 Critical Survival Skills That Could Save Your Life (American Red Cross) :*
<https://www.redcross.org/take-a-class/resources/articles/11-survival-skills-to-know?srsId=AfmBOopbBIT3ioXEOGUEoK9aN-bOI24UyUfKF7Aw-u9toKpvVCKIUkk2>

Be Prepared: Take a Survival Kit

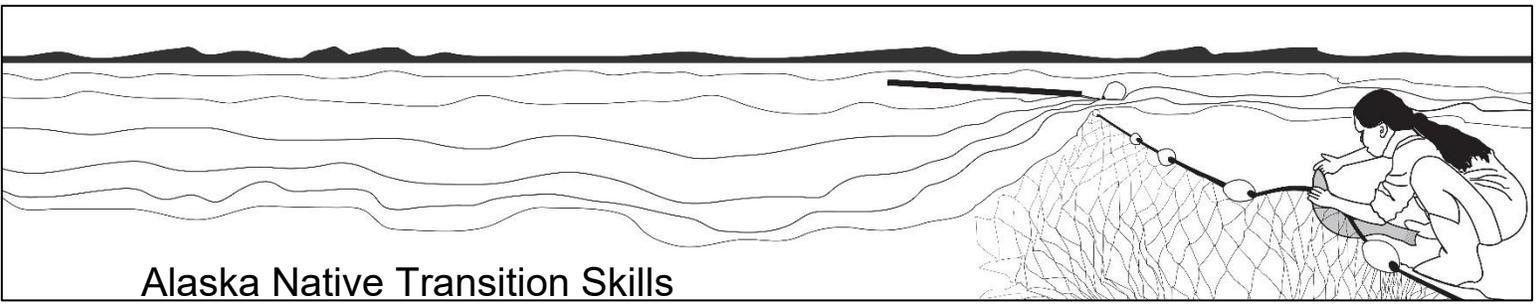
A survival kit is a small kit that contains items that could be needed in an emergency situation. These are important items, but you may choose to have more or less in your kit. For each item, think about what else could be used either from the land or on your person, if you don't have that item with you.



Item	Use(s)	What if you don't have it?
Emergency Whistles (5 in 1)	Signal by whistle or mirror, waterproof match holder, compass.	Grasses can be used as a whistle, the direction of the sun or landmarks like hills and mountains, or the direction of flowing water, can be used to find direction.
Aluminum Foil	Can be used to reflect light as a signal, to cook in, to hold your fishing supplies.	
Advil packets	Medicine for pain.	
Bandage (Triangular)	Make an arm sling or wrap an injury.	Tear a piece of clothing and use the cloth for a bandage.
Emergency Blankets	Provides shelter, warmth, helps keep you dry. Use to signal rescuers.	Stuff leaves or grasses inside your clothes around your body to stay warm.
Duct Tape	Repair gear, use in first aid (such as to stabilize a twisted ankle)	Tear extra clothing into strips and use the strips to tie things.
Fishing Line and Hooks	Catch a fish for food.	Find berries or other plants you know are safe to eat.
Small & Large hinged tins (to hold kit)	Carries your compact kit	
Waterproof matches	Store inside your whistle to build a fire.	
Thin rope	Tie tree limbs together to make a shelter.	Twist grasses together to make small ties.
Black trash bag	Can be used as a ground cloth, an emergency sleeping bag, shelter.	
Dice	Play a game to stay calm.	Tell stories, sing, dance.

Finish it off—Once you have put together your kit, tape it closed with black electrical tape and keep water out.





Alaska Native Transition Skills

Be Prepared: Clothes for Fish Camp

Overview

In this lesson, students will learn about preparedness and how to dress in layers so they are prepared for changing weather conditions.

Alaska Cultural Standards

- A1, A4, A6, B2, B4, C3, D6, E2

Yup'ik Cultural Values

- Pissuryaraq ayanillerkaq yuilqumi elitnauraqluku “Teach and learn outdoor survival and hunting skills”
- Qigcikluku nunamta atullerkaa “Have respect for our land and its resources”

Learning Objectives

The student will be able to:

- Describe the clothes needed for a warm day at fish camp that changes to a cold and rainy day.
- Identify the order to layer clothes for fishing activities.

Materials

- Handout: *Be Prepared: Gearing Up for Fish Camp*
- Example clothing from lesson:
 - T-shirt
 - Sweatpants
 - XTRATuf Boots with warm dry socks
 - Fishing bibs and jacket
 - Sweatshirt

Vocabulary

Wearing Layers	Layers help keep body warmth in, and then as the body gets warmer or colder based on weather or working, it is easy to take off or put on layers to stay the right temperature.
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Activities and Adaptations

- Begin by finding out what students already know about preparedness and what clothing they should have with them when they go out onto the land to help with fishing.
Prompting questions (with sample answers in italics):
 - If you are going out to help a family member with fishing, what should you wear? *Layers are important, fishing gear, rubber boots...*
 - Why is it important to plan for changing weather? *So you can stay warm, bring options in case the weather changes.*
 - What layers should you wear when going fishing? *Base layer, like a t-shirt and lightweight pants, a sweatshirt or fleece, rain pants and rain jacket, PFD.*
 - What kind of fabrics keep you warm? *Clothes with more padding, thicker, cozier. Fabrics with wool or fabrics like long johns made from polypro will wick moisture from the skin and keep you warm.*
 - What kinds of fabrics keep you dry? *Raingear, plastics, usually slick kinds of fabrics.*
 - What happens when your clothes get wet? Can you still stay warm? *Some fabrics keep you warm even when they are wet, but many, like t-shirts and jeans, will not keep you warm when wet. Wearing raingear and rubber boots will help keep you dry.*
 - How do you take care of your clothes? *Hang up wet clothes, prop boots so they can dry out, wash and hang work clothes that get wet or dirty so they will be ready for the next day.*
 - How do you know what the weather and conditions will be where you are fishing? *Ask a relative, check the weather forecast, use observations.*
- Discuss the following concepts:
 - Preparedness: Elders teach the importance of being prepared in your mind and ready to be creative and resourceful. *How does wearing the right clothes relate to preparedness?*
 - Order of what to wear when going to help at a fishing site:
 - Base layer can be long johns, sweats, t-shirt. This is the layer that you put on first.
 - Second layer is something cozy and warm like a sweatshirt and a hat.
 - Third layer is rain gear like rain pants, rain bibs, and a rain coat.
 - If working by the water, the last layer is your PFD.
- Guest speaker ideas:
 - Invite someone who does subsistence set netting come in to talk about the clothing they wear when fishing, and what they have found is most comfortable while keeping them warm.

Learning Stories

- Tell a story where the student is asked to go and help an auntie with her nets. “She needs you there on time, and prepared for a day of work. You wake up in the morning and start to get ready. You look outside. The sun is shining, and the sky only has a few clouds. When you step outside, the weather feels warm on your skin.
 - Is this enough information to decide what to wear and bring? *It is a good start to use your observations to get information, but the weather might change! Good to try to get more information, so you can be prepared.*
- You ask a family member if they have heard what the weather prediction is for the day. They say a storm is coming in later in the afternoon. You are glad you asked!
 - What will you wear and bring, especially now that you know the weather may change? *Bring layers so you can adjust depending on the conditions.*
- Your aunt is happy to see you, and impressed that you are ready to work and in the right clothes for the job. As you start working, you are getting very hot.
 - What can you do? *Remove layers down to your base layer.*
- As predicted, the sky fills with clouds, and it begins to rain. You don’t want to get wet, and there is still more work to do, as many fish are in the net.
 - What do you do? *Put layers and your rain gear on.*
- After a long day, you feel good because you were able to help bring in many fish for the family to share. You stayed dry and warm and took good care of your body because you were well prepared.

Evaluation

- Students should be able to describe the concept of wearing layers, and knowing what order to put the layers on.
- Students should be able to describe why wearing the right clothes is important.
- Students should be able to order pictures of the clothes into the right order of how they should be put on.
- Students should be able to share how they get their information to decide what clothing is needed for a day of fishing.

Additional Resources

- *Kodiak Alutiiq Thematic Units K-5: Outdoor Survival: Clothing*
http://alutiieducation.org/files/resource_pdf/thematic_units_.pdf
- *What To Wear Fishing In Alaska* This is a non-native woman describing how she layers for sports fishing in Alaska. <https://www.youtube.com/watch?v=1RnJxXdOtgs>

Be Prepared: Clothes for Fishing

When you go to help with getting fish, it is important to be prepared with the right clothes that will keep you warm and dry, even if the weather changes, or you are getting hot while you work.



This shows a boy wearing a base layer of a lightweight t-shirt, lightweight pants, and rubber boots. He is also wearing warm socks on his feet inside his boots.

The weather is warm and dry.



Now the boy has put on his sweatshirt and hat.

The weather is a little windy and cool, but dry.



Now the boy has added his heavy rain pants.

He is about to start working with fish, and knows that would make his pants wet without his rain pants.

The weather is still cool, so he still wears his sweatshirt.



Now the boy has put on his rain coat. As he works with the nets, he will stay dry.

If it starts to rain, he will be ready. His rain coat and pants keep him protected from the wind and rain so he can stay warm and dry.

Photos by Robyn Chaney

In addition to wearing layers and being ready for the weather to change, you also may need to bring some other gear:

Life Jacket



Rubber Work Gloves

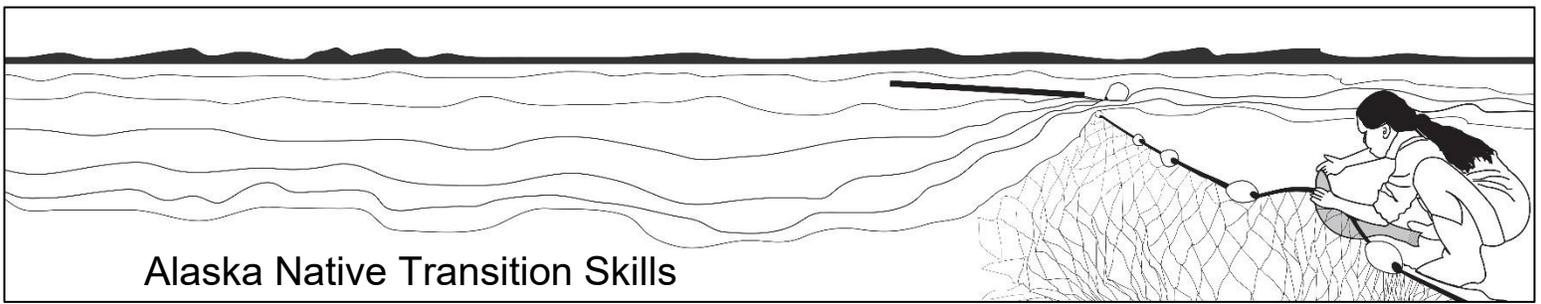


Sun Screen



Bug Repellent





Alaska Native Transition Skills

Be Prepared: Be Aware of the Weather

Overview

In this lesson, students will learn about predicting the weather and using traditional knowledge to predict the weather and how this information informs preparedness and timing of hunting and fishing activities.

Alaska Cultural Standards

- A1, A4, A6, B2, B4, C1, C3, D5, D6, E2, E4, E7, E8

Yup'ik Cultural Values

- Pissuryaraq ayanillerkaq yuilqumi elitnauraqluku “Teach and learn outdoor survival and hunting skills”
- Qigcikluku nunamta atullerkaa “Have respect for our land and its resources”

Learning Objectives

The student will be able to:

- Demonstrate or describe three ways of finding out what the weather is predicted to be and what it means for preparedness.
- Demonstrate or describe how traditional ways of knowing the weather (wind, animal behavior, observations of clouds, etc.) impacts timing of hunting, fishing, and gathering.
- (Advanced) Describe why water can be rough when the wind and water direction are opposite to each other, and what this means for preparedness.

Materials

- Handout: (Advanced) *Be Prepared: Wind and Weather*

Vocabulary

Weather	The environmental conditions day-to-day in an area.
Wind Direction	The direction the wind is blowing. If the wind is a “Southeast wind”, it means it is coming from the Southeast, and blowing toward the Northwest.
Tide Direction	When a tide is “coming in” it is coming in from the sea, from a low to high water level. When it is going out, it is going back out to sea, from a high to low water level.

Activities and Adaptations

- Begin by finding out what students already know about predicting the weather.
Prompting questions (with sample answers in italics):
 - Why is it important to predict weather? *When you go onto the land, it helps you be more prepared for a safe trip. Also, weather patterns tell us when conditions are better for hunting, fishing, and gathering.*
 - How do we predict the weather? *Computer apps; observation of wind, animal behavior, clouds; asking family or friends.*
 - How does the weather forecast change our decisions about what we need to take on trips on the land? *You know more what you need to be prepared, if it will rain, snow, be hot. Weather can impact visibility, and safety in a boat. Rough water increases the chances of challenges during fishing.*
- Discuss the following concepts:
 - The Yup'ik people have been predicting the weather and seasons from observing the animals, wind, sky, moon, sun, and waters for long before technology. As an activity, students can ask an Elder in their family or community how the Elder knows what is happening with the seasons or how the weather tells them when it is good to hunt or fish. Some questions to consider:
 - What do the animals tell us about the length of the seasons (e.g., how long or hard winter will be)?
 - What does the wind tell us about the weather? What does it tell us about when hunting or fishing will be good? What does it tell us about water conditions for fishing?
 - What do the clouds tell us about the weather and what is coming?
 - (Examples) Wind direction tells us when the fishing and hunting will be better. In Dillingham, a wind from the Southeast will bring fish. The incoming tide also brings fish. A north wind means cooler weather is coming, so you need to prepare for cooler temperatures if you are going on the land.
 - It is important to pay attention to the wind direction, and the direction of the tide. When the wind is going the opposite direction of the tide, the water will be rougher, especially in a strong wind at peak tide, when they are working against each other the most. (Advanced: See handout and discuss examples).
 - Have the students share cultural wisdom they learned from interviewing family members or Elders about observing and predicting the weather, and have them practice making observations and predictions using those ways.
 - Both technology forecasts and traditional knowledge about observing the weather are useful and important when going on the land.

- Guest speaker ideas:
 - Invite an Elder or culture bearer to share how they observe and predict the weather. Have the students prepare questions to ask them, such as those listed above.

Learning Stories

- Tell a story where the student is waiting to hear when they will need to go and help with the fish. They hear that a SE wind is predicted the next day. What does this tell them? Should they be ready to fish? *The SE wind brings fish, so they should be ready to help.*
- They wake up and look out and see clouds building in the sky. What does this mean? How can they find out? *They can ask a family member, they can look up the forecast on an app or computer.*
- How does what they learn impact what they choose to bring on the trip? *It will impact how they pack, what clothes they choose, and increase or decrease chances of a successful hunting or fishing trip.*

Evaluation

The students should be able to:

- Demonstrate or describe three ways of finding out what the weather is predicted to be and what it means for preparedness.
- Demonstrate or describe how traditional ways of knowing the weather (wind, animal behavior, observations of clouds, etc.) impacts timing of hunting, fishing, and gathering.
- (Advanced) Describe why water can be rough when the wind and water direction are opposite to each other, and what this means for preparedness.

Additional Resources

- *A Unit on Predicting Weather*
<http://www.ankn.uaf.edu/curriculum/units/PredictingWeather/PredictingWeather.pdf>
- *Indigenous Knowledge and Cultural Weather Perspectives* by J Wright
https://www.stf.sk.ca/wp-content/uploads/2015/10/s106_3.pdf

Be Prepared: Wind and Weather



If the wind is coming from the SE, and the tide is coming in, what can you predict the water conditions might be? Is it a good time to fish?



If the wind is coming from the SE, and the tide is going out, will it be rougher or smoother?



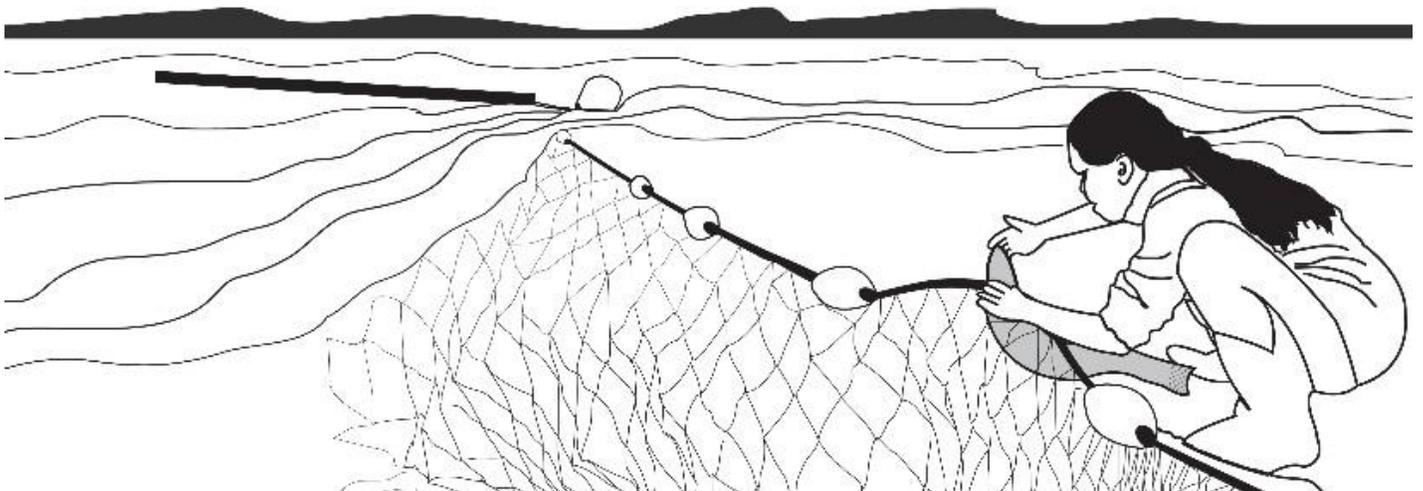
If you are fishing at the mouth of the Hood River (in the circled area) when the wind is blowing SE, and the tide is going out, what can you expect about how the water will be?

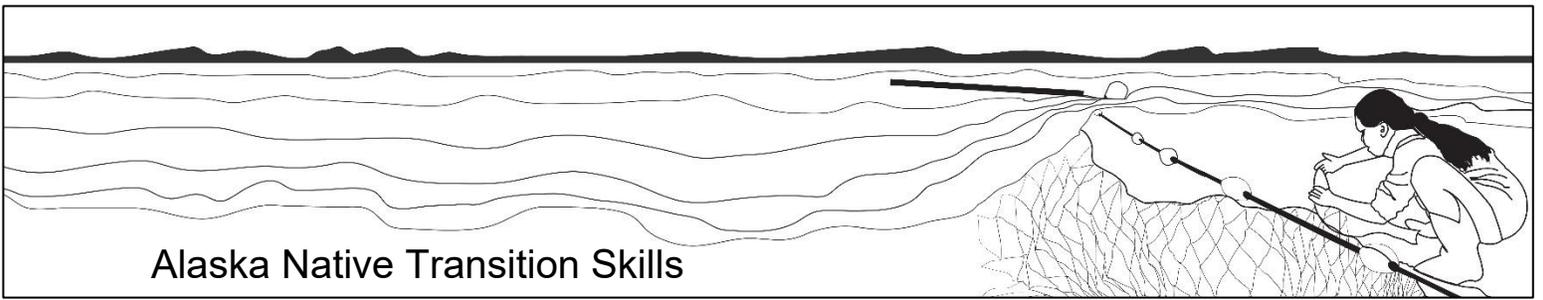
Alaska Native Transition Skills

Set Net Fishing

Unit Lessons—

- Respect for Salmon and Fish
- Tides 1: Basics of the Tide Cycle
- Tides 2: How to read a Tide Table
- Tides 3: Tides and Set Net Fishing
- Knots: Overhand knot
- Knots: Bowline
- Knots: 1/2 hitch
- Knots: Square
- Set Net Gear
- Safe Fish Handling





Alaska Native Transition Skills

Respect for Salmon and Fish

Overview

In this lesson, students will learn from a story about a Blackfish and the importance of treating salmon and other fish with respect.

Alaska Cultural Standards

- A1, A4, A6, B2, B4, C1, C3, D5, D6, E2, E8

Yup'ik Cultural Values

- Qigcikluku nunamta atullerkaa "Have respect for our land and its resources."

Learning Objectives

The student will be able to:

- Demonstrate understanding of the meaning of the story to respect salmon and use the fish well.

Materials

- *Respect the Fish Handout*

Vocabulary

Cache	A secure place where food is stored for later use.
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Activities and Adaptations

- Begin by reading the story by John Active, and discussing the questions.
- Create illustrations for the story.
- Write a version of the story featuring salmon and set netting, instead of blackfish.
- Ask if the students have heard stories from their family or Elders about the right way to care for and respect salmon.
- Invite an Elder or culture bearer in to share stories of the right ways to care for and respect salmon.

Evaluation

- Have the students define in their own words the lesson concepts.
 - What are ways people can show respect for salmon during the harvest and collecting food for the year?
 - Why is it important to show respect for salmon and other fish?

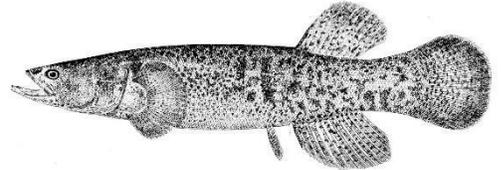
Additional Resources

- Blackfish story comes from an article by John Active (1998)
<https://www.culturalsurvival.org/publications/cultural-survival-quarterly/why-subsistence-matter-cultural-survival-yupik-point-view>

Respect the Fish

Read this story by John Active and think about how it relates to the salmon that come every year.

Once there was a little blackfish swimming up a stream. Every so often he would swim up to the surface and look around. The first time he had surfaced he saw a camp where people were living. The people there were very careless. Their camp was unkempt and their belongings were strewn around. He noticed that when the people ate, they ate very carelessly. Bits of whatever they were eating would drop from their hands or out of their mouths onto the ground as they talked.



The little blackfish heard much wailing and crying at this camp. Those cries were the weeping and wailing of the bits of food that had fallen to the ground. The dogs were given the leftover scraps of food and these dogs would also leave uneaten bone and bits of food around the ground. These bits of food and bones were also crying.

The little blackfish said to himself, "I'll not swim into this man's fish trap. He's too careless with his food. I don't want my bones stepped on underfoot." The blackfish swam on.

By and by little blackfish came to another camp and there he also saw people eating. These people also were very unkempt, and just as at the first camp, were dropping bits of food onto the ground and throwing their bones to the dogs who were leaving them strewn on the ground. There was much wailing and weeping coming from these bits of food too.

Little blackfish also noticed that the children were playing with their food, throwing bones at one another as in a game. He thought to himself, "I'll not swim into this man's fish trap. They are also too careless with their food. His children are playing with their food. I am not game to be played with."

Blackfish swam on and soon he came to another camp. The next camp seemed to be deserted. There were no dogs about or people. But again little blackfish heard much wailing and weeping. These cries were coming from the stores of many fish rotting in the fish cache. There were no cries coming from strewn about bones and bits of food on the ground, but the cries were just as horrendous coming from the caches.

Little blackfish said, "I'll not swim into this man's trap. He must be greedy For all those poor fish are crying and not being eaten. I don't want to be wasted. I'd rather be shared with others in need."

Soon blackfish came to another camp. He listened and there were no cries to be heard. A man, his wife, and two children lived there. Their father also had many dogs which were tied around the camp. Blackfish noticed there were no bones or bits of food lying about and when the family ate, they ate very quietly being careful not to drop bits of food on the ground. He also saw that they set the edible bones aside for the dogs and those bones which they knew the dogs would not eat went to a separate pile. When the family was done eating, their father took the leftovers for the dogs to them and placed them in their bowls. The other inedible were taken aside where people never walked and buried. There was no carelessness at their campground, indeed it was very quiet.

Little blackfish said to himself, "At last, a family which appreciates their food. They don't waste or leave bits of food or bones on the ground. They bury their inedible so there is no crying and wailing at this camp."

Blackfish was overjoyed. He swam about immediately looking for the man's fish trap and upon finding it, swam into it because he knew he would be eaten very carefully and his bones would not be strewn about on the ground.

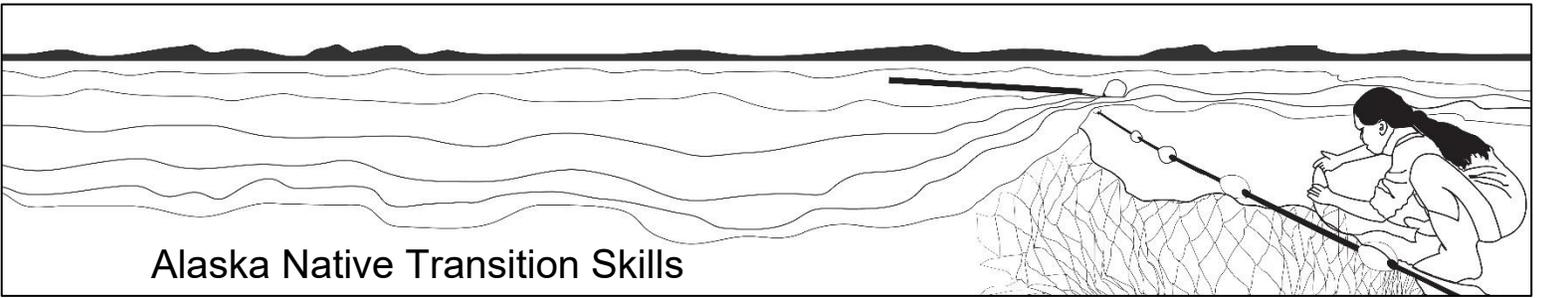
Questions for discussion:

Think about set netting for salmon. What would a salmon in a similar story look for in a family fish camp?

What are ways people can show respect for salmon during the harvest and collecting food for the year?

Story is from an article by John Active: <https://www.culturalsurvival.org/publications/cultural-survival-quarterly/why-subsistence-matter-cultural-survival-yupik-point-view>

Blackfish image is By H. L. Todd - Goode G. B. The Fisheries and Fishery Industries of the United States. Section I. Natural History of Usefull Aquatic Animals. – Washington: Government Printing Office, 1884. Plate 185. Reprint, Public Domain, <https://commons.wikimedia.org/w/index.php?curid=503915>



Alaska Native Transition Skills

Tides 1: Basics of the Tide Cycle

Overview

In this lesson, students will learn about tides and what causes tides.

Alaska Cultural Standards

- A1, A4, A6, B2, B4, C1, C3, D5, D6, E2, E4, E7, E8

Yup'ik Cultural Values

- Qigcikluku nunamta atullerkaa "Have respect for our land and its resources."

Learning Objectives

The student will be able to:

- Explain what causes the tides.
- Describe what high, low, and slack tides mean.
- Explain the timing of the tides.

Materials

- Computer to show NOAA animation of the tides
- Large deep flat pan, casserole dish, or plastic container filled ½ full of water.

Vocabulary

Tide	The regular rise and fall of the ocean waters as they are pulled by the moon moving around the earth. Tides are regular and predictable. High tides occur 12 hours and 25 minutes apart. It takes six hours and 12.5 minutes for the water at the shore to go from high to low, or from low to high.
High tide	When the tide is at its highest point, before it starts to go out again.
Low tide	When the tide is at its lowest point, before it starts to come in again.
Ebb tide	When a tide is going out.
Flood tide	When a tide is coming in.

Slack tide	The time in between an ebb and flood tide, when the water is still. It is about an hour long, a half hour on either side of the high or low tide. (Example: If high tide is at 12, the water would be fairly still between 11:30 and 12:30 as it slowed from coming in, and before it started going out.)
Current	The movement of water makes a current. In the middle of the ebb or flood tide (hours 3 and 4 out of the 6-hour process), the most water is moving and the current can be strong in the direction the tide is moving. If the tide is moving through a narrow point, it can be very strong. (Example, if low tide was at 6, and high tide was at 12:12, the current would be running the strongest between 8-10.)
Tidal range	The difference between the high tide and the low tide. This changes depending on how high or low the tide goes in a given cycle.
Tide table	Shows what time the tide is high and low in the place you live.

Activities and Adaptations

- Begin by finding out what students already know about the tides, and what questions they have. Prompting questions: What are tides? What causes the tides?
- Show the NOAA animation of the tides, with the water moving in and out. Teach the tide vocabulary associated with the animation: Ebb, Flood, Current, Tidal range, High, Low.
- Demonstration:
 - Use a deep pan or tub with about an inch to two inches of water in it. One end should be designated at the “land” side, and one side is the “deep ocean.”
 - Tip the water out to the “ocean” side, so that the land side is a little dry. This is the tide going out. Slowly tip the container toward the land side to show the tide coming in.
 - You can show how at first it is just a little bit of water moving and then more moves as the water comes to shore, and point out the level as the tide comes in moves up the land. You can talk about how the moving water is making a *current*. Tip it back and forth slowly, as you describe how the tide moves the water.
 - If desired, you can add the idea that the moon is pulling the water to the ocean, by placing something to represent the moon on the side of the container being tipped.
- Experience: Go with the students to the river when the tide is high and when it is low. Ask them what they observe. How do they know the tide is high/low? What does it look like?

Learning Stories

- Tell a story about the student(s) going to collect driftwood from a particular beach with good dry driftwood to use in the smokehouse.
 - Describe what you see there: The water line covers most of the beach, and there isn't as much room to walk. A place you want to go to collect driftwood for the smokehouse is blocked by water. How long do you need to wait for the water to go out? Why is the water blocking the way?
 - This time, you go to the shore, you can see many rocks, and they are covered with barnacles. There is a lot of room to walk on the beach. You can see lines where kelp and shells were left by the high tide. You easily walk to the area you wanted to collect driftwood for the smokehouse, and so you go. How long do you have to collect driftwood for the smokehouse before the tide comes back and blocks your way home (assuming you arrived at low tide, and the route is blocked an hour before high tide)?

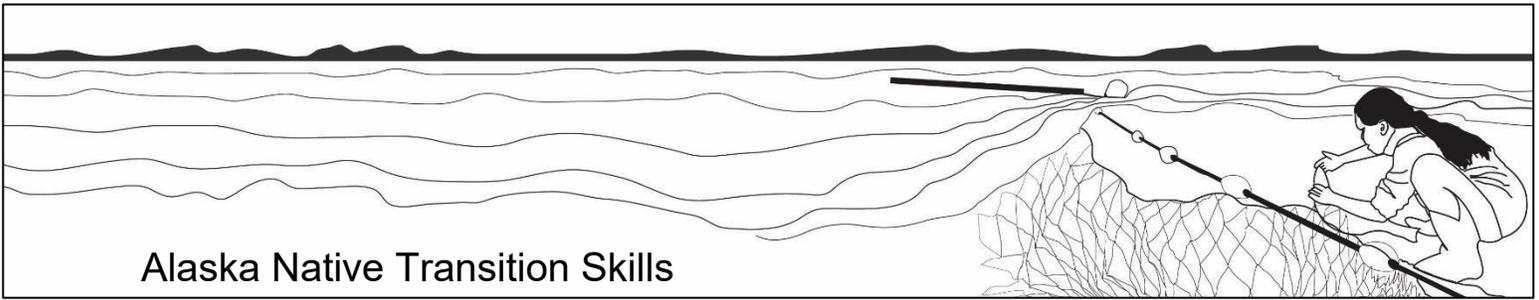
Evaluation

- Have the students define in their own words the lesson concepts and vocabulary:
 - What are tides?
 - Tides are the regular rise and fall of the ocean waters as they are pulled by the moon moving around the earth. Tides are regular and predictable. High tides occur 12 hours and 25 minutes apart. It takes six hours and 12.5 minutes for the water at the shore to go from high to low, or from low to high.
 - Tides are regular and predictable. High tides occur 12 hours and 25 minutes apart. It takes six hours and 12.5 minutes for the water at the shore to go from high to low, or from low to high.
 - Tides can be stronger or weaker, lower or higher (depending on the moon, and other factors).
 - Tides make strong current when a lot of water is moving, especially mid cycle between a high and low or low and high. Tide currents can be strong in entrances, inlets, and narrow straits.
 - You can find out when the tide will be high or low for where you live by using a tide book or chart.
 - What causes the tides?
 - Tides appear on coastlines as the regular rise and fall of the sea surface.
 - The gravitational pull of the moon as it moves around the earth is what causes the water to move in and out. The sun also plays a part in how high or low the tides go, but mostly it is because of the moon.

Additional Resources

- *Alaska Seas and Rivers Curriculum*, Standards based marine/aquatic science units for K-8.
https://education.alaska.gov/akstandards/science/Alaska_Science_Resources_for_Teachers.pdf
- NOAA Tide Animation:
https://oceanservice.noaa.gov/education/tutorial_tides/media/supp_tide01.html
- NOAA Web Tide Tutorial:
https://oceanservice.noaa.gov/education/tutorial_tides/tides01_intro.html or offline

All links accessed 8-2025



Alaska Native Transition Skills

Tides 2: How to Read a Tide Table

Overview

In this lesson, students will learn why it is important to know what the tides are doing when fishing or doing other activities near the water. Advanced students will learn how to read a tide table to know when high and low tide are in their location.

Alaska Cultural Standards

- A1, A4, A6, B2, B4, C1, C3, D5, D6, E2, E4, E7, E8

Yup'ik Cultural Values

- Qigcikluku nunamta atullerkaa "Have respect for our land and its resources."

Learning Objectives

The student will be able to:

- Use a tide table to find out when high and low tide are for their location.
- Use a tide table to know what the tide is doing at a given time.
- Explain the implications of the tide levels related to site access and not getting stuck.

Materials

- (Advanced) Tide table handout
- Current tide table (book or online)

Vocabulary

Tide	The regular rise and fall of the ocean waters as they are pulled by the moon moving around the earth. Tides are regular and predictable. High tides occur 12 hours and 25 minutes apart. It takes six hours and 12.5 minutes for the water at the shore to go from high to low, or from low to high.
High tide	When the tide is at its highest point, before it starts to go out again.
Low tide	When the tide is at its lowest point, before it starts to come in again.
Ebb tide	When a tide is going out.
Flood tide	When a tide is coming in.

Slack tide	The time in between an ebb and flood tide, when the water is still. It is about an hour long, a half hour on either side of the high or low tide. (Example: If high tide is at 12, the water would be fairly still between 11:30 and 12:30 as it slowed from coming in, and before it started going out.)
Negative tide	A low tide where the level is listed as a negative number (Example: -1.5 feet). These tides are lower than usual, which means areas that are normally safe to boat in may be too shallow.
Tide table	Shows what time the tide is high and low in the place you live.

Activities and Adaptations

- Basic Level: Students should understand what high and low tide are, and that the levels of high and low tides vary in relationship to the phase of the moon. There are two high tides, and two low tides, each day. They should know that the tides are predictable, and a tide table gives the specific information for each day, at a specific place.
- Advanced Level: Students can learn how to read a tide table:
 - Review the “How to Read a Tide Table” handout with students.
 - Get a copy of a local tide table, or find one online.
 - Look at the table for the current month and day.
 - Note the times of the high and low tides, and the level of the tides.
 - Now look to see what times the tide will be high three days from today.
 - Discuss that the levels of how high the high tide is, and how low the low tide varies. [The NOAA tides site](#) shows a picture version and a word version of the information for each day.

Learning Stories

- Tell a story about the student(s) needing to go and collect driftwood from a particular beach with good dry driftwood to use in the smokehouse three days from now.
- Basic level: To get to the site, you need to go when there is time to hike in, collect wood, and hike out, before the high tide comes in and traps you at the site until it goes out again.
- Advanced level: Determine the hours you could access a site based on reading a tide table. Assuming that you can only go there from two hours after high tide until an hour before the next high tide, look at the tide table for three days from now, and decide between what hours you could go, in daylight, and with the tide low enough to have at least an hour to collect wood.

Evaluation

- Have the students describe in their own words the lesson concepts and vocabulary:
 - For what kinds of activities is it important to know what the tide is doing? (Any activities near the water, such as fishing, beach access...)
 - Why does the level of the high tide vary? (It is related to the phase of the moon, and how close the moon is to the earth.)
 - Why is it important to know about low tides where the tide level is a negative tide? (For boaters, more care needs to be taken as areas that are normally deep enough to go to avoid rocks will be more shallow and could be a hazard.)
 - (Advanced) Ask the student to look at a tide table for a given time, to see when the high and low tides will be, and how high and low they will be.

Additional Resources

- Interactive tide table of Dillingham (Snag Point), shows phase of moon in relation to tides:
http://www.tidetablechart.com/tides/hightide_lowtide/42179/Nushagak%20Bay%20:%20Snag%20Point
- *Alaska Seas and Rivers Curriculum*, Standards based marine/aquatic science units for K-8.
https://education.alaska.gov/akstandards/science/Alaska_Science_Resources_for_Teachers.pdf
- NOAA Tide Animation:
https://oceanservice.noaa.gov/education/tutorial_tides/media/supp_tide01.html
- NOAA Web Tide Tutorial:
https://oceanservice.noaa.gov/education/tutorial_tides/tides01_intro.html or offline

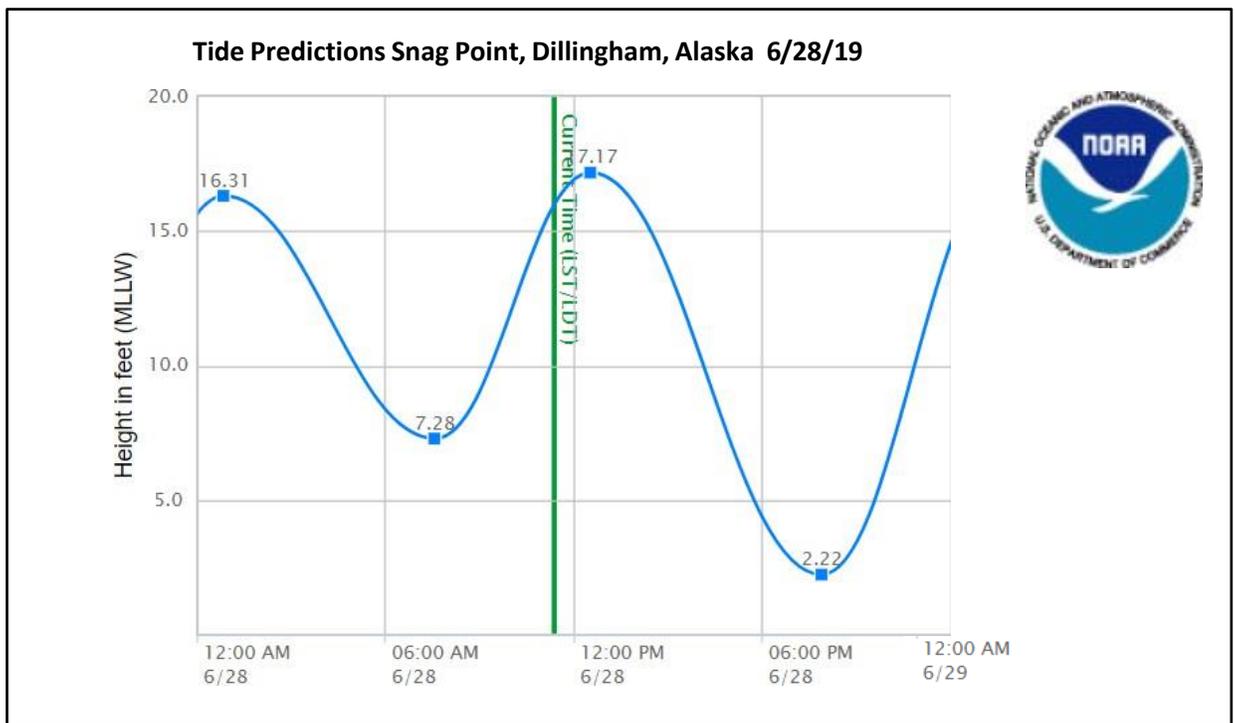
All links accessed 8-2025

How to Read a Tide Table

Every day, the tide goes in and out two times. It is about 6 hours between each high and low tide. Tide tables can look different, but always tell you for a specific day:

- The two times the tide will be at its highest
- The two times the tide will be at its lowest
- The level of the water at the high and low tides

Some tide tables use a picture:

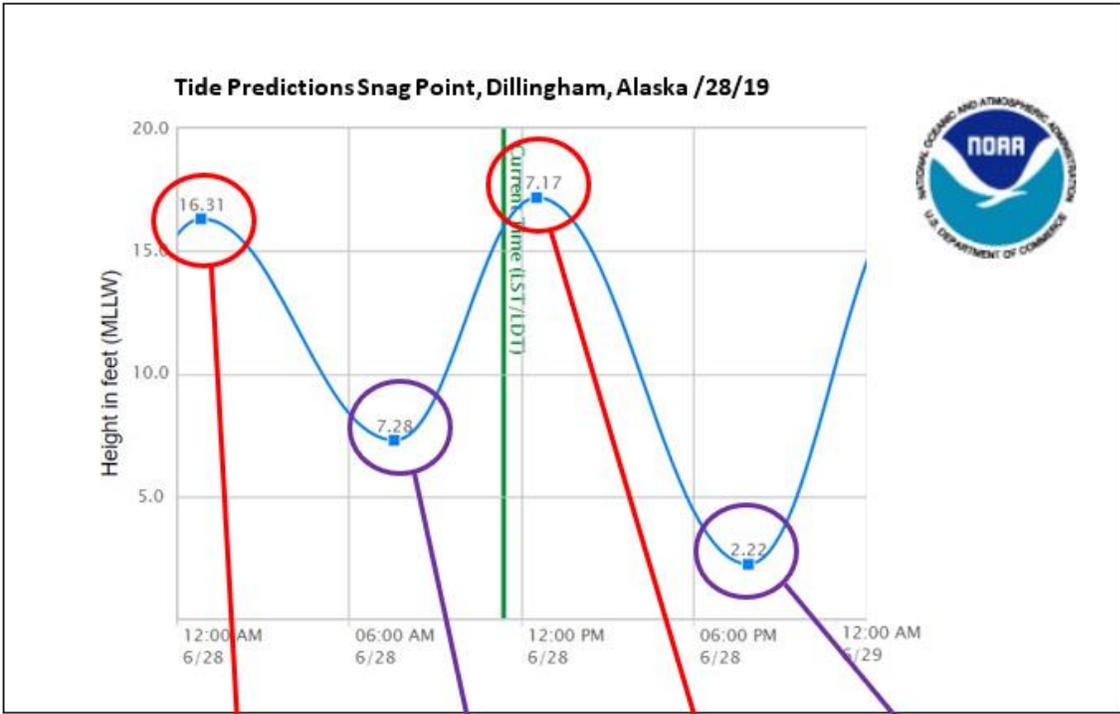


The picture shows the levels of the water, as the tide moves in and out. The number on the dot at the high and low points is the water level, in feet.

Some tide tables use only words:

Date	Day	Time	Hgt	Time	Hgt	Time	Hgt	Time	Hgt
2019/06/28	Fri	12:49 AM	16.31 H	07:33 AM	7.28 L	12:31 PM	17.17 H	7:52 PM	2.22 L

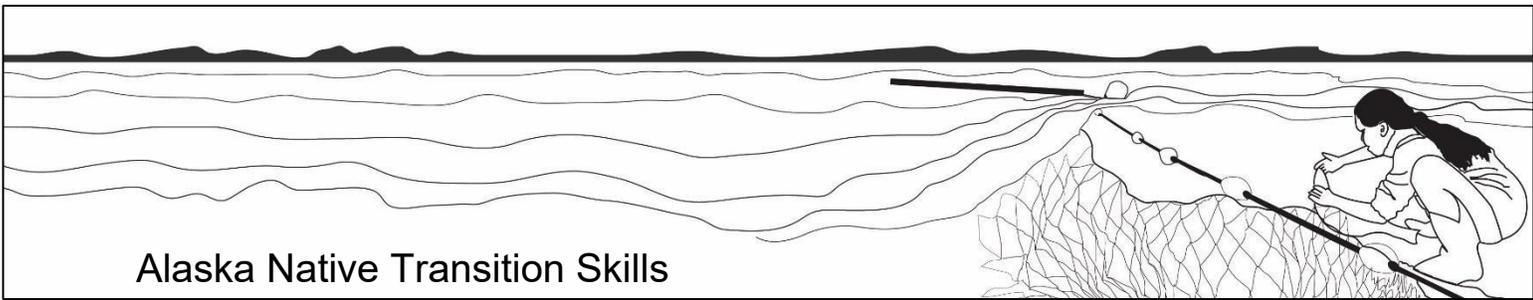
In this example for June 28, the high tide information is circled in red, the low tide information is circled in purple.



Date	Day	Time	Hgt	Time	Hgt	Time	Hgt	Time	Hgt
2019/06/28	Fri	12:49 AM	16.31 H	07:33 AM	7.28 L	12:31 PM	17.17 H	7:52 PM	2.22 L

Questions:

- What times are the high tides for this day?
- How high is the first high tide of the day?
- How low is the second low tide of the day?



Alaska Native Transition Skills

Tides Part 3: Tides and Set Net Fishing

Overview

In this lesson, students will learn about tides and how the tides determine when the nets are set and picked during fishing.

Alaska Cultural Standards

- A1, A4, A6, B2, B4, C1, C3, D5, D6, E2, E4, E7, E8

Yup'ik Cultural Values

- Qigcikluku nunamta atullerkaa "Have respect for our land and its resources."
- Pissuryaraq ayanillerkaq yuilqumi elitnauraqluku "Teach and learn outdoor survival and hunting skills"

Learning Objectives

The student will be able to:

- Describe what high and low tides mean.
- Explain the timing of the tides.
- Explain how the tides relate to the timing of picking fish so no fish is wasted.

Materials

- Handout *Know the Tide to Pick the Net*

Vocabulary

Tide	The regular rise and fall of the ocean waters as they are pulled by the moon moving around the earth. Tides are regular and predictable. High tides occur 12 hours and 25 minutes apart. It takes six hours and 12.5 minutes for the water at the shore to go from high to low, or from low to high.
High tide	When the tide is at its highest point, before it starts to go out again.
Low tide	When the tide is at its lowest point, before it starts to come in again.
Picking fish	Removing a fish from the net.

Activities and Adaptations

- Discuss the timing of the tides and why it is important to monitor and pick the nets on the outgoing tide.
- Use the “Know the Tide to Pick the Net” handout and learning story in discussion.
- Experience: Go with the students to a set net site and have them make observations. Is the tide coming in or out? How long until the tide goes out and someone will pick the fish?
- Discuss how being there to pick the fish on time is in line with cultural values.

Learning Stories

- Tell a story about the student(s) going to help their auntie pick the fish from her net. She wants the student to be there at a little after high tide. Reflect on what happens if the student is late. The tide will not wait!

Evaluation

- Have the students define in their own words the lesson concepts and vocabulary:
 - What does it mean to “pick fish?”
 - Why is it important to be on time to help pick fish?
 - What happens to fish caught in a net as the tide goes out, if no one is there to remove them?

Additional Resources

- Short video about set netting in Bristol Bay: <https://redsalmon.com/our-fish/>
Accessed 8-2025
- Bristol Bay Subsistence Fishing (Department of Fish and Game):
<https://www.adfg.alaska.gov/index.cfm?adfg=ByAreaSubsistenceBristolBay.main>

All links accessed 8-2025

Know the Tide to Pick the Net



Image by Robyn Chaney 2019

Every day, the tide goes in and out two times. It is about 6 hours between each high and low tide. When the tide comes in, the fish come in and can get caught in the net. As the tide goes out, people can pick the fish from the net near the edge of the water. In this picture, a girl picks a fish from a net, as the tide goes out.

The tides happen at specific times. The tide and time wait for no one.

If the water goes out, and no one is there to pick the fish from the net, the fish die out of the water and will spoil or be eaten by other animals. This does not show respect for the fish, and they are wasted.

Learning Story:

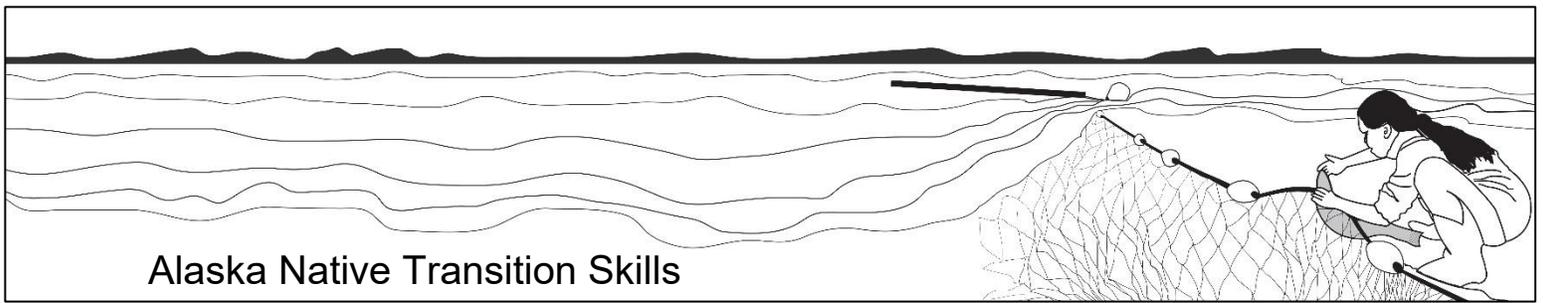
Your auntie needs help picking the net at her site. She asks you to be there a little after high tide so you can be ready to pick the fish as the tide goes out and you can get to the fish in the net.

What would happen if you arrived late, and most of the tide had gone out?

Being on time shows respect for your auntie, and the salmon. Handling the fish with respect means they will provide food for the family.



Image Credit:
<https://redoubtreporter.files.wordpress.com/2010/06/set-netfish.jpg>



Alaska Native Transition Skills

Important Knots to Know: The Overhand Knot

Overview

In this unit, students will learn four knots that are important to know in set net fishing. In this lesson, learn how to tie an overhand knot.

Alaska Cultural Standards

- A1, A4, A6, B2, B4, C1, C3, C4, D5, D6, E2

Yup'ik Cultural Values

- Pissuryaraq ayanillerkaq yuilqumi elitnauraqluku "Teach and learn outdoor survival and hunting skills."
- Ikayurtarluten yuullgutevnun "Be helpful to one another."

Learning Objectives

- Demonstrate understanding use of the overhand knot
- Explain the purpose and use of the knot
- Demonstrate how to tie the knot in a teaching video

Materials

- Knot instructions handout
- Line (rope) to practice with:
 - 3 foot length of ½ inch nylon rope with the ends taped with black tape/sealed

Vocabulary

Line	The ropes used in fishing are called <i>lines</i> .
------	---

Activities and Adaptations

- Explain the knot and what it is used for in set netting: In June, the king salmon start swimming back upriver. Everyone is excited to start catching them. One of the things we make with great big king salmon are king strips. The strips get cut from filets and tied together to hang on the wooden poles in the smoke house. Before we even start fishing, lots of sting loops need to be made to hang the strips on the wooden poles. You could help cut hanging twine and tie the ends together to make the string loop. The

overhand knot is a good knot to know. Both end of the hanging twine get tied in an overhand knot to make the loop. You'll get lots of practice with this basic knot if you make 50–100 loops!

- More about the overhand knot: This knot is used for things like tying shoes. It is also used to tie string around fishing web at the end of the season to keep it from tangling up while put away for the winter. It is a building block for many knots.
- Demonstrate the knot. Have students try each step of the knot, using the picture handout and or the video.
- Show them they can repeat the knot to make it more secure, to make a “granny’s knot”.
- In the late Spring, visit a set net site to see the knot being used. Have the students practice tying the knot in a real application.

Learning Stories

- Invite a guest who has a subsistence site on a local beach or who is a commercial setnet fisherman to come in and share a story about set-netting, and how they use knots in the unit to get fish.

Evaluation

- Once the student is able to tie the knot, have them make a short video teaching how to tie the knot, and explain or show what it is used for.

Additional Resources

- Knot instructions and uses: <http://www.101knots.com/half-knot.html>
- Half Knot/How to Tie a Half Knot (Video): https://www.youtube.com/watch?v=gSI_bQA1yaY

All links accessed 8-2025

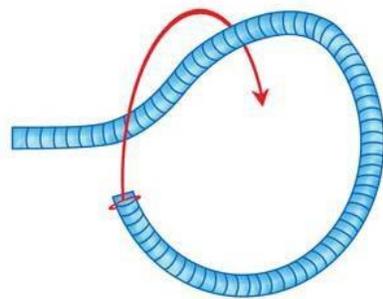
The Overhand Knot



Photos by Robyn Chaney

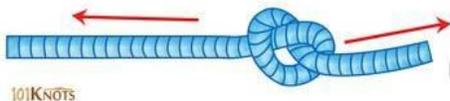
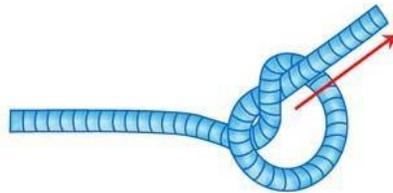
This knot is a simple way to tie things together. It is used to tie your shoes. It is a building block for many knots. It is used to tie loops for hanging king salmon to dry.

How to tie an overhand knot



1 Form a loop by passing the tag end over the standing part

2 Tuck it inside the loop and pull it out completely



3 Pull both ends to tighten

Image source: <http://www.101knots.com/overhand-knot.html>

Video example: <https://www.youtube.com/watch?v=CyLoZDq2uFo>



If you do the knot twice, it makes a little stronger knot, called a “Granny’s knot”.

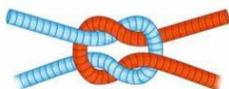
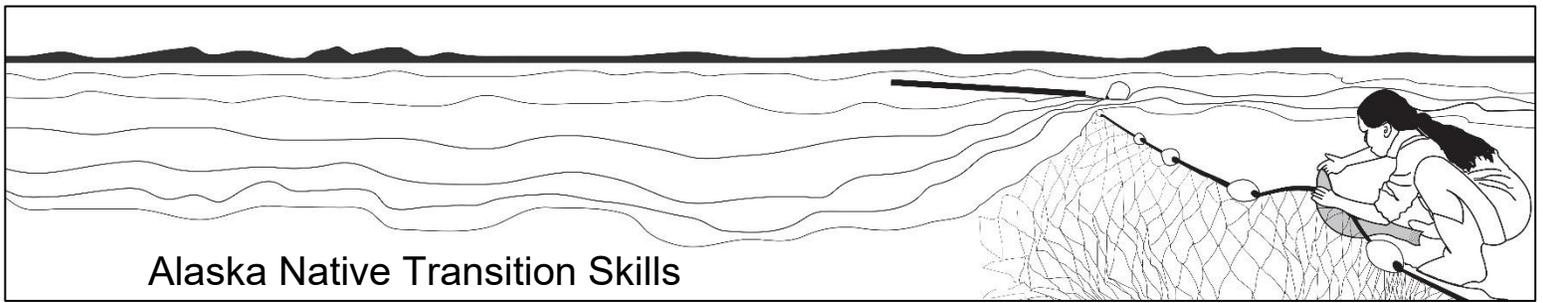


Image: <http://www.101knots.com/granny-knot.html>



Alaska Native Transition Skills

Important Knots to Know: The Bowline Knot

Overview

In this unit, students will learn four knots that are important to know in set net fishing. In this lesson, learn how to tie an bowline knot.

Alaska Cultural Standards

- A1, A4, A6, B2, B4, C1, C3, C4, D5, D6, E2

Yup'ik Cultural Values

- Pissuryaraq ayanillerkaq yuilqumi elitnauraqluku "Teach and learn outdoor survival and hunting skills."
- Ikayurtarluten yuullgutevnun "Be helpful to one another."

Learning Objectives

- Demonstrate understanding use of the half knot
- Explain the purpose and use of the knot
- Demonstrate how to tie the knot in a teaching video

Materials

- Knot instructions handout
- Line (rope) to practice with:
 - 3 foot length of ½ inch nylon rope with the ends taped with black tape/sealed

Vocabulary

Line	The ropes used in fishing are called <i>lines</i> .
------	---

Activities and Adaptations

- Explain the knot and what it is used for in set netting: When the fish start running, families are going to put out their nets at their sites. A bowline will need to be tied at each end of the net to connect it to the lines and spreader bars. A bowline will need to be tied on the buoy line to connect the buoy to the end of the net. Until you learn to tie the bowline, you can help by clipping the carabiners to all of the bowline loops and connecting the net to the lines and the buoy to the end of the net.
- Other things to know about a bowline knot: It is a good knot because it doesn't slip when being used. It is easy to tie and untie.

- Demonstrate the knot. Have students try each step of the knot, using the picture handout and or the video.
- In the late Spring, visit a set net site to see the knot being used. Have the students practice tying the knot in a real application.

Learning Stories

- Invite a guest has a subsistence site on a local beach or who is a commercial setnet fisherman to come in and share a story about set-netting, and how they use knots in the unit to get fish.

Evaluation

- Once the student is able to tie the knot, have them make a short video teaching how to tie the knot, and explain or show what it is used for.

Additional Resources

- Knot instructions and uses: <http://www.101knots.com/bowline-knot.html>
- How to Tie the Most Useful Knot in the World (Bowline) (Video): <https://youtu.be/Q9NqGd7464U>

All links accessed 8-2025

The Bowline Knot

You can use it to tie buoys to nets, and nets to carabiners. It is a good knot because it doesn't slip when being used. It is easy to tie and untie.



Photo by Robyn Chaney

How to tie a bowline knot

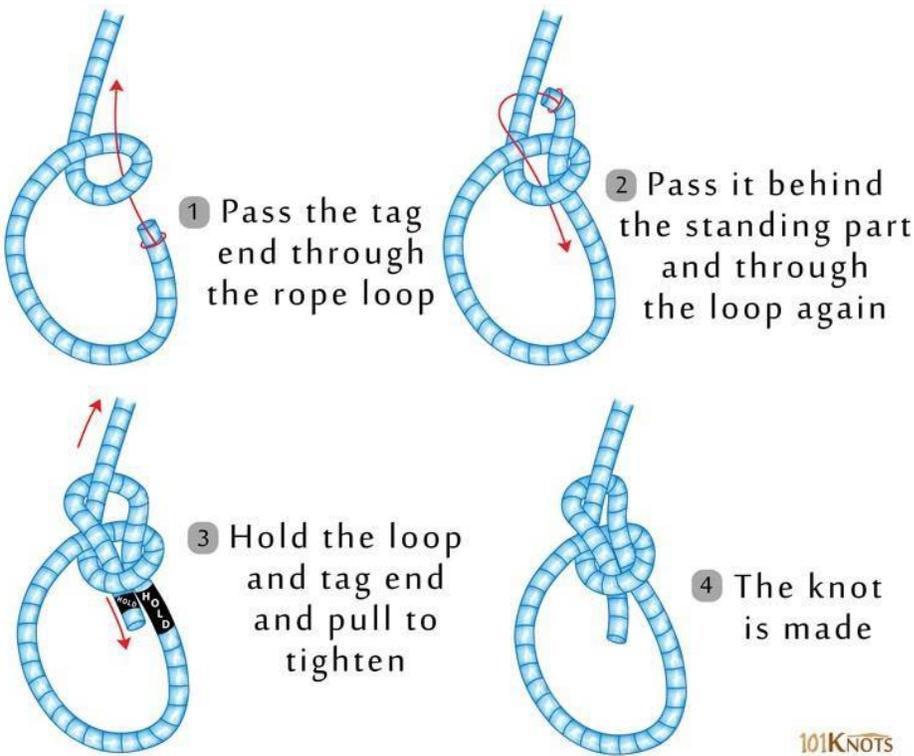
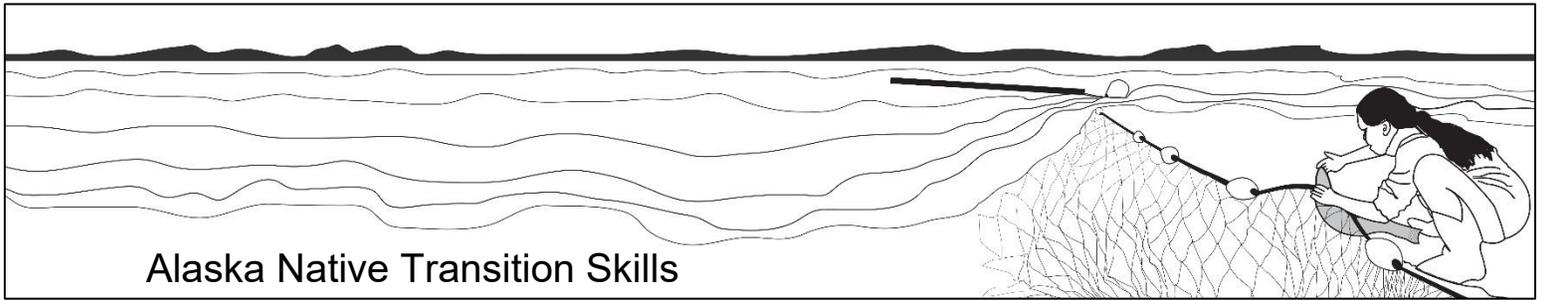


Image source: <http://www.101knots.com/bowline-knot.html>

Video example: <https://youtu.be/Q9NqGd7464U>





Alaska Native Transition Skills

Important Knots to Know: The Half Hitch Knot

Overview

In this unit, students will learn four knots that are important to know in set net fishing. In this lesson, learn how to tie an half hitch knot.

Alaska Cultural Standards

- A1, A4, A6, B2, B4, C1, C3, C4, D5, D6, E2

Yup'ik Cultural Values

- Pissuryaraq ayanillerkaq yuilqumi elitnauraqluku "Teach and learn outdoor survival and hunting skills."
- Ikayurtarluten yuullgutevnun "Be helpful to one another."

Learning Objectives

- Demonstrate understanding use of the half hitch knot
- Explain the purpose and use of the knot
- Demonstrate how to tie the knot in a teaching video

Materials

- Knot instructions handout
- Line (rope) to practice with:
 - 3 foot length of ½ inch nylon rope with the ends taped with black tape/sealed

Vocabulary

Line	The ropes used in fishing are called <i>lines</i> .
Peg or Post	A piece of wood or metal sticking out of the beach that you can tie your lines to.

Activities and Adaptations

- Explain the knot and what it is used for in set netting: Example: “The net will need to be fasted to the site pegs or posts so it doesn’t drift away. The line will need to be pulled tight and you will use a half hitch to tie the line to the peg or post. Use a few half hitches so it doesn’t slip and let line out when the tide comes in.”
- Demonstrate the knot.
- In the late Spring, visit a set net site to see the knot being used. Have the students practice tying the knot in a real application.

Learning Stories

- Invite a guest has a subsistence site on a local beach or who is a commercial setnet fisherman to come in and share a story about set-netting, and how they use knots in the unit to get fish.

Evaluation

- Once the student is able to tie the knot, have them make a short video teaching how to tie the knot, and explain or show what it is used for.

Additional Resources

- Knot instructions and uses: <http://www.101knots.com/half-hitch.html> and a double half hitch (which is stronger) at <http://www.101knots.com/two-half-hitches.html>
- How to Tie a Half Hitch Knot (Step-By-Step Tutorial) (Video): <https://www.youtube.com/watch?v=8ewvDw9iDh8>

All links accessed 8-2025

The Half Hitch Knot

The net will need to be tied to the site pegs or posts so it doesn't drift away. You can use a half hitch to tie the line to the peg or post. Use a few half hitches so it doesn't slip and let line out when the tide comes in, and pull it tight.



How to tie a half hitch knot. Tie a second or third to make it more secure.

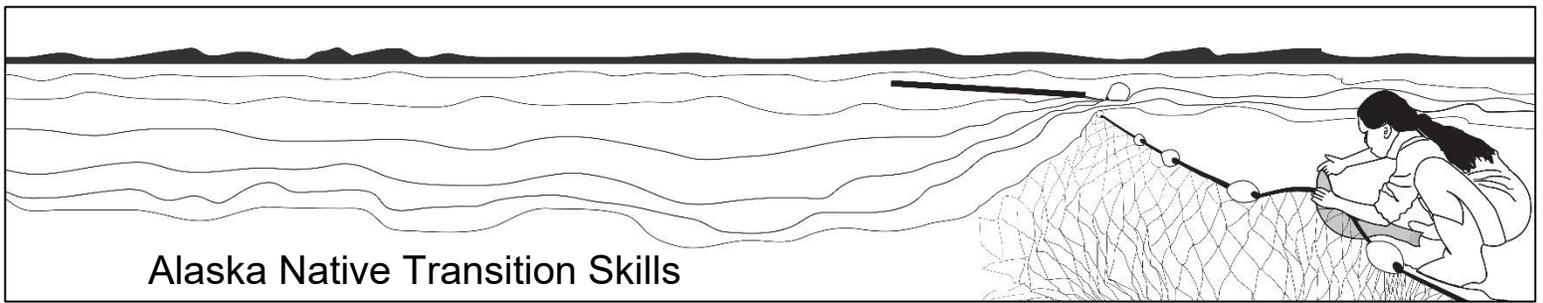
- 1 Wrap the rope around a support
- 2 Pass the end through the loop
- 3 Wrap it around the standing part
- 4 Tighten to complete

101KNOTS

Image source: <http://www.101knots.com/two-half-hitches.html>

Video example: <https://www.youtube.com/watch?v=8ewvDw9iDh8>





Alaska Native Transition Skills

Important Knots to Know: The Square Knot

Overview

In this unit, students will learn four knots that are important to know in set net fishing. In this lesson, students learn how to tie a square knot.

Alaska Cultural Standards

- A1, A4, A6, B2, B4, C1, C3, C4, D5, D6, E2

Yup'ik Cultural Values

- Pissuryaraq ayanillerkaq yuilqumi elitnauraqluku "Teach and learn outdoor survival and hunting skills."
- Ikayurtarluten yuullgutevnun "Be helpful to one another."

Learning Objectives

- Demonstrate understanding use of the square knot
- Explain the purpose and use of the knot
- Demonstrate how to tie the knot in a teaching video

Materials

- Knot instructions handout
- Line (rope) to practice with:
 - 3 foot length of ½ inch nylon rope with the ends taped with colored tape, each end a different color. Preferably red and blue so it matches the handout.

Vocabulary

Line	The ropes used in fishing are called <i>lines</i> .
------	---

Activities and Adaptations

- Explain the knot and what it is used for in set netting: Example, "This is a good knot to use to tie two ropes of the same size together, or to tie things together like when you tie up the nets with string at the end of fishing season to store them. It is not a very strong knot, so do not use this one if it needs to bear a heavy load. This knot is stronger than using an overhand knot or a granny's knot."

- Demonstrate the knot. You can remember how to tie this by saying “Right over left, then left over right” (as in video). Have students try each step of the knot, using the picture handout and or the video.
- Note about the video: The language level is high, especially in the beginning, but he does a good job showing what you are looking for in the finished knot.
- In the late Spring, visit a set net site to see the knot being used. Have the students practice tying the knot in a real application.

Learning Stories

- Invite a guest has a subsistence site on a local beach or who is a commercial setnet fisherman to come in and share a story about set-netting, and how they use knots in the unit to get fish.

Evaluation

- Once the student is able to tie the knot, have them make a short video teaching how to tie the knot, and explain or show what it is used for.

Additional Resources

- Knot instructions and uses: <http://www.101knots.com/square-reef-knot.html>
- How to Tie the Square Knot (Video): https://www.youtube.com/watch?time_continue=112&v=LOAxIQk8wj8

All links accessed 8-2025

The Square Knot

This is a good knot to use to tie two ropes of the same size together, or to tie things together like when you tie up the nets with string at the end of fishing season to store them. It is not a very strong knot, so do not use this one if it needs to bear a heavy load.



Photo by Robyn Chaney

How to tie a square knot

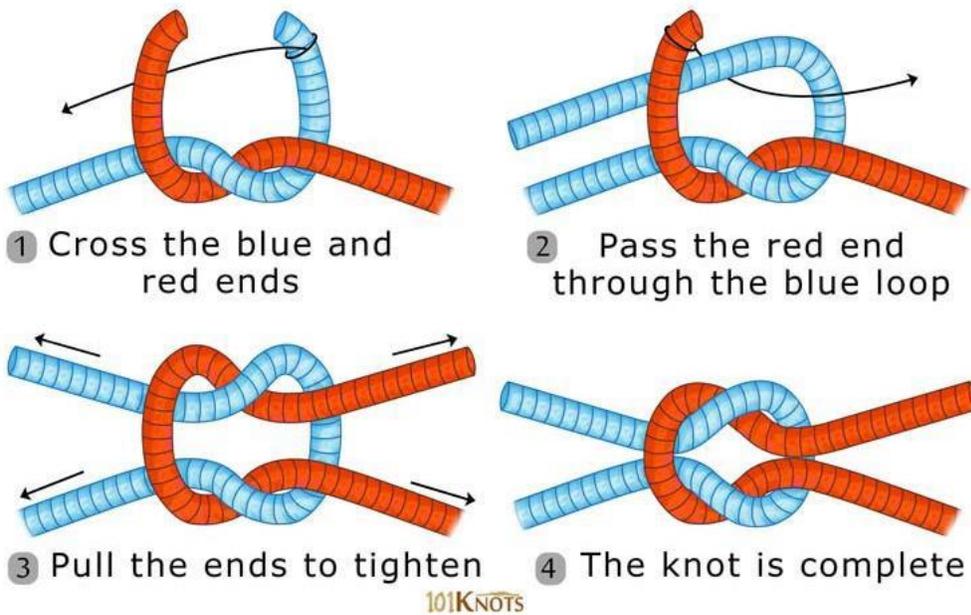
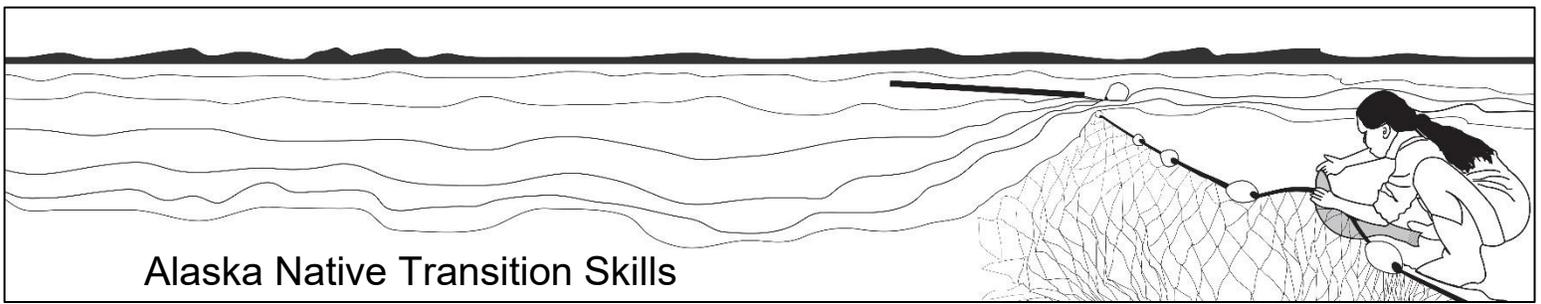


Image: <http://www.101knots.com/square-reef-knot.html>

Tip: Remember how to tie the square knot by first tying **right over left, then left over right**. If it looks different than step 4, above, you may have tied a granny's knot instead, which is not as strong as a square knot.

Video example: https://www.youtube.com/watch?time_continue=112&v=LOAxIQk8wj8





Alaska Native Transition Skills

Set Net Gear

Overview

In this lesson, students will learn about the gear used in set netting.

Alaska Cultural Standards

- A1, A4, A6, B2, B4, C1, C3, C4, D5, D6, E2

Yup'ik Cultural Values

- Pissuryaraq ayanillerkaq yuilqumi elitnauraqluku "Teach and learn outdoor survival and hunting skills"
- Ikayurtarluten yuullgutevnun "Be helpful to one another"
- Ilaten-llu angussaagucimaluki kesianek caiturcetevenaki "Provide for and take good care of your family"

Learning Objectives

The student will be able to:

- Name the gear used in set-netting from pictures or actual examples.
- Define the use of the gear used in set netting.

Materials

- Handout: Gear for Set Netting
- Examples of actual set net gear, if available, or a smaller model of the gear.

Vocabulary

Post/Peg	Peg or Post: A piece of wood or metal sticking out of the beach that you can tie your lines to.
Net	The part of the fishing gear that actually catches the fish. A set net includes a cork line, cork, lead line, and web.
Corks	The floating balls strung on the cork line that keep the top of the net at the surface of the water, and help people see where the net is.
Cork line	The line (rope) that runs through the corks.
Lead line	The line at the bottom that is weighted to keep the bottom of the net hanging down in the water.

Web	The netting made from fishing line (monofilament) that catches the fish. The webbing is stitched along the cork line and hangs between the cork line and the lead line. Small fish can swim through it, too big of fish can break a hole through it, but the right size fish get caught by their gills in the webbing.
Spacer bar/ Spreader bar	A beam, usually made of wood, that keeps the net spread apart so it hangs correctly in the water, and catches more fish.
Carabiner	An oval or D-shaped metal ring with one spring hinged side. Used to connect the net to the spacer bar.
Anchor	A weight that helps keep the river side of the set net attached, or that the pulley line attaches to on the river end of the net.
Line	The ropes used in fishing are called <i>lines</i> .
Buoy	A floating ball that marks the end of the net.
Pulley Block	Many families use a pulley system with their nets. In this kind of system, a line runs from one end of the net through pulleys and a pulley block mounted to the anchor to the other end of the net. The gear moves in and out of the water on the line. This video shows this kind of set-up.

Activities and Adaptations

- Begin by finding out what students already know about set net gear:
 - How do people use a set net to catch fish? *People put a net out into the water, where one end is tied to a post on the beach, and one end is tied to a post in the water. When the tides and wind bring in the fish, they get caught in the net. As the tide goes out, people pick the fish from the net.*
- Go over the gear names and purpose using the “Gear for Set Netting” handout.

Note: There are different methods of set netting.

 - Many use a pulley system (similar to what is [shown in this video](#) “How to Set a Beach Set Net”). Nets are pulled in with the pulley and picked from the beach.
 - Some nets are stationary, and picked as the tide goes out and reveals the fish.
 - Some families may use a skiff to pick the net, but most traditional subsistence fishing does not use a skiff.
- Show a video about set netting, and stop the video to ask about what people are doing, or what the gear being shown is called.
- Relate the knots they have learned to the gear, especially the bowline (used to connect the net to a carabiner) and the half hitch knots (used to tie the net to the post/peg on the beach).
- Guest speaker ideas:
 - Have someone who does subsistence set netting come in to talk about the gear they use, and how they care for their gear.

- Invite a culture bearer or Elder to come in to share about how fishing has changed over time. How long have the Yup'ik people used set nets? Does the gear used today look the same as in the past? (Examples: when all the gear was made by hand from local materials, what was used? Before Styrofoam, what were the corks made of? What was the line made of?) How has commercial fishing changed what fishing looks like in the local community?

Learning Stories

- Tell a story about the student(s) preparing to fish for the day. How do they get the gear ready? What gear do they need to have? What knots will they need to know to get the gear in the water?

Evaluation

- Students should be able to verbally or in writing name the gear listed in the vocabulary section from pictures on the handout or a small model of the gear.

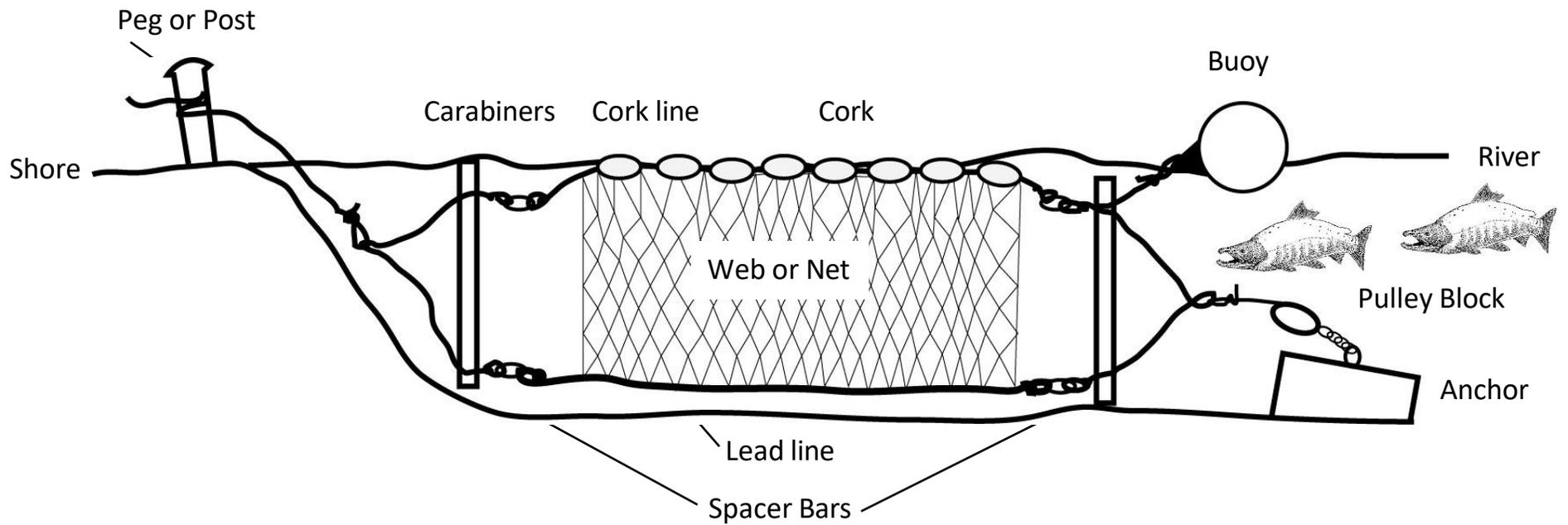
Additional Resources

- *How to Set a Beach Set Net*: This video shows a commercial operation using a pulley, but is very detailed in how it is set up. Great shots of people picking fish and handling the gear. <https://www.youtube.com/watch?v=dyfFu93zv0c>
- *Set-net Fishing, West Cook Inlet, Alaska*: Shows a family picking the net from a skiff: https://www.youtube.com/watch?v=Ol1Wt6jl_bQ
- *Fishing with Bottom Gillnets*: This site has some good illustrations of gear, though it is not Alaska specific. Some of the gear shown and the terms used are for other countries, but it is an interesting guide, with some clear illustrations of how this kind of fishing is used around the world. <http://www.fao.org/3/X6935E/X6935E00.htm>
- *Jobs in Alaska Fisheries*: This site has information about jobs in the Alaska Fishery, and an interview of a college student who does commercial fishing in the summers. Fishing can be a good way to make a bigger amount of money in a short amount of time, but it is hard work. <https://www.alaskajobfinder.com/jobseekers/experts/setnet-jobs/>

All links accessed 8-2025

Gear for Set Net Fishing

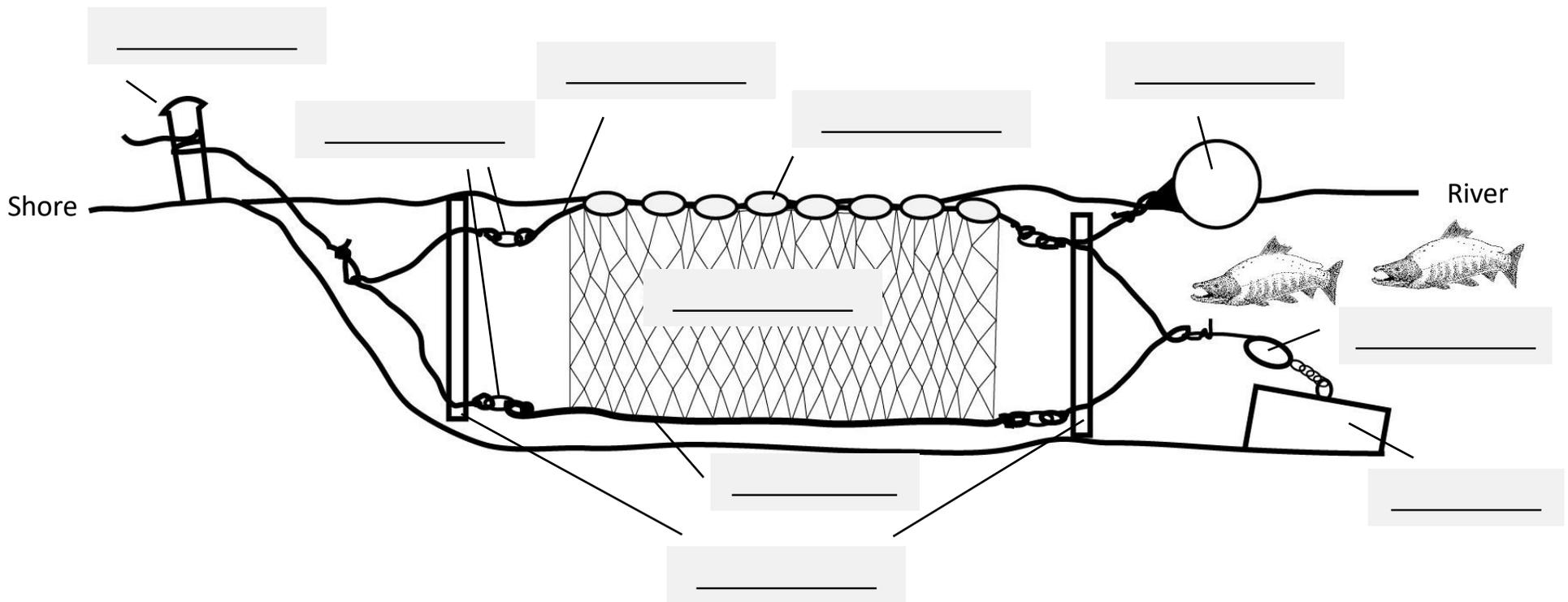
When you go to help with getting fish, it is important to know the names of the gear you will use.

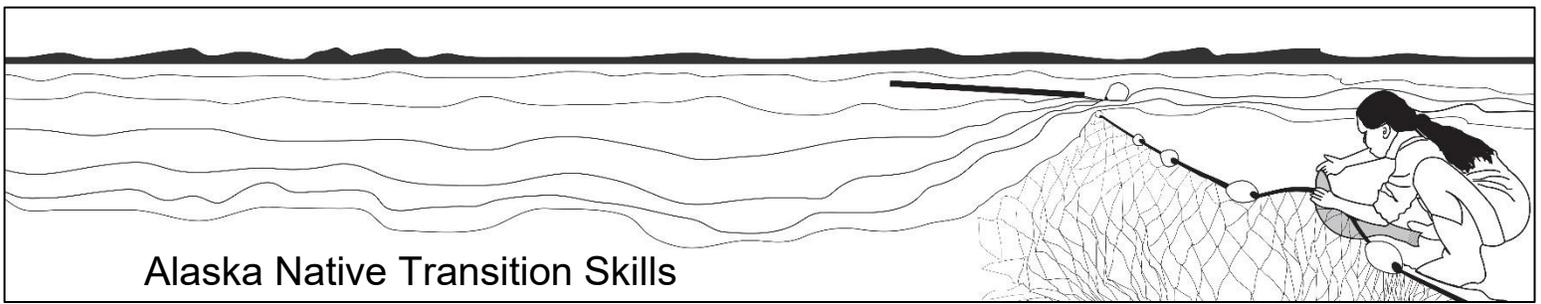


Gear for Set Net Fishing

When you go to help with getting fish, it is important to know the names of the gear you will use.
 Fill in the names of all of the gear on the blank lines.

- | | | | | |
|-------------|------|------------|--------------|---------------|
| Peg or Post | Cork | Web or Net | Pulley Block | Carabiners |
| Lead Line | Buoy | Anchor | Cork Line | Spreader Bars |





Alaska Native Transition Skills

Safe Fish Handling

Overview

In this lesson, students will learn about respecting salmon through proper fish handling, and how to care for salmon to preserve the best quality meat for sustaining the family and the community.

Alaska Cultural Standards

- A1, A4, A6, B2, B4, C1, C3, C4, D5, D6, E2, E7, E8

Yup'ik Cultural Values

- Pissuryaraq ayanillerkaq yuilqumi elitnauraqluku "Teach and learn outdoor survival and hunting skills"
- Qigcikluku nunamta atullerkaa "Have respect for our land and its resources"
- Ikayurtarluten yuullgutevnun "Be helpful to one another"

Learning Objectives

The student will be able to:

- Describe how to remove fish from a set net in a way that doesn't damage the fish.
- Explain how to handle a fish with respect by holding it by the gill plate.
- Explain four ways to care for the meat to ensure good quality: Pick fish often. Keep it clean. Handle the fish with respect. Keep it cold.

Materials

- Handout: *How to Care for Salmon*

Vocabulary

Salmon	<p>All five species (types) of Pacific salmon are in Bristol Bay, though the Dillingham has the biggest Red Salmon fishery in the world.</p> <ul style="list-style-type: none"> • Sockeye Salmon (also called "Red") • King Salmon (also called "Chinook") • Chum Salmon (also called "Dog") • Pink Salmon (also called "Humpy") • Coho Salmon (also called "Silver")
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Gill and Gill Plate	On either side of the head, there is a gill plate that can be opened to see the gills inside. The gills are rows of red fanlike structures. This is how the fish breathes under water. Fish force water through their gills, where it flows past lots of tiny blood vessels. The gills take oxygen out of the water and release carbon dioxide into the water the same way human lungs do in the air. The gill area is also the place that you can easily carry a fish to show respect and not damage the meat.
Web	The thin line that is part of a net that catches the fish is called the web. The fish's gills get caught in the web.
Gill Net	The type of net used in set netting is called a gill net, because it catches the fish by the gills. If it is too small, it will swim through. If it is too big, it will break the net. The fish that are the right kind of fish get stuck in the net, and have to be "picked" out. Studies in Alaska have shown that salmon gill nets are good at catching salmon, and don't catch a lot of unintended fish. In other places, gill nets can be controversial because unintended species are often caught.

Activities and Adaptations

- Begin by finding out what students already know about handling salmon. Prompting questions (with sample answers in italics):
 - Have you helped pick a fish from a net? How did you do it? Have you seen someone pick a fish from a net? What did you notice about it?
 - What is the best way to pick up a fish? (See description below)
 - What are good ways to preserve a salmon for eating later? *Canning, drying, smoking, vacuum packing...*
 - What happens if a salmon isn't treated with respect as it is caught and processed? *The meat can be damaged and it won't taste as good, it can get germs (bacteria) that are bad for the meat and for people eating the meat.*
 - What is your favorite way to eat salmon? Fresh? Canned? Smoked?
- Discuss the following concepts:
 - **Describe how to remove fish from a set net in a way that doesn't damage the fish.** A gill net catches the fish when it swims through the net. If it is too small, it will swim through. If it is too big, it will break the net. The fish that are the right kind of fish get stuck in the net, and have to be "picked" out.
 - Clear the web from the gills and "pop" the fish out.

OR

If the fish is small, pull the fish all the way through the web.

- **Explain how to handle a fish with respect by holding it by the gills.**



(Screenshots from “How to Pick a Salmon Out of a Gillnet”)

The best way to pick up or carry a fish, is by the gills: You can slip your fingers under the gill plate and up into the mouth, or you can also wrap your fingers around the back of the head, putting a thumb into the top of one gill area and a finger on the other side into the top of the gill area. This allows you to have a secure hold on the fish, and doesn’t damage the meat.

- **Explain four ways to care for the fish to ensure good quality:** Pick fish often; Keep it clean; Handle the fish with respect; and Keep it cold (use handout).
- Guest speaker ideas:
 - Invite a community member who has a fishing site to come and describe how they process fish. Have the students prepare questions such as:
 - How do you pick the fish from the net?
 - How do you carry the fish?
 - How do you keep your fish processing areas clean?
 - What do you do after you bleed the fish?
 - How to you preserve your fish? What is your favorite way to eat it?
 - If possible (based on time of year), have the guest bring in a whole salmon to show how to carry it by the gill plate (either around the back of the head, or up into the mouth) and let the students practice holding it properly. You can talk about the fish’s anatomy and how the fish is filleted/processed for drying or canning.
 - If possible, share preserved salmon (smoked or canned) with the guest and student(s), and talk about the importance the salmon has to feeding members of the community and sustaining life in the region.

Learning Stories

- Tell a story where the student is helping pick a net. How will they treat the fish with respect? How will they carry it? How will they remove it from the net?

Evaluation

The students should be able to:

- Describe how to remove fish from a set net in a way that doesn't damage the fish.
- Explain how to handle a fish with respect by holding it by the gill plate.
- Explain four ways to care for the meat to ensure good quality: Pick fish often. Keep it clean. Handle the fish with respect. Keep it cold.

Additional Resources

- *Caring for Your Catch* by Alaska Fish and Game:
https://www.adfg.alaska.gov/index.cfm?adfg=wildlifeneews.view_article&articles_id=777
- *UAF Extension has information on how to can and smoke fish, though their methods differ from traditional ways of doing this.* <http://cespubs.uaf.edu/>
- Beautiful Guide that goes over identifying the 5 types of salmon, and explains the life cycle of salmon:
<https://www.adfg.alaska.gov/static/fishing/PDFs/sport/AKSalmonFishingGuide.pdf>
- *How to Pick Salmon Out of a Gillnet* (YouTube): This video shows the best way to hold and pick a salmon from a gillnet, but if you show it to students you need to address the ways in which the fish are not treated with respect in the video. A frustrated child who can't pick up a fish is shown kicking it, and the adults throw the fish pretty hard on the ground, and the modeling of what not to do by pulling it through the net when it is too big would have severely damaged the meat, which is not showing respect, and ruins the quality. Also, use of the net pick and fish hold are also different than what a family would do on a beach. <https://www.youtube.com/watch?v=xkLVKZhWhgU>

All links accessed 8-2025

How to Care for Salmon



When you help preserve salmon for your family to use for the year, it is important to treat the salmon with respect. When you take care of the salmon you catch, it will be better quality for you and your family to eat. It will show you respect our land and its resources.

Pick fish often.

Pick fish from the net as often as possible and as soon as possible after they are caught. Don't leave nets to go dry. When nets and fish go dry on the beach, seagulls and eagles eat them and the meat can start going bad.

Keep it clean.

Wash fish that have gone dry or gotten muddy right away. Put fish in a container to keep them clean.

Handle the fish with respect.

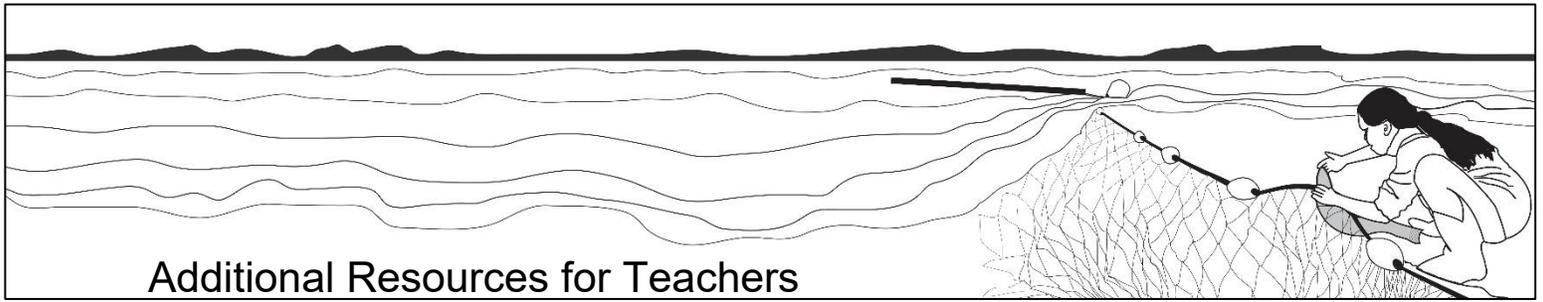
Hold and carry the fish by the head. Handle fish gently. Do not throw them, or carry them by the tail. If you are rough, or don't carry it by the head, it will bruise the meat, which makes it hard to preserve and eat.

Keep it cold.

Keep clean fish cool in cold-water or ice water until ready to process.

Another way to improve the quality of the meat is to **bleed the fish**. As soon as the fish is stunned, break a gill with your finger, and place the fish in water to get the most blood from the fish. Less blood in the meat makes it taste better, and improves the quality and taste.

Image credit: <https://craigmedred.news/2018/08/05/salmon-accounting/>



Additional Resources for Teachers

These were resources we found as we developed the curriculum that may be helpful. These links were accessed 8-2025.

Tips for Non-Alaska Native Teachers who want to invite an Elder in. See page 6 of this lesson:

<http://www.ankn.uaf.edu/curriculum/units/PredictingWeather/PredictingWeather.pdf>

Alaska Native Knowledge Network: More curriculum and other resources related to Alaska Native ways of knowing. <http://www.ankn.uaf.edu/>

Outdoor Survival Training for Alaska's Youth: Student Manual by Dolly Garza, Free PDF download available from the Alaska Seagrant Bookstore at:

<https://seagrant.uaf.edu/bookstore/pubs/SG-ED-17.html>

Handbook for Culturally Responsive Science Curriculum by Sidney Stephans available at

<http://ankn.uaf.edu/publications/handbook/>

Appendix 1: The Rules and Regs of Transition and the IEP

Secondary *transition services* are defined under Alaska regulation [4 AAC 52.145\(a\)](#) as “...a coordinated set of activities, designed within an outcome-oriented process, that promotes movement from school to post-school activities.” Additionally, [AS 14.30.278\(b\)](#) states (bold added for emphasis), “...a school district’s **primary objective and preferred outcome** is to help the child become **gainfully employed** in an integrated workplace where individuals with disabilities work with and alongside of individuals without disabilities, or become enrolled in postsecondary education.” (Alaska SPED Guidance, 2017).

Transition goals must be identified in the IEP and be in effect when the child turns 16 (or sooner if the IEP team decides). The goals are to be detailed, and based on age appropriate transition assessments ([34 CFR 300.320\(a\)\(7\)\(b\)](#)). (Alaska SPED Guidance, 2017).

Appropriate **postsecondary goals** are outlined by Alaska regulation [4 AAC 52.145](#) (and federal regulation [34 CFR § 300.43\(a\)](#)); they include “...postsecondary education, vocational training, integrated employment such as supported employment, continuing and adult education, adult services, independent living, or community participation[.]” It is required that the IEP include postsecondary goals related to:

1. Training and Education
2. Employment
3. Independent Living (If determined to be needed by IEP team).

In addition to a minimum of 2-3 postsecondary goals, a statement of transition services is also required. Federal regulation [34 CFR 300.43](#) defines such services as including:

- “(i) Instruction;
- (ii) Related services;
- (iii) Community experiences;
- (iv) The development of employment and other post-school adult living objectives; and
- (v) If appropriate, acquisition of daily living skills and provision of a functional vocational evaluation.” (Alaska SPED Guidance, 2017).

Transition services must, per Alaska regulation [4 AAC 52.145\(b\)](#), “...tak[e] into account the child’s preferences and interests.” The easiest way to fulfill this is to involve the student in their IEP meetings. If the student isn’t able to participate in the IEP meetings, it must be documented what steps were taken to ensure the student’s preferences and interests were reflected in the plan (Alaska SPED Guidance, 2017).

Appendix 2:

- **Formal transition assessments** normally use a standardized instrument for giving, scoring, and interpreting the results, which means you can compare the student with other students more easily. These types of assessments can be expensive, and not as available in rural Alaska (CDE 2014).
- **Informal transition assessments** give a measure of student performance over time and help you know if your instructional interventions are working. The main downside is they cannot be compared to other students. Including observations about the student’s academic and work experiences, talking with the student about their interests, and setting up experiences that allow the student to try out a type of work or skill gives excellent information to inform the transition plan (CDE 2014).

	Formal Transition Assessments	Informal Transition Assessments
Examples	<ul style="list-style-type: none"> • Brigance Transition Skills Inventory • AKCIS • The Vineland II 	<ul style="list-style-type: none"> • Behavior Checklists • Transition Planning Inventory • Curriculum Based Assessments • Situational Assessments • Interest Inventories • Environmental/ecological Checklists • Job Try Outs • Interviews and Surveys
Advantages	<ul style="list-style-type: none"> • Provide norming process, validity and reliability • Compares student to others his/her age • Is often a starting point for determining career development activities 	<ul style="list-style-type: none"> • Inexpensive/sometimes free • Doesn’t require a certain kind of professional to use it • Provides good, usable information especially when used on an ongoing basis by more than one person (increases validity) • Information can be easily obtained from questionnaires, interviews, observations, etc.
Disadvantages	<ul style="list-style-type: none"> • Can be costly • Lack of availability • May be time consuming to give and take • May be limited to use by a professional with a specific qualification. 	<ul style="list-style-type: none"> • May be time consuming to arrange and/or set up tryouts. • Expressed interests can be narrow and only reflect the student’s limited experiences • Lack formal norming process, and reliability or validity information

Information in this table adapted from CDE 2014.

Alaska Cultural Standards

<p>A: Culturally-knowledgeable students are well grounded in the cultural heritage and traditions of their community.</p>	<p>B: 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.</p>	<p>C: Culturally-knowledgeable students are able to actively participate in various cultural environments.</p>	<p>D: Culturally-knowledgeable students are able to engage effectively in learning activities that are based on traditional ways of knowing and learning.</p>	<p>E: Culturally-knowledgeable students demonstrate an awareness and appreciation of the relationships and processes of interaction of all elements in the world around them.</p>
<p>A1: Assume responsibilities for their role in relation to the well-being of the cultural community and their lifelong obligations as a community member;</p> <p>A2: Recount their own genealogy and family history;</p> <p>A3: Acquire and pass on the traditions of their community through oral and written history;</p> <p>A4: Practice their traditional responsibilities to the surrounding environment;</p>	<p>B1: Acquire insights from other cultures without diminishing the integrity of their own;</p> <p>B2: Make effective use of the knowledge, skills, and ways of knowing from their own cultural traditions to learn about the larger world in which they live;</p> <p>B3: Make appropriate choices regarding the long-term consequences of their actions; and</p> <p>B4: Identify appropriate forms of technology and anticipate the consequences of their</p>	<p>C1: Perform subsistence activities in ways that are appropriate to local cultural traditions;</p> <p>C2: Make constructive contributions to the governance of their community and the well-being of their family;</p> <p>C3: Attain a healthy lifestyle through which they are able to maintain their social, emotional, physical, intellectual, and spiritual well-being; and</p> <p>C4: Enter into and function effectively in a</p>	<p>D1: Acquire in-depth cultural knowledge through active participation and meaningful interaction with Elders;</p> <p>D2: Participate in and make constructive contributions to the learning activities associated with a traditional camp environment;</p> <p>D3: Interact with Elders in a loving and respectful way that demonstrates an appreciation of their role as culture-bearers</p>	<p>E1: Recognize and build upon the interrelationships that exist among the spiritual, natural, and human realms in the world around them, as reflected in their own cultural traditions and beliefs as well as those of others;</p> <p>E2: Understand the ecology and geography of the bioregion they inhabit;</p> <p>E3: Demonstrate an understanding of the relationship between world view and the way knowledge is formed and used;</p>

<p>A5: Reflect through their own actions the critical role that the local heritage language plays in fostering a sense of who they are and how they understand the world around them;</p> <p>A6: Live a life in accordance with the cultural values and traditions of the local community and integrate them into their everyday behavior.</p> <p>A7: Determine the place of their cultural community in the regional, state, national, and international political and economic systems.</p>	<p>use for improving the quality of life in the community.</p>	<p>variety of cultural settings.</p>	<p>and educators in the community;</p> <p>D4: Gather oral and written history information from the local community and provide an appropriate interpretation of its cultural meaning and significance;</p> <p>D5: Identify and utilize appropriate sources of cultural knowledge to find solutions to everyday problems; and</p> <p>D6: Engage in a realistic self-assessment to identify strengths and needs and make appropriate decisions to enhance life skills.</p>	<p>E4: Determine how ideas and concepts from one knowledge system relate to those derived from other knowledge systems;</p> <p>E5: Recognize how and why cultures change over time;</p> <p>E6: Anticipate the changes that occur when different cultural systems come in contact with one another;</p> <p>E7: Determine how cultural values and beliefs influence the interaction of people from different cultural backgrounds.</p> <p>E8: Identify and appreciate who they are and their place in the world.</p>
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This handout was created from the Alaska Cultural Standards. Source: <https://kpbsd.org/departments.aspx?id=6834&transitionUi=1>