

# ***Alaska Native Transition Skills***

## **Winter Safety on the Land**

Rain Van Den Berg and Phillip Albert  
UAA Center for Human Development  
2022 (Updated in 2025)

Developed for Interior Alaska school districts to show how traditional skills can be supported and integrated into transition planning for youth with IEPs. These materials are meant to be adapted and used throughout Alaska.

These materials were created through the Developmental Disabilities Act partnership of the Governor’s Council on Disabilities & Special Education and the Center for Human Development, with funding from the Alaska Department of Education & Early Development and the Alaska Mental Health Trust Authority.

**Land Acknowledgments:** Rain Van Den Berg would like to acknowledge that this curriculum was written on the unceded territories of the Sheetk’á Kwáan on Lingít Aaní, also known as Sitka, Alaska. She acknowledges that Lingít (Tlingit) peoples have been stewards of the land on which she works and resides since time immemorial, and she is grateful for that stewardship and incredible care.

Phillip Albert, Jr. (Koyukon Athabascan) currently resides in Fairbanks, Alaska, and thanks the Lower Tanana Dene Athabascan peoples who have been stewards of the land since time immemorial, where he currently works and lives.

## About the Authors

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Rain Van Den Berg is an education and training consultant with a background in education, health education, project management, and facilitation. She has a BA in Secondary Education, and a Master's of Public Health in Community Health Education. Recent projects include the Kotzebue units of the Traditional Transition Skills curriculum with co-author Frances Gage last year and a Student Handbook and Teacher Resources Guide for Transition for use in both rural and urban Alaskan communities for the Division of Vocational Rehabilitation.

### Acknowledgements—

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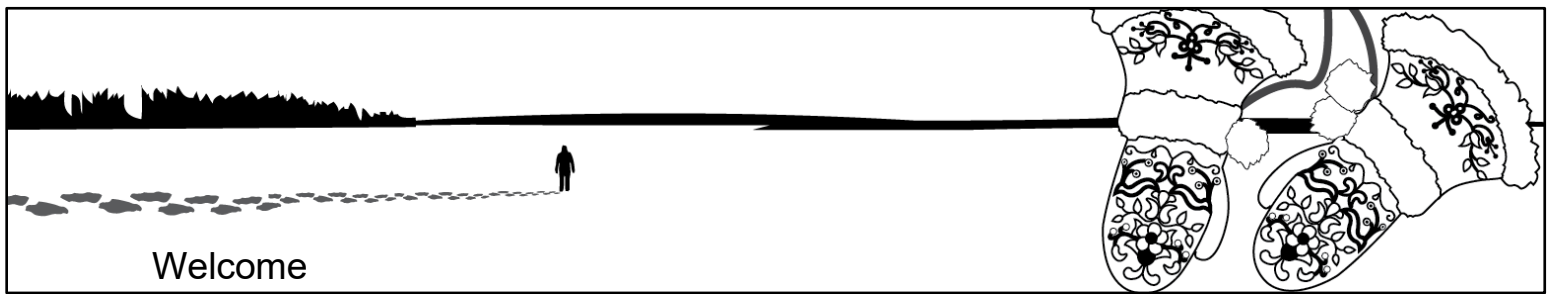
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## Table of Contents

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Welcome.....	4
Introduction.....	5
Winter Safety on the Land in Interior Alaska .....	8
1) Winter Activities on the Land .....	9
2) What to Wear in the Interior Alaska Winter .....	14
3) Be Prepared for Winter Activities .....	24
4) What is in Your Back Pack? .....	30
5) Seven Steps of Survival .....	36
6) Snow Shoes.....	45
7) Important Things to Know about Snow .....	51
8) Traveling Rivers Safely in Winter .....	59
9) Predicting Winter Weather .....	66
10) Challenges and Survival .....	72
Additional Resources for Teachers.....	77
Appendix 1: Alaska Cultural Standards.....	78
Appendix 2: Dene Athabascan Values.....	80



Doyeenta (Hello, how are you?),

My name is Phillip Albert, Jr and I was born on July 19, 1952 at the Native hospital in Tanana Alaska. I am of Koyukon Athabascan decent and grew up the small village of Kokrines near Ruby Alaska until the age of seven when my father moved the family to Ruby so we could get a formal education. Prior to our move to Ruby my folks had a little house boat powered by an inboard engine so we moved around a lot during summer months. During the short summer season, we lived in number of fish camps where my folks would catch and cure salmon for our own consumption and for our dog team. We would often spend our winter months on a trap-line where my brother and I would snare snowshoe hares to help put food on the table. Following our move to Ruby we no longer lived in summer or winter camps but my brother and I continued to help put food on the table by hunting small game around the village and running a miniature trap-line with our mother. Following four years of high school my father took us out on a trap-line for a couple of years teaching us basic skills of survival. In 1984 I experienced an Arctic accident which left me permanently disabled so I attended college for ten years. Following my college years, I couldn't find a job due to not having any professional work skills. Finally in 1996, I was hired by the Tanana Chiefs Conference Tribal Vocational Rehabilitation Program as an on-the-job trainee. After a year of training, I was then hired as a regular employee and I work with individuals with documented mental or physical disabilities providing services to help them overcome barriers to employment and get back in the workforce.

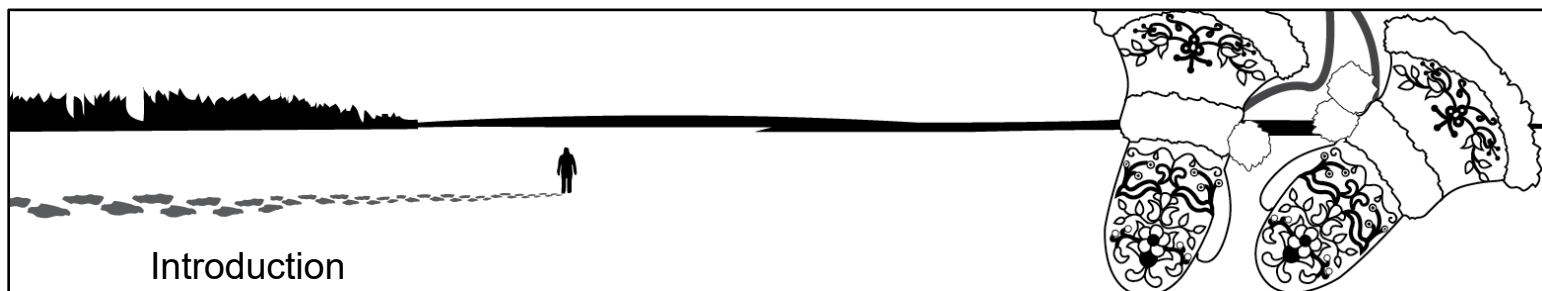
A lot of our consumers have a subsistence goal and because I have a lot of experience in the field, I know exactly what kind of tools and equipment will work for them. Being disabled myself makes it very easy to relate to the needs of our clients. Therefore, it's a job I love.

We hope these are helpful tools to use with your students to teach skills that connect them to the land, to their communities, and to their culture as they enjoy the land year-round.

Anna' Basee (Thank you),

Phillip Albert, Jr.

2022



## Introduction

For a very long time, the Dene Athabaskan peoples have supported themselves through hunting, fishing, trapping, and gathering from the land. They practiced the ways of their ancestors to thrive year-round in what can be a challenging environment. This knowledge and skills were gathered and refined over thousands of years. Today, life looks different for Dene Athabaskan peoples. Even with new technology and different kinds of work than Dene Athabascans previously did, the relationship with the land continues to be very important.

Winter is a special time of the year. Traditionally, it was a time for people to travel and visit other villages. The rivers are frozen, which makes travel over the land easier than in other times of the year. There is not as much to do as far as fishing and subsistence activities, so there is more time for gathering together, celebrating, sharing, and traveling to visit relatives in other communities.

Winter can be challenging, with sub-zero temperatures, intense wind chill, and deep snow. Daylight is very short in early winter. Because of these things, it is crucial to stay aware and be prepared when going out on the land.

In this unit, we explore the kinds of activities people enjoy in the winter in interior Alaska, and ways to stay safe and comfortable while out on the land in winter. We learn about traditional knowledge and how indigenous ways of knowing are still important to the Dene Athabaskan peoples. Each lesson shows the connection between the Dene Athabaskan cultural values and the ideas in the lesson. The second unit in this regional curriculum is *An Introduction to Dene Athabaskan Beading*.

The purpose of this curriculum project is to improve the quality of life, connection to local community, and increase work related skills for teens and young adults with disabilities who live in rural Alaska. It is meant to provide guidance in how traditional values and knowledge can be incorporated into Individual Education Plans (IEPs) for youth who experience disabilities as part of their required transition goals. The skills are meant to create options for youth with disabilities to engage in their communities and culture as they transition to adults. Though each chapter of this project ties to the cultural values and topics of a specific region of Alaska, the skills can be used and adapted more broadly. The project includes two curriculum units for each of the five regions of Alaska. Cultural stakeholders were involved in the selection of topics for each region. All content has been reviewed by culture bearers, and any cultural information shared is included with permission. **For examples of transition plan goals and how to include these skills in an IEP transition plan, read the guidance for use section of the [2019 units](#) and the [Alaska Native Post-Secondary Transition Skills: Create Meaningful IEP Transition Plans](#) (2024, Rain Van Den Berg and Frances Gage).** To access downloads of all units, visit <https://sesa.org/resources/educational/alaska-traditional-transition-skills/>.

**Alaska Cultural Standards:** Each lesson is tied to the Alaskan Cultural Standards developed by the Alaska Department of Education and Early Development. A summary document of these standards is included in the appendix.

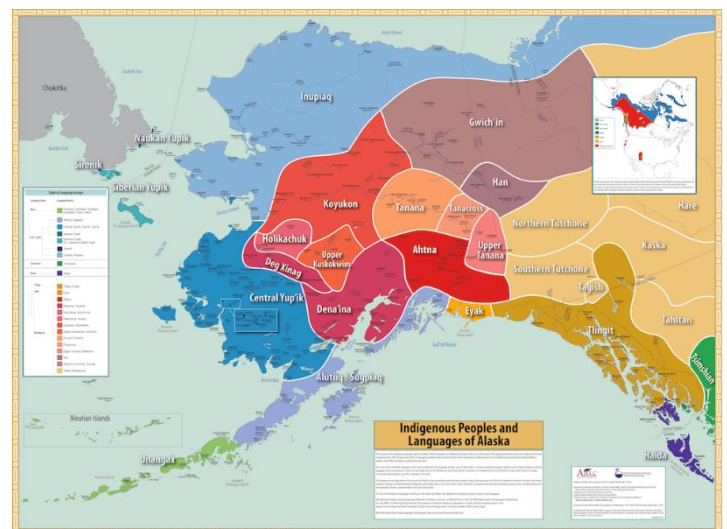
**Each lesson has these components:**

- Overview
- Link to Alaska Cultural Standards
- Link to Dene Athabascan tribal values
- Learning objectives
- Materials including commercial resources (websites, videos, books)
- Vocabulary used in the lesson
- Activities (with adaptation ideas for different abilities)
- Learning stories
- Evaluation
- Additional resources for the teacher (links, references, videos)
- Student handout(s)
- Instructor handout(s)/teaching tools

**Dene Athabascan Tribal Values:** Each lesson is tied to traditional values. Suggestions are made of which values to highlight, along with discussion points. These values are the foundation for learning the skills presented. The values can be discussed as they relate to the learning stories, how guest speakers model the values, or how the values motivate the learning of these skills. Incorporation of this aspect can help make connections to tribal values and traditions, and build more meaningful ties to their culture as the students move to adulthood. The values listed are those found on the Alaska Native Knowledge Network (University of Alaska Fairbanks): <http://www.ankn.uaf.edu/ANCR/Values/athabascan.html> created at the Denakkanaaga Elders Conference in 1985.

### **Traditional Lands of the Dene Athabascans**

You can better understand the traditional native lands of Alaska through study of the Alaska Native Languages map. Here you can see the traditional lands of the Dene Athabascan peoples in red tones, which within themselves have a great deal of diversity in culture, customs, and language. Visit this interactive version of the map online: <http://www.alaskool.org/language/languagemap/index.html>



**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, and 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.](#)

**Goal Setting:** Goal setting and problem solving are key skills for young adults as they navigate transition. The steps of setting a goal, knowing the actions you will take to achieve it, and reflection on reaching the target are key to effective goal setting. Knowing how to set achievable goals is an important way to build self-efficacy, confidence, and independence. The structure of the lessons reinforces goal setting skills by being transparent to the students about the learning objectives and how the learning objectives will be met. Every lesson also contains a brief reflection on what they learned in the lesson, and if the learning objectives were met. The lessons always start by asking what the students already know so that the content can be tailored to build on the individual experience level of the students.

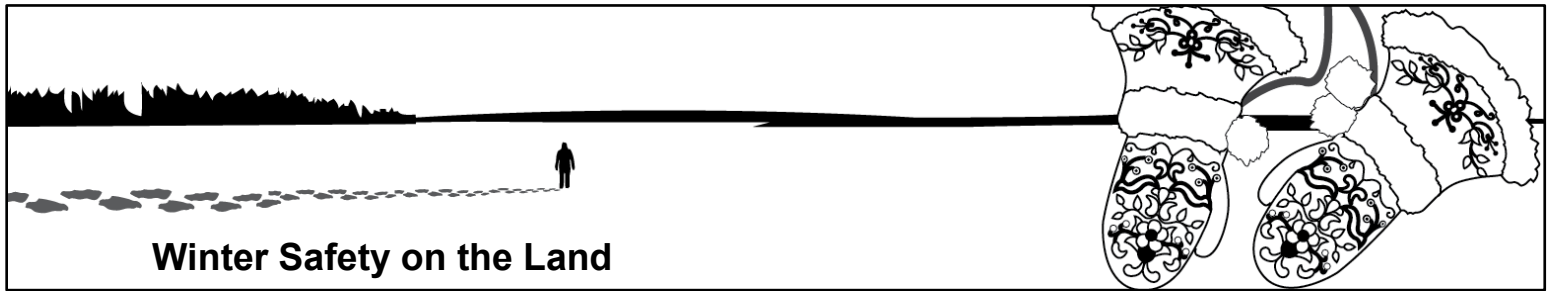
**Learning Stories:** Indigenous ways of teaching and learning depend on stories passed down from the Elders to the next generations. Bringing in culture bearers, Elders, and other kinds of experts can bring the content to life and make it more memorable. Having the students share stories can be important for connecting content to their personal experiences. You can find excellent guidance for how to invite an Elder or culture bearer in the classroom in the introduction to the *Predicting Weather* curriculum on page 3 (accessed 4/1/22): <http://ankn.uaf.edu/Curriculum/Units/PredictingWeather/PredictingWeather.pdf>

## Note about the Header Image



This image represents the land in winter in interior Alaska and acknowledges the original Dene Athabascan peoples with the traditional moose skin beaded mittens. The mittens graphic was based on the Gwich'in mittens in the Smithsonian Arctic Collection (National Museum of Natural History; Museum ID Number: 161647.000

The image was created by Rain Van Den Berg for use in this curriculum.

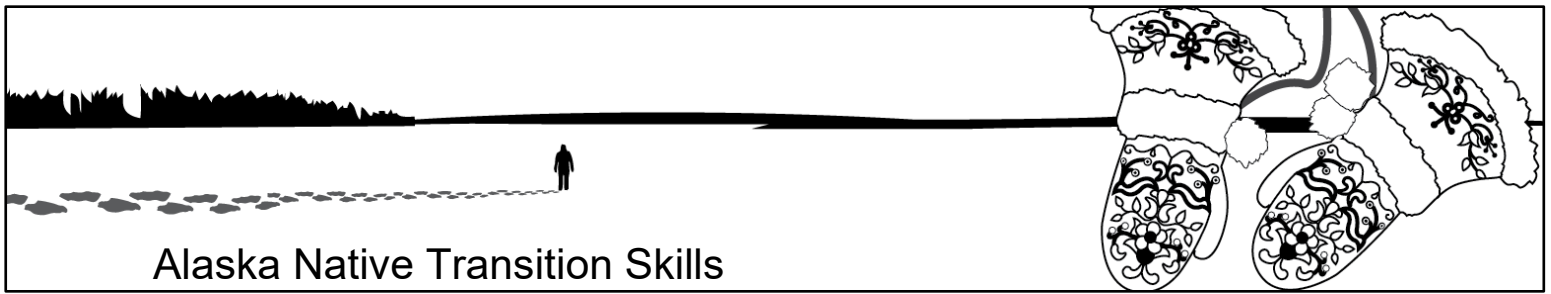


## Winter Safety on the Land

This unit introduces winter safety skills to help students stay safe as they enjoy activities on the land in winter in Interior Alaska.

Lesson	Related Handouts
1. Winter Activities on the Land	
2. What to Wear in the Interior Alaska Winter	<i>What to Wear in Winter: Tips to Keep You Warm and Dry</i> (Student Handout)
3. Be Prepared for Winter Activities	<i>What would you do?</i> (Student Handout)
4. What is in Your Back Pack?	
5. Seven Steps of Survival	<i>Seven Steps of Survival</i> (Student Handout)
6. Snow Shoes	<i>The Origin of Snow Shoes</i> (Student Handout accessed online) <i>Interview with George Albert, Traditional Snow Shoe Maker</i> (Teacher Resource)
7. Important Things to Know about Snow	<i>Building a Shelter in the Snow</i> (Student Handout) <i>Dene Athabascan Snow Terminology</i> (Teacher Resource)
8. Traveling Rivers Safely in Winter	<i>Traveling Rivers Safely in Winter</i> (Student Handout)
9. Predicting Winter Weather	<i>Prepare for the Weather</i> (Student Handout)
10. Challenges and Survival	





## Alaska Native Transition Skills

### Winter Activities on the Land

#### Overview

In this lesson, students will learn about different activities people do on the land in winter in the Alaska interior. The Dene Athabascan peoples have thrived on the land for thousands of years. We do many things on the land such as play, hunt, walk, hike, and more. Being on the land in winter takes extra planning to stay warm and safe, as weather and snow conditions can change quickly. Being prepared can make the difference between an enjoyable trip and a challenging trip.

*Note to teachers: be aware of how you talk about the land. Going out onto the land 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, B3, C1, C3, D5, D6, E1, E2, E4, E8

#### Athabascan Values Related to this Lesson

- Self-sufficiency and Hard Work
- Care and Provision for the Family
- Sharing and Caring
- Respect for Elders and Others
- Respect for the Land and Nature
- Practice of Native Traditions
- Honoring Ancestors
- Spirituality

#### Learning Objectives

The student will be able to:

- List three activities people do for fun and/or subsistence on the land in winter
- List three challenges people may face during winter activities on the land
- List three signs of early hypothermia and ways to prevent hypothermia
- Describe what frost bite is and how to treat frost bite

#### Materials

- White board or large paper and markers for brainstorming activity

## Vocabulary

Frost bite	A condition in which the tissue below the skin freezes. It causes cold skin, numbness, burning, blistering, and decreased sensation to touch. In severe cases, parts of the body that have frost bite may be permanently damaged or will need to be removed. Frost bite is a particular risk with the extreme temperatures and wind chill in interior Alaska in the winter.
Hypothermia	A condition of having a lower body temperature than normal body temperature. It causes excessive shivering, slowed breathing, mumbled speech, confusion, drowsiness and weak pulse. It is very important to get warmed up the right way if someone has symptoms of hypothermia.
Prepared	Ready to do or deal with something.
Respect	A positive feeling or action shown toward someone or something that is seen as important. It is also showing care and concern for
Subsistence	The native practice of harvesting, preserving, and sharing natural resources to feed, clothe, and house their communities.
Winter	The coldest season of the year.

## Activities and Adaptations

- **Share the goal of today's lesson:** "Today we are going to start to learn about activities people do on the land in winter in Alaska, and how they stay safe while doing those activities. To learn about this, we will share ideas, and talk through some different situations people may face when on the land in winter. By the end of this lesson, you will be able to list three activities people do for fun and/or subsistence on the land in winter; list three challenges people may face during winter activities on the land; list three signs of early hypothermia and ways to prevent hypothermia; and describe what frost bite is and how to treat frost bite."
- **Begin by finding out what students already know by asking the following questions:**
  - What are some activities people in our community like to do outside in the winter time? (*Hunting, snow machining, dog sledding, sledding, snow shoeing, hiking, travel to visit relatives and friends in other villages*)
  - What are examples of subsistence activities that your family members or others in our community like to do in the winter? (*Moose hunting, caribou hunting, beaver trapping, hare trapping, ice fishing, Ptarmigan and grouse hunting, catching eels (Holy Cross area)...*)
  - What kinds of challenges can happen because of winter weather conditions? (*Things freeze, wind chill, not dressing warm enough or forgetting gloves, frost bite, hypothermia...*)

- **Connect the Values of today's lesson with the objectives, pick at least two to highlight:**
  - **Self-sufficiency and Hard Work:** *Our Ancestors learned how to use what the land provided to survive and thrive in interior Alaska. We still draw on that knowledge and the values of hard work and taking care of our communities today.*
  - **Care and Provision for the Family:** *Providing food for our families and community members takes work in the winter time, and the land provides what we need. When we show respect to the animals and land, we show respect to our Ancestors who taught us the skills and values we use today.*
  - **Sharing and Caring:** *Winter is a special time to connect with family, Elders, and our communities.*
  - **Respect for Elders and Others:** *We show respect for our Elders by honoring the knowledge they and our Ancestors have shared to stay safe and healthy on the land. We honor our Elders when we share what the land has provided.*
  - **Respect for the Land and Nature:** *We are connected to the land and rely on the land to live and thrive. These ways continue to keep the land healthy for us and our children and grandchildren. This value helps us make sure the things we need (moose, caribou, trees, water, clean air) will be here for us for a long time.*
  - **Practice of Native Traditions:** *The winter is a time to sing, dance, hear stories, connect with friends and relatives, and celebrate together. Travel to activities in winter takes planning so that we arrive and return safely.*
  - **Honoring Ancestors:** *There are many ways we honor our Ancestors in the winter. We do this through our songs, dances, stories, sharing, beading, hunting animals with respect, and by expressing our appreciation for the land and all it provides.*
  - **Spirituality:** *Being out on the land in every season is an important way to connect to our Ancestors and our spirituality.*
- **Brainstorm Activity:**
  - On a board or large paper, ask the students to share activities they and their families like to do on the land in the winter.
  - Once there is a good list, ask them which of the activities are related to subsistence, and circle those.
  - On another sheet or area of the board, ask the students to name challenges that may happen in the winter while doing those activities. This could be things like the snowmachine or vehicle breaks down, you get wet in an overflow area, a blizzard makes it hard to navigate...
  - Discussion: Ask the students, "What can people do to be ready for challenges like these?" This is meant to get the conversation started, as the students will be learning more about this through the unit. As you talk through the challenges, share the idea that if a person is prepared, an unexpected event is very manageable. If they are not prepared, it can be very uncomfortable or even life-threatening. Though we can't be prepared for everything that might happen, we can do a lot to ensure our trip is comfortable and enjoyable as we go out on the land, no matter the season.

- **Discuss what hypothermia is, and how to treat it:** Hypothermia (From <https://www.alaskacenters.gov/trip-planning/stewardship/safety/cold-weather-safety>) Hypothermia is a medical emergency that occurs when the body's temperature drops to a level that inhibits proper function- when the body's core temperature is below 98.6 degrees Fahrenheit. Focus on prevention and how to recognize the early stages.

Signs and stages:

- The beginning signs of hypothermia
  - 'the umbles': mumbling, bumbling, stumbling, & fumbling
  - slurred speech
  - shivering
  - lack of fine motor skills
  - unclear or inconsistent thoughts and conversation
- Moderate hypothermia - the body's temperature drops below 95 degrees
  - Dazed consciousness
  - loss of motor coordination
  - slurred speech
  - violent shivering
  - irrational behavior: paradoxical undressing, a person starts to take off clothing, unaware that they are very cold.
- Severe hypothermia- the body's temperature drops below 92 degrees.
  - shivering in waves – violent, uncontrollable shaking interrupted by calm pauses that increase in duration until shivering finally ceases
  - Victims might fall to the ground, incapable of walking, and curl up into a fetal position to conserve heat.
  - muscles contract
  - skin becomes pale
  - pupils dilate
  - heart rate decreases
- At 90 degrees, the body shuts down all peripheral blood flow and reduces breathing and heart rate, in an attempt to keep the body alive at all costs.
- At 86 degrees, the body is in a “metabolic icebox,” where the person looks dead but is still alive and able to be saved with professional medical care.

Prevention:

- As hypothermia develops, it becomes increasingly difficult to raise the individual's temperature to 98.6 degrees F. The key to fighting hypothermia is prevention, these include:
  - movement
  - staying hydrated: Keeping hydrated allowed the body to perform properly and stay warm. Dehydration leads to a decrease in body temperature and reduce mental clarity.
  - staying dry: Never allow your clothing to become wet from sweat, water, or snow. Water causes hypothermia 25 times faster than the cold air.

- correct clothing material: Do not wear cotton when recreating outside, cotton absorbs water easily which makes it lose its insulating properties. wear synthetic clothing or merino wool and always bring a shell layer to shed water and snow.
- layering clothing:
  - Layers help manage heat loss and cut down on sweat
  - increasing your ability to change your clothing to match your heat output.
  - Large amounts of heat can also be lost through the exchange of heat between to objects in contact, like your hand on a cold snow shovel handle.
- **Discuss what frost bite is, and how to prevent it** by reviewing the information at <https://www.alaskacenters.gov/trip-planning/stewardship/safety/cold-weather-safety>) and discussing the amount of detail that is appropriate to your students. It is recommended to focus on prevention, and that you don't want to rub areas where frost bite or frost nip are suspected.

## Learning stories

- Ask the students to share about the kinds of activities they and their families like to do on the land in winter.
- Invite a local Alaska Native leader, Elder, or culture bearer to share a traditional story that takes place in the winter or explains why certain things are done to survive in the winter. Invite them to share how they were taught to show respect when they were on the land to harvest.

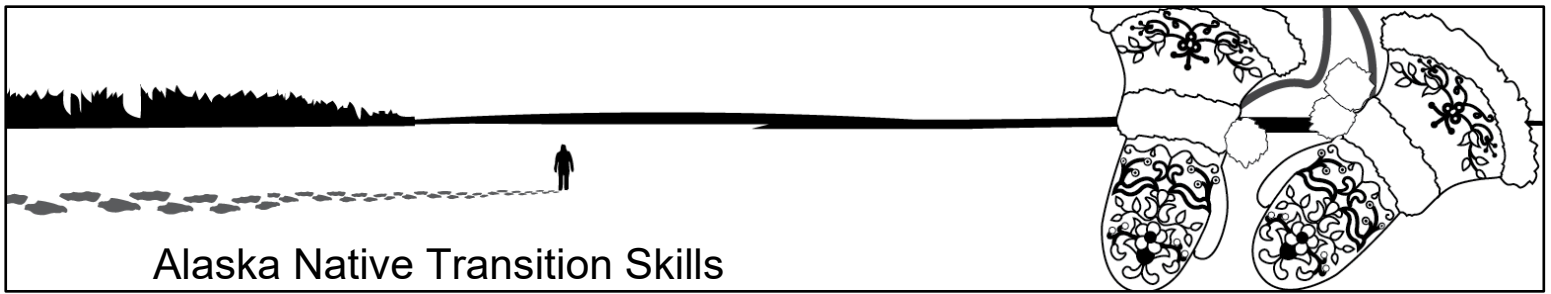
## Evaluation

At the end of the lesson, ask the students these questions:

- What are three activities people do for fun and/or subsistence on the land?
- What are three challenges people may face during winter activities on the land?
- What are three signs of early hypothermia and ways to prevent hypothermia?
- What is frost bite? How do you treat it?

## Additional Resources

- **Winter Weather Hazards:** The National Weather Service has information on hypothermia and other tips for safety on the land in winter. [https://www.weather.gov/media/ajk/brochures/Winter Weather Hazards.pdf](https://www.weather.gov/media/ajk/brochures/Winter_Weather_Hazards.pdf)
- **Winter Driving Tips** by the Alaska Department of Transportation: Covers considerations for navigating Alaska's roadways in winter [https://dot.alaska.gov/winter\\_driving\\_tips.shtml](https://dot.alaska.gov/winter_driving_tips.shtml)
- **Packing the Car for a Safe Winter Adventure in Alaska** has some good basic tips and things to have with you in the winter in a vehicle. Can be adapted for other modes of transportation. <https://www.alaska.org/advice/packing-the-car-for-a-safe-winter-adventure-in-alaska>



## Alaska Native Transition Skills

### What to Wear in the Interior Alaska Winter

#### Overview

In this lesson, students will learn important ways the Ancestors dressed to stay warm and dry, and how to use those same concepts using modern options. Historic as well as modern clothing will be discussed.

*Note to teachers: be aware of how you talk about the land. Going out onto the land 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

- A3, A4, B3, C3, D5, D6, E2

#### Athabascan Values Related to this Lesson

- Self-sufficiency and Hard Work
- Care and Provision for the Family
- Sharing and Caring
- Respect for Elders and Others
- Respect for the Land and Nature
- Practice of Native Traditions
- Honoring Ancestors
- Spirituality

#### Learning Objectives

The student will be able to:

- List three ways developed by Ancestors for keeping warm and staying safe in winter conditions.
- Describe important ways to stay warm and dry during outdoor winter activities.
- Describe the use of layers to stay the right amount of warm during winter activities.

#### Materials

- Student handout: *What to Wear in Winter: Tips to Keep You Warm and Dry*

## Vocabulary

Gaiter	Gaiters are garments worn over the shoe and bottom of the pant or trouser leg, and used primarily to keep snow out of boots. Originally, gaiters were made of skins/leather. Today, gaiters are commonly made of plasticized synthetic cloth such as polyester.
Layers	The concept of using different kinds of clothes on top of each other to get the right combination to stay warm and dry in the weather conditions and activities a person is doing.
Insulate	Using material to protect against the loss of heat.
Prepared	Ready to do or deal with something.
Ruff	The fur trim around the hood of a parka to protect the face and help keep the head warm.
Winter	The coldest season of the year.

## Activities and Adaptations

- **Share the goal of today's lesson:** "Today we are going to learn the importance of dressing properly for cold weather. We will learn about this by discussing the clothing of the Ancestors, and sharing how we use similar ideas today to stay warm and safe in cold weather. By the end of this lesson, you will be able to: list three ways developed by the Ancestors for keeping warm and staying safe in winter conditions; list tips for staying warm and dry; and describe the use of layers to stay the right amount of warm during winter activities."
- **Begin by finding out what students already know by asking the following questions:**
  - What kinds of clothes help keep you warm when traveling on the land in extreme cold? (*Hats, parkas with fur on hood, gloves, face mask, layers.*)
  - What does it mean to dress in layers when dressing for cold weather? (*The concept of using different kinds of clothes on top of each other to get the right combination to stay warm and dry in the weather conditions and activities a person is doing....*)
  - Why are clothes so important to being warm and safe in winter? (*They help keep the warmth in your body, and help prevent frost bite and hypothermia.*)
  - Why is it important to be prepared when you go out on the land in winter? (*The weather can change or unexpected things can happen, and if you have what you need it isn't bad, but if you are unprepared it can be dangerous.*)
- **Connect the Values of today's lesson with the objectives, pick at least two to highlight:**
  - **Self-sufficiency and Hard Work:** *Our Ancestors learned how to use what the land provided to survive and thrive in interior Alaska. We still draw on that knowledge and the values of hard work and taking care of our communities today.*
  - **Care and Provision for the Family:** *Providing food for our families and community members takes work in the winter time, and the land provides what we need. When*

*we show respect to the animals and land, we show respect to our Ancestors who taught us the skills and values we use today.*

- **Sharing and Caring:** *Winter is a special time to connect with family, Elders, and our communities.*
- **Respect for Elders and Others:** *We show respect for our Elders by honoring the knowledge they and our Ancestors have shared to stay safe and healthy on the land. We honor our Elders when we share what the land has provided.*
- **Respect for the Land and Nature:** *We are connected to the land and rely on the land to live and thrive. These ways continue to keep the land healthy for us and our children and grandchildren. This value helps us make sure the things we need (moose, caribou, trees, water, clean air) will be here for us for a long time.*
- **Practice of Native Traditions:** *The winter is a time to sing, dance, hear stories, connect with friends and relatives, and celebrate together. Travel to activities in winter takes planning so that we arrive and return safely.*
- **Honoring Ancestors:** *There are many ways we honor our Ancestors in the winter. We do this through our songs, dances, stories, sharing, beading, hunting animals with respect, and by expressing our appreciation for the land and all it provides.*
- **Spirituality:** *Being out on the land in every season is an important way to connect to our Ancestors and our spirituality.*
- **Discuss the information in the student handout:**

What to Wear in Winter: Tips to Keep You Warm and Dry	
Tips	What the Ancestors did
1) Use layers keep you warm and dry. Dress in layers so you can take off a layer when you are more active, and add a layer if moving less. You want to avoid getting sweaty or damp from getting too hot.	
<ul style="list-style-type: none"> <li>• Inner layer: This layer is comfortable and flexible, and sits close to the skin. Do not use cotton for this layer. Cotton doesn't dry easily, and won't keep you warm if it is damp or wet.</li> </ul>	Ancestors used a fine leather such as fawn skin for this layer.
<ul style="list-style-type: none"> <li>• Insulating layers: This layer keeps warm air next to your body. It can be made of a couple of thinner layers, or a bulkier layer.</li> </ul>	Ancestors used a lighter parka with the fur turned in, and added in other animal skins such as caribou, fox, and hare. Winter pants were made from caribou skin, with the hair turned in for warmth.
<ul style="list-style-type: none"> <li>• Outer layer: This layer blocks the wind, snow, and rain from getting to the layers below.</li> </ul>	Ancestors wore a thicker parka with the fur facing out for this layer.



2) Keep your head warm: You lose a lot of body heat if your head isn't covered. For snow machine or dog sled in extreme cold, consider a goose down face mask. Some people also use duct tape on their nose and cheeks to prevent frost bite.	Wear a fur hat made of martin or beaver. You can wear a parka with a fur ruff (trim) to keep your face warm. Many Dene Athabascans prefer wolf and wolverine fur for this, as Alaskan wolf fur is warm, soft and durable. Wolverine trim sheds frost like no other fur.
3) Keep your hands warm: Mittens keep your fingers and hands protected and warm better than gloves. If you need to be able to use your fingers, wear thin gloves under your mittens.	The Ancestors used moose hide mittens, which were often beaded with beautiful designs. Moose hide mittens are still used today because they work so well to keep hands warm and fingers protected from frost bite.
4) Keep your feet warm: Layer a thicker sock over a thinner one inside insulated boots. Do not use cotton socks. Wool or synthetic winter socks are best.	Ancestors used a kind of tall moccasin with the caribou fur on the inside. They would add extra fur if needed for extra warmth.
5) Keep snow out of your boots: A boot won't keep your feet warm if it gets wet inside. Modern options include wearing snow pants that secure around the boot. You can also add gaiters (a type of cover that attaches around the top of the boot) to seal the top of the boot so snow can't get in.	The Ancestors wore leggings with the moccasin attached, or wore knee-high boots.
6) Use snow shoes in deep snow: Another way to keep snow out of your boots and travel more quickly in deep snow is to use snow shoes.	Dene Athabascans have many designs of snow shoes and modern designs are based on this ancient knowledge.
7) Wear sunglasses to protect your eyes. The sun glare can burn the eyes and cause a type of painful blindness. Today, sunglasses are used to protect from both wind and sun.	Early Dene Athabascans learned from the Iñupiaq people of the Northern Arctic coast how to make glasses to protect their eyes from the glare of the sun.

- **Discuss the graphic on the last page, and what students or their families wear for those layers.** Talk about cotton and why it is not recommended as the base layer (it does not keep its insulating properties when wet, and does not wick away moisture as other synthetic fibers do).
- **Talk about how you shift the layers you are wearing, based on how active you will be:** If you will be hiking and moving a lot, you will need different clothes than if you are riding a snow machine, or if you are ice fishing and standing more.

- **Activity:** Share the following scenarios, and ask the students to “dress” the individual for the activity, based on what they learned in the handout. In these examples, reinforce the main points (Using layers; keep head, hands, and feet warm and dry; keep snow out of your boots; protect your eyes).
  - **An Ancestor is getting dressed to go moose hunting.** It is December, and the temperatures are 30 degrees below. He will be riding on his dog sled and then hiking. The snow is deep. The weather is sunny and looks stable, with no wind or snow storm. What will he wear to stay warm and dry? *He will wear caribou skin pants with the moccasins attached, and the fur turned in. On the top, he will wear an undershirt of a softer leather, followed by a parka with the fur turned in, followed by a parka with the fur turned out. His outer parka has a fur ruff to protect his face. He may wear a marten hat for extra warmth. For his hands, he wears moose skin mittens, attached with a string so he doesn't lose them if he has to take them off for a moment. For his feet, he may stuff some rabbit fur down in the feet to give his feet extra insulation from the snow and cold. He also wears his snow goggles to protect his eyes from the glare of sun on the snow. He will bring snow shoes to be able to walk on top of the snow.*
  - **You and your brother or sister are going ice fishing with your aunt and uncle:** It is January, and it is a nice day of 20 below zero. The wind is still, and the sun is shining. You will be going to ice fish for the daylight hours (about 3 hours). You will be walking out on the lake, and then standing and waiting while you fish. What will you and your sibling wear to stay warm and dry? *Discuss the layers needed, and that they may need to add a layer once they arrive and are standing around. It is important to change out the base layer if they are sweaty to avoid getting a chill, or to use a wicking layer for the base layer so the moisture doesn't stay close to the skin.*
  - **Your family is taking the snow machines to another village to visit relatives and attend a celebration:** It is February, and the snow and rivers are good for travel by snow machines. It is 10 degrees and sunny, but it is expected to be windy. You will be on the snow machines for about 2 hours. What does everyone need to wear to stay warm and dry? *Discuss the layers needed, and factor in wind chill. 10 degrees is good for snow and river stability, but with wind chill will feel much colder. Also, the “wind” felt by riding on the snow machine adds even more wind chill. Extra layers may be needed because of this.*

## Learning stories

- Ask the students to share a story about what they like to do outside in winter, and how they dress for different kinds of winter activities.
- Invite a local Alaska Native leader, Elder, or culture bearer to share a story about how they dressed for the winter when they were growing up, and how they dress now. Ask them to share how their parents and grandparents kept warm and dry, and what skills and knowledge they learned about being on the land in winter.

## Evaluation

At the end of the lesson, ask the students these questions:

- What are some of the ways the Ancestors knew to keep warm and safe in winter conditions?
- Why are layers important when dressing for outdoor winter activities?
- What does each layer do to keep you warm and dry during winter activities?
- What are other tips for staying warm and dry during winter activities?

## Additional Resources

- ***What to Wear in Winter: Article from Alaska.org:*** <https://www.alaska.org/advice/what-to-wear-in-alaska-in-winter#:~:text=Packable%20down%2D%20or%20synthetic%2Dfilled,Don't%20get%20too%20hot.>
- ***Combatting the Cold, from Alaska Fish and Game Ice Fishing Curriculum:*** [https://www.adfg.alaska.gov/static/education/educators/curricula/pdfs/lets\\_go\\_ice\\_fishing\\_ch2\\_combating\\_cold.pdf](https://www.adfg.alaska.gov/static/education/educators/curricula/pdfs/lets_go_ice_fishing_ch2_combating_cold.pdf). Note: This lesson describes being in a “battle with old man winter” which is not in alignment with Alaska Native cultural views. The land is a partner, not an adversary, even though weather conditions may be challenging.
- ***Packing the Car for a Safe Winter Adventure in Alaska*** has some good basic tips and things to have with you in the winter in a vehicle. Can be adapted for other modes of transportation. <https://www.alaska.org/advice/packing-the-car-for-a-safe-winter-adventure-in-alaska>
- ***On Dangerous Ice: Changing Ice Conditions on the Tanana River***—Explains the ice dynamics of the Tanana River in order to educate the general public about conditions they may encounter when traveling on the river in the winter and to provide general safety tips or guidelines. There is a good list of things to bring when out on snow machines for safety with pictures, starting on page 52. <https://jukebox.uaf.edu/sites/default/files/documents/Dangerous%20Ice%20web%202013-08-07-A-1.pdf>
- ***Alaska Digital Library:*** Find more historic images of Dene Athabascan (and other Alaska Natives) for use in the classroom: <https://vilda.alaska.edu/digital>
- ***Smithsonian Arctic Studies Collection:*** Search the site by region/culture to find artifacts and historic photographs for use in the classroom: <https://learninglab.si.edu/org/sasc-ak>
- Nelson, Mautner, & Bane. (1982). *Tracks in the Wildland: A Portrayal of Koyukon and Nanamiut Subsistence*. Walsworth Publishing Company. Excellent book with traditional knowledge of subsistence practices and other traditional knowledge.

## What to Wear in Winter: Tips to Keep You Warm and Dry

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You can stay warm and dry in Alaska in the winter time by doing as the Dene Athabascan Ancestors did. Just follow these important rules.



- 1) Use layers keep you warm and dry.** Dress in layers so you can take off a layer when you are more active, and add a layer if moving less. You want to avoid getting sweaty or damp from getting too hot.

**Inner layer:** This layer is comfortable and flexible, and sits close to the skin. Do not use cotton for this layer. Cotton doesn't dry easily, and won't keep you warm if it is damp or wet.

The Ancestors used a fine leather such as fawn skin for this layer.



**Insulating layers:** This layer keeps warm air next to your body. It can be made of a couple of thinner layers, or a bulkier layer.

The Ancestors used a lighter parka with the fur turned in, and added in other animal skins such as caribou, fox, and hare. Winter pants were made from caribou skin, with the hair turned in for warmth.

**Outer layer:** This layer blocks the wind, snow, and rain from getting to the layers below.

The Ancestors wore a thicker parka with the fur facing out for this layer.

The rabbit fur parka here was for a child, and was incredibly warm.

Photo credits: Model of a winter tunic (Yukon River): <https://alaska.si.edu/record.asp?id=25>

Gwich'in Rabbit skin child's parka (Porcupine & Peel Rivers Region): <https://alaska.si.edu/record.asp?id=149>



- 2) Keep your head warm:** It is important to wear a warm hat to keep from losing body heat through your head.

Today, we can do as the Ancestors did by wearing fur hats made of martin or beaver because they are so warm. You can wear a parka with a fur ruff (trim) to keep your face warm. Many Dene Athabascans prefer wolf and wolverine fur for this, as Alaskan wolf fur is warm, soft and durable. Wolverine trim sheds frost like no other fur.



- 3) Keep your hands warm:** Mittens keep your fingers and hands protected and warm better than gloves. If you need to be able to use your fingers, wear thin gloves under your mittens.

The Ancestors used moose hide mittens, which were often beaded with beautiful designs. Moose hide mittens are still used today because they work so well to keep hands warm and fingers protected from frost bite.

- 4) Keep your feet warm:** Layer a thicker sock over a thinner one inside insulated boots. Do not use cotton socks. Wool or synthetic winter socks are best.

The Ancestors used a kind of tall moccasin with the caribou fur on the inside. They would add extra fur if needed for extra warmth.

Photo credits (Clockwise from upper left): Detail of "Old Fred" showing marten hat (Fort Yukon), <https://vilda.alaska.edu/digital/collection/cdmg11/id/1590/rec/179>. Gwich'in mittens, National Museum of Natural History: <https://alaska.si.edu/record.asp?id=258>.

Detail of young woman in parka (Interior Alaska): <https://vilda.alaska.edu/digital/collection/cdmg11/id/2781/rec/118>. Detail of man in winter moccasins and winter parka (Koyukuk, Alaska): <https://vilda.alaska.edu/digital/collection/cdmg11/id/32495/rec/97>







- 5) **Keep snow out of your boots:** A boot won't keep your feet warm if it gets wet inside. Modern options include wearing snow pants that secure around the boot. You can also add gaiters to seal the top of the boot so snow can't get in.

The Ancestors wore leggings with the moccasin attached, or wore knee-high boots.



- 6) **Use snow shoes in deep snow:** Another way to keep snow out of your boots and travel more quickly in deep snow is to use snow shoes.

Dene Athabascans have many designs of snow shoes and modern designs are based on this ancient knowledge.



- 7) **Wear sunglasses to protect your eyes.** The sun glare can burn your eyes and cause a type of painful blindness. Today, sunglasses are used to protect from both wind and sun.

Early Dene Athabascans learned from the Iñupiaq people of the Northern Arctic coast how to make glasses to protect their eyes from the glare of the sun. The top pair are a Gwich'in design from the Upper Yukon River area. The bottom pair are from the Lower Yukon River.



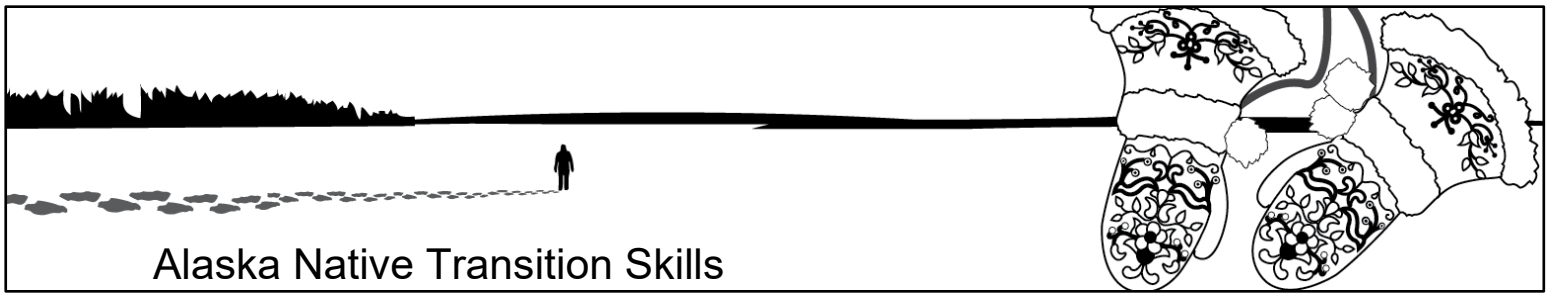
Photo credits (Clockwise from top left): Model of winter moccasin pants (Yukon River) made from caribou skin, with the fur on the inside: <https://alaska.si.edu/record.asp?id=26>. Detail of winter moccasins (Koyukuk, Alaska): <https://vilda.alaska.edu/digital/collection/cdmg11/id/32495/rec/97>. Gwich'in snow goggles (Upper Yukon River): <https://alaska.si.edu/record.asp?id=646>. Snow goggles Yukon River (lower): <https://alaska.si.edu/record.asp?id=17>. Snow shoes (Iliamna Lake): <https://alaska.si.edu/record.asp?id=566>. Historical information about traditional clothing from the Arctic Studies Collection and *Tracks in the Wildland* by Nelson, Mautner, and Bane (1982)

Alaska Native Transition Skills, *What to Wear in Winter: Tips to Keep You Warm and Dry* Student Handout, Winter Safety on the Land Unit, 2022 (Rev 2025), Van Den Berg / Albert UAA Center for Human Development

These are examples of how to use layers to stay warm when traveling on the land in winter—

BASE LAYER	MID LAYER	SHELL LAYER and ACCESSORIES	
Long-sleeve shirt 	Sweatshirt 	Bibs 	Head Warmer 
Tights 	Pants 	Boots 	Shell Jacket 
	Socks 		Gloves 

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## Alaska Native Transition Skills

### Be Prepared for Winter Activities

#### Overview

In this lesson, students will learn about the importance of being prepared when going out on the land in winter. Being prepared can make the difference between an enjoyable trip and a challenging trip.

*Note to teachers: be aware of how you talk about the land. Going out onto the land 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

- A3, A4, B3, C1, C3, D5, D6, E2

#### Athabascan Values Related to this Lesson

- Self-sufficiency and Hard Work
- Care and Provision for the Family
- Sharing and Caring
- Respect for Elders and Others
- Respect for the Land and Nature
- Practice of Native Traditions
- Honoring Ancestors
- Spirituality

#### Learning Objectives

The student will be able to:

- Describe why it is important to be prepared for winter activities on the land.
- Give at least 5 examples of ways that someone can be prepared for common activities in winter.

#### Materials

- Student Handout: *What would you do?*



## Vocabulary

Come-a-long	A hand-operated winch with a ratchet used to pull objects. A strap or cable is hooked onto the vehicle, and then the other end is attached to a tree or rock. The ratchet moves and slowly pulls the heavy object.
Oriented	Knowing where you are on the land, and which direction from where you are your village or destination is.
Prepared	Ready to do or deal with something.
Respect	A positive feeling or action shown toward someone or something that is seen as important. It is also showing care and concern for
Subsistence	The native practice of harvesting, preserving, and sharing natural resources to feed, clothe, and house their communities.
Winter	The coldest season of the year.

## Activities and Adaptations

- **Share the goal of today's lesson:** "Today we are going to start to learn about safety on the land and taking care of yourself and your family when you go out to harvest and enjoy the land. To learn about this, we will share ideas, and talk through some different situations to see what you would do. By the end of this lesson, you will be able to describe why it is important to be prepared for winter activities on the land, and give at least 5 examples of ways that someone can be prepared for common activities in winter."
- **Begin by finding out what students already know by asking the following questions:**
  - What does it mean to be prepared? (*Ready for different things that might happen, having what you need.*)
  - What are some examples of being prepared? (*Wearing a warm coat in the winter, having a way to build a fire in case the snow machine or vehicle breaks down and you have to wait, having extra food or clothes, having a way to make a shelter...*)
  - Why is it important to be prepared when you go out on the land in winter? (*The weather can change or unexpected things can happen, and if you have what you need it isn't bad, but if you are unprepared it can be dangerous.*)
- **Connect the Values of today's lesson with the objectives, pick at least two to highlight:**
  - **Self-sufficiency and Hard Work:** *Our Ancestors learned how to use what the land provided to survive and thrive in interior Alaska. We still draw on that knowledge and the values of hard work and taking care of our communities today.*
  - **Care and Provision for the Family:** *Providing food for our families and community members takes work in the winter time, and the land provides what we need. When we show respect to the animals and land, we show respect to our Ancestors who taught us the skills and values we use today.*

- **Sharing and Caring:** *Winter is a special time to connect with family, Elders, and our communities.*
- **Respect for Elders and Others:** *We show respect for our Elders by honoring the knowledge they and our ancestors have shared to stay safe and healthy on the land. We honor our Elders when we share what the land has provided.*
- **Respect for the Land and Nature:** *We are connected to the land and rely on the land to live and thrive. These ways continue to keep the land healthy for us and our children and grandchildren. This value helps us make sure the things we need (moose, caribou, trees, water, clean air) will be here for us for a long time.*
- **Practice of Native Traditions:** *The winter is a time to sing, dance, hear stories, connect with friends and relatives, and celebrate together. Travel to activities in winter takes planning so that we arrive and return safely.*
- **Honoring Ancestors:** *There are many ways we honor our Ancestors in the winter. We do this through our songs, dances, stories, sharing, beading, hunting animals with respect, and by expressing our appreciation for the land and all it provides.*
- **Spirituality:** *Being out on the land in every season is an important way to connect to our Ancestors and our spirituality.*
- **Being Prepared:**
  - Our Ancestors knew how important it was to be prepared. Survival on the land in winter depends on having what you need with you to face unexpected challenges. When you are prepared, you can get through what could be a dangerous situation safely.
- **Scenarios activity:**
  - This lesson gets students thinking about what it means to be prepared. The next lesson will more specifically go into what to bring in your pack sack/back pack when out on the land, but this lesson helps get them thinking about it using common winter situations that could be serious if a person isn't prepared.
  - Use the student handout to discuss some different scenarios, and what would help the students be prepared if they were in the same situation. Talking points for each scenario:
    - **Hunting in an unexpected storm:** If you need to stay out when you didn't expect it, you need to make some kind of shelter to get through the night. This could be a snow shelter or a shelter made with spruce boughs or even a tarp over your snow machine to huddle under. You would need a way to make a fire to stay warm, and have food, flashlight, and extra clothes.
    - **Lost:** When going in a new area, you can use flagging to mark trees as you go, so you can be sure to find your way back. Knowing which general direction the village is from where you are going can be helpful. You can use other landmarks like a river to help you keep track of where you are in relation to home. This will help you stay oriented. A compass can help you know the direction you are going. If you don't have a compass, you can use other landmarks or even the North star to know which direction to head.

- **Snow machine flipped:** A come-along is an important thing to have with you so you can pull the machine back over. You may be able to use a long thick branch as a lever to roll it over. An ax could help you chop ice or cut branches to lay under the machine to get it unstuck. Rope may work, but may not be strong enough. It is important not to panic, and to work quickly to get the machine free.
- **Overflow:** If you are carrying dry clothes and moose-hide moccasins and dry socks, change into those quickly to stay warm. It is important to keep the snow machine running if it has water on it, because if the water freezes the machine can seize and then your situation will be more serious. It is important to carry what you need to stay warm, dry, hydrated, and fed.

## Learning stories

- Ask the students to share a story about what they do to get ready before they go out on the land in winter.
- Invite a local Alaska Native leader, Elder, or culture bearer to share a story or explain how they prepare before hunting or going out on the land to harvest. Invite them to share how they were taught to show respect to animals and the land when they were harvesting in winter.
- **Story shared by Phillip Albert:** “I was out moose hunting and got turned around. I was pretty far from the cabin where my brother was. I saw a plane flying overhead, which I knew was headed west. I knew the cabin was west of where I was, so I followed the direction the plane was going. That worked well until I couldn’t see the plane anymore. So then I noticed the Big Dipper in the sky, and knew the North Star was to the north. I headed toward the tail of the Big Dipper so I was going west. I walked a long time that direction, and I came out on the river just 100 yards from the cabin. When I got there, I found that my brother had gone out looking for me. I started up the chain saw so he would hear it and know I was back at the cabin. He heard it and came back.”

*Discussion: Phillip’s story shows how he used his quick thinking to face the challenge of being lost. He knew the direction of where he needed to get back to, and figured out how to use the plane direction and stars to get him back. He also showed creativity in figuring out a way to let his brother know to come back to the cabin, and that he was safe.*

## Evaluation

At the end of the lesson, ask the students these questions:

- Why is it important to be prepared for winter activities on the land?
- What are examples of ways that someone can be prepared for common activities in winter?

## Additional Resources

- ***On Dangerous Ice: Changing Ice Conditions on the Tanana River***—Explains the ice dynamics of the Tanana River in order to educate the general public about conditions they may encounter when traveling on the river in the winter and to provide general safety tips or guidelines. There is a good list of things to bring when out on snow machines for safety with pictures, starting on page 52.  
<https://jukebox.uaf.edu/sites/default/files/documents/Dangerous%20Ice%20web%202013-08-07-A-1.pdf>
- ***Cold Weather Hiking Tips*** Blog and video: This is made by REI, there is some commercial content, but the information is reliable. <https://www.rei.com/learn/expert-advice/cold-weather-hiking.html>
- ***Winter Driving Tips*** by the Alaska Department of Transportation: Covers considerations for navigating Alaska’s roadways in winter [https://dot.alaska.gov/winter\\_driving\\_tips.shtml](https://dot.alaska.gov/winter_driving_tips.shtml)
- ***Packing the Car for a Safe Winter Adventure in Alaska*** has some good basic tips and things to have with you in the winter in a vehicle. Can be adapted for other modes of transportation. <https://www.alaska.org/advice/packing-the-car-for-a-safe-winter-adventure-in-alaska>

## What Would You Do?

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Read each of these situations and talk about what you would do, and what you would want to have with you to stay safe.

### Early Winter—

- You are hunting with your older brother and the storm that wasn't expected until later tonight has suddenly materialized. You did let the rest of your family know approximately where you were going hunting and when you would return but now you realize that you need to spend the night. You are out of cell phone range. What do you do? What would you want to have with you in this situation?
- You are out with your sister walking away from the village. It is starting to get dark and so you try to take a short cut back to the house. You soon realize you are a little lost. What do you do? What would you want to have with you in this situation?

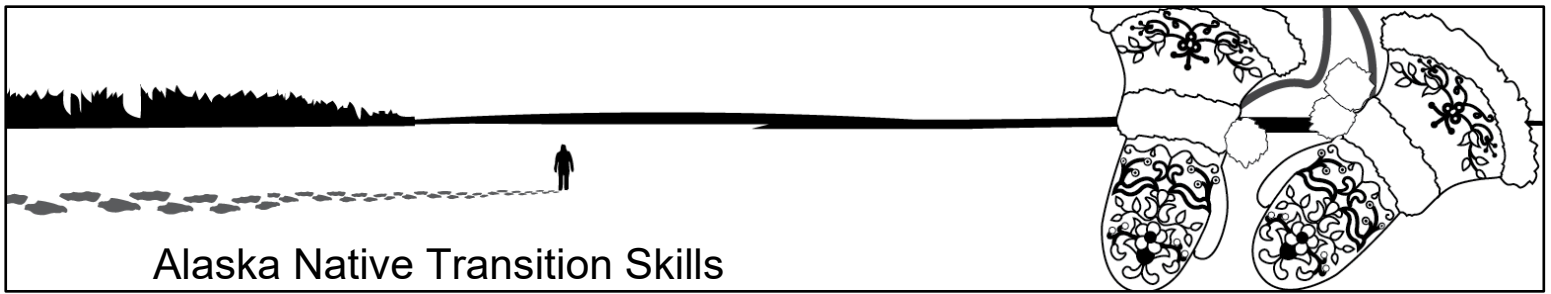


### Spring—

- You are out for a snow machine ride when you hit a ledge where ice collapsed under the snow and it flips the machine. It is hard to get it turned over, and it is starting to get dark. What do you do? What would you want to have with you in this situation?
- You are headed to see relatives on a snow machine to a village about 30 miles from your village. You are about 15 miles from your destination when you hit a section of overflow and your boots and legs get soaked. With the wind chill, the temperatures are -35 degrees. What do you do? What would you want to have with you in this situation?

**Part of preparing to be on the land is to always let someone know where you planning to go and how long you will be away.**

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## Alaska Native Transition Skills

### What is in your back pack?

#### Overview

In this lesson, students will learn about safety on the land and knowing what to bring with them depending on the weather and activities they are doing in winter on the land. Being prepared can make the difference between an enjoyable trip and a challenging trip. You can stay safe even when the unexpected happens if you have what you need with you.

*Note to teachers: be aware of how you talk about the land. Going out onto the land 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

- A4, B3, C1, C3, D5, D6, E2

#### Athabascan Values Related to this Lesson

- Self-sufficiency and Hard Work
- Care and Provision for the Family
- Sharing and Caring
- Respect for Elders and Others
- Respect for the Land and Nature
- Practice of Native Traditions
- Honoring Ancestors
- Spirituality

#### Learning Objectives

The student will be able to:

- Discuss the items that students should bring when going onto the land in winter.
- Describe what the important items included in the back pack are used for.

#### Materials

- A back pack, with pictures of items or actual example items from the list of things to bring to use in the activity.

## Vocabulary

Ax/Hatchet	A tool with a bladed, usually heavy head mounted crosswise on a handle. It can be used to break up ice, chop branches to put under your snow machine to get it unstuck, and build a shelter.
Come-a-long	A hand-operated winch with a ratchet used to pull objects. A strap or cable is hooked onto the vehicle, and then the other end is attached to a tree or rock. The ratchet moves and slowly pulls the heavy object.
Compass	A device that uses a magnetic needle to show which direction is north. It can be used in combination with a map to show you which way you need to go. If lost or turned around, it can help you get back on track.
First Aid Kit	A bag that contains bandages, pain medication, and other items that can be used to treat simple injuries like scrapes, sprains, and cuts.
Oriented	Knowing where you are on the land, and which direction from where you are your village or destination is.
Prepared	Ready to do or deal with something.
Respect	A positive feeling or action shown toward someone or something that is seen as important. It is also showing care and concern for
Signal	A way to relay information. Examples: using a mirror to make a flash of light to let a search helicopter know your location; using a fire to make smoke so that searchers can see your location.
Subsistence	The native practice of harvesting, preserving, and sharing natural resources to feed, clothe, and house their communities.
Winter	The coldest season of the year.

## Activities and Adaptations

- **Share the goal of today's lesson:** "Today we are going to talk about how to choose what you will bring with you when you go out on the land in winter. To learn about this, we will share ideas, and talk through some different situations to see what you would do. By the end of this lesson, you will be able to describe important items you may want to bring in your back pack when you go on the land in winter, and what those items are used for, so you can be prepared for activities on the land in winter."
- **Begin by finding out what students already know by asking the following questions:**
  - What does it mean to be prepared? (*Ready for different things that might happen, having what you need.*)
  - What are some examples things you could take with you in your back pack for a day trip on the land in winter? (*Food, water, heavy coat, first aid kit, hand warmers, heavy gloves ...*)

- Why is it important to be prepared when you go out on the land in winter? (*The weather can change or unexpected things can happen, and if you have what you need it isn't bad, but if you are unprepared it can be dangerous. Hypothermia and frost bite are serious and can be life-threatening.*)
- **Connect the Values of today's lesson with the objectives, pick at least two to highlight:**
  - **Self-sufficiency and Hard Work:** *Our ancestors learned how to use what the land provided to survive and thrive in interior Alaska. We still draw on that knowledge and the values of hard work and taking care of our communities today.*
  - **Care and Provision for the Family:** *Providing food for our families and community members takes work in the winter time, and the land provides what we need. When we show respect to the animals and land, we show respect to our Ancestors who taught us the skills and values we use today.*
  - **Sharing and Caring:** *Winter is a special time to connect with family, Elders, and our communities.*
  - **Respect for Elders and Others:** *We show respect for our Elders by honoring the knowledge they and our Ancestors have shared to stay safe and healthy on the land. We honor our Elders when we share what the land has provided.*
  - **Respect for the Land and Nature:** *We are connected to the land and rely on the land to live and thrive. These ways continue to keep the land healthy for us and our children and grandchildren. This value helps us make sure the things we need (moose, caribou, trees, water, clean air) will be here for us for a long time.*
  - **Practice of Native Traditions:** *The winter is a time to sing, dance, hear stories, connect with friends and relatives, and celebrate together. Travel to activities in winter takes planning so that we arrive and return safely.*
  - **Honoring Ancestors:** *There are many ways we honor our Ancestors in the winter. We do this through our songs, dances, stories, sharing, beading, hunting animals with respect, and by expressing our appreciation for the land and all it provides.*
  - **Spirituality:** *Being out on the land in every season is an important way to connect to our Ancestors and our spirituality.*
- **Being Prepared:**
  - Our Ancestors knew how important it was to be prepared. Survival on the land in winter depends on having what you need with you to face unexpected challenges. When you are prepared, you can get through what could be a dangerous situation safely.
- **Back pack activity:** "Last time, we talked about things to think about before going onto the land. Today we are going to look at what you might want to bring in your back pack for different kinds of activities." Start by introducing the main things that someone should have in their back pack for safety. Ideally, have these items laid out on a table that the students can see and touch as you talk about them. If you cannot have the items, then use pictures of the items, laminated on cards.



- **The Essentials** (These two lists adapted from the Alaska Public Lands Information Center):
  - Warm clothing: warm jacket, hat, long pants, balaclava (to cover face), mittens, heavy socks
  - Extra food and water
  - Flashlight/headlamp
  - Matches & fire starter
  - First aid & repair kit
  - Whistle & signal mirror
  - Map & Compass
  - Extra warm clothes including dry socks (“Even on a short trip, you could end up getting wet. Extra clothing to change into may include socks, boot liners, down jacket, gloves/mittens, knit hat, long underwear, windproof or insulated overpants, fleece top, and fleece pants.” [Dangerous Ice](#), page 59)
  - Pocket knife
  - Come-along with rope (if on a snow machine) (This item is recommended from the [Dangerous Ice](#) booklet, page 52.
- Talk about additional items that they can bring depending on the situation, and why they may or may not choose to bring that item.
  - Waterproof foot wear
  - Watch
  - Smart phone
  - Trash bag
  - Tarp and/or space blanket
  - Sunglasses
  - Gloves/mittens
  - Personal medications
  - Cord/rope
  - Gaiters
  - Extra batteries
  - GPS
  - Camera
  - Binoculars
- **Items recommended from the [Dangerous Ice](#) book, starting on page 52 (refer to the book for pictures of these items):**
  - “A rope winch or come-along can be used to pull out a stuck snowmachine. At least 50 feet of heavy weight rope is recommended. Kevlar rope is extra strong and does not stretch.
  - Ice screws can be useful for attaching your winch line, since you may be far from any trees.
  - A rope with a piece of wood at the end can be used to rescue someone in the water. When throwing the line, the person in the water may be able to grab onto the floating piece of wood and more easily be pulled to safety.”

- “**Ice picks** are used to pull yourself up and out of the water if you fall through the ice. They give you something to dig into the ice and grab onto. They should be kept in a place where you can get to them quickly, such as an outer pocket or pouch around your neck.” ([Dangerous Ice](#), page 53 shows an example of these and how they are used.)



There is a video in the additional resources that shows a self-rescue using them. Traditional ice picks are designed (as the modern ones in the picture here show), to click together and worn around the neck.

- “In case of an emergency, kerosene, matches, flint, or kindling can be used to get a fire started quickly. A waterproof container will help keep this fire-starting material dry if you get wet. Cotton balls or other textiles rubbed with chapstick or candle wax or soaked in kerosene are good fire starters.” ([Dangerous Ice](#), page 54, shows a simple emergency kit strung on a necklace that can be worn which includes a lighter, flint, electrical tape, chapstick, and cotton wrapped in aluminum foil.)
- **Emergency food:** “Food that will not freeze or can easily be eaten cold or frozen is best. Smoked salmon, beef jerky, cheese, crackers, hard candies, chocolate, or trail mix are some preferred items.” A thermos with a hot drink in it is also a great addition. ([Dangerous Ice](#), page 56)
- **Spare parts for snow machine:** “In case of breakdown, you may want tools and spare parts, such as a drive belt and spark plugs, for your snowmachine. Extra fuel and oil for your snowmachine may be needed. A Quick Link or carabiner can also be useful if you need to tow another snow machine.” ([Dangerous Ice](#), page 57)
- **Scenarios Activity:** For the activity, as a group or individually, tell the students an example winter activity, and have the students place the items from the table into the back pack that they would want to have with them in that scenario.

You can use the same scenarios from lesson 3, or give other examples specific to your community. This will start with those items people should always bring, and move to the situation specific items. **To make it more challenging, you can have extra items on the table that students may want to bring, but that are not as essential as the safety gear, so there are more choices to discern from.**

- **Hunting:** If you need to stay out when you didn’t expect it, you need to make some kind of shelter. This could be a snow shelter or a shelter made with spruce boughs or even a tarp over your snow machine to huddle under. Specific items you would want to have with you would be fire making supplies, food, flashlight, and extra clothes.
- **Lost:** When going in a new area, you can use flagging to mark trees as you go, so you can be sure to find your way back. Knowing which general direction the village is from where you are going can be helpful. You can use other landmarks like a river to help you keep track of where you are in relation to home. This will

help you stay oriented. A compass can help you know the direction you are going. If you don't have a compass, you can use other landmarks or even the North star to know which direction to head.

- **Snow machine flipped:** A come-along is an important thing to have with you so you can pull the machine back over. You may be able to use a long thick branch as a lever to roll it over. An ax could help you chop ice or branches to get the machine unstuck. Rope may work, but may not be strong enough. It is important not to panic, and to work quickly to get the machine unstuck.
- **Overflow:** If you are carrying dry clothes and moose-hide moccasins and dry socks, change into those quickly to stay warm. It is important to keep the snow machine running if it has water on it, because if the water freezes the machine can seize and then your situation will be more serious. It is important to carry what you need to stay warm, dry, hydrated, and fed.

## Learning stories

- Ask the students to share a story about what they take with them when they go out on the land in winter.
- Invite a local Alaska Native culture bearer to share a story or explain how they prepare before hunting or going out on the land to harvest in winter. Invite them to share how they were taught to show respect to animals and the land when they were traveling on the land in winter.

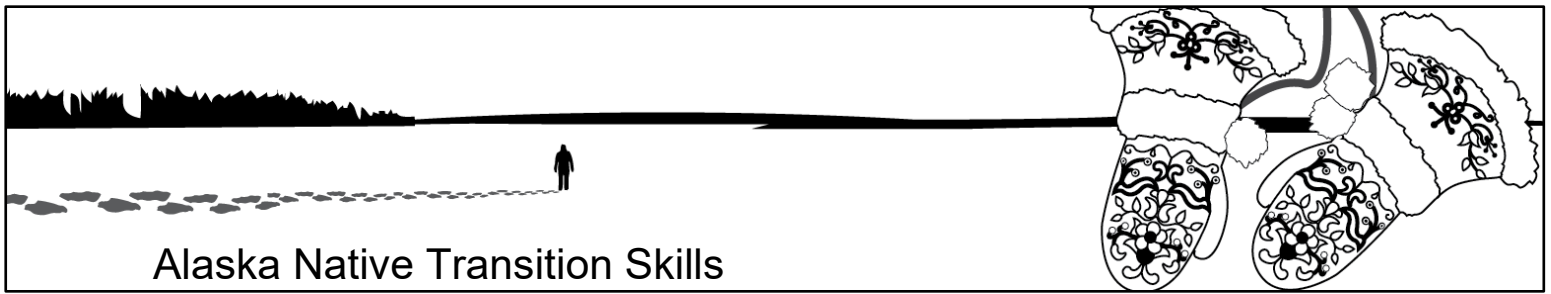
## Evaluation

At the end of the lesson, ask the students these questions:

- What are some important items that you should bring when going onto the land in winter?
- What are the important items used for? What makes them important?

## Additional Resources

- ***Packing the Car for a Safe Winter Adventure in Alaska*** has some good basic tips and things to have with you in the winter in a vehicle. Can be adapted for other modes of transportation. <https://www.alaska.org/advice/packing-the-car-for-a-safe-winter-adventure-in-alaska>
- ***On Dangerous Ice: Changing Ice Conditions on the Tanana River***—Explains the ice dynamics of the Tanana River in order to educate the general public about conditions they may encounter when traveling on the river in the winter and to provide general safety tips or guidelines. There is a good list of things to bring when out on snow machines for safety with pictures, starting on page 52. <https://jukebox.uaf.edu/sites/default/files/documents/Dangerous%20Ice%20web%202013-08-07-A-1.pdf>



## Alaska Native Transition Skills

### Seven Steps for Survival in Winter

#### Overview

In this lesson, students will learn about seven steps that can help them survive an emergency situation on the land. It takes a combination of having the right things with you, knowing how to use them, and having a good attitude to get through a challenging situation on the land.

*Note to teachers: be aware of how you talk about the land. Going out onto the land 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

- A4, B3, C1, C3, D5, D6, E2

#### Athabascan Values Related to this Lesson

- Self-sufficiency and Hard Work
- Care and Provision for the Family
- Sharing and Caring
- Respect for Elders and Others
- Respect for the Land and Nature
- Practice of Native Traditions
- Honoring Ancestors
- Spirituality

#### Learning Objectives

The student will be able to:

- Describe the STOP approach to knowing when you are in an emergency, to take an inventory, and make a plan.
- Describe the seven steps of survival used in an emergency situation.

#### Materials

- Student Handout: *The Seven Steps to Survive in Winter*

## Vocabulary

Insulation	Material that helps keep in heat. Thicker dry clothes and sleeping bags are examples of insulation.
Inventory	Make a mental 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.)
Prepared	Ready to do or deal with something.
STOP	<b>Sit:</b> Take a moment to take a deep breath. Unless you are in immediate danger, it is best to stay put. <b>Think:</b> Use your brain, don't panic. Think about what you have with you to help. <b>Observe:</b> 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). <b>Plan:</b> 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.
Survival	Living through an ordeal, accident, or challenge.
Winter	The coldest season of the year.

## Activities and Adaptations

- **Share the goal of today's lesson:** "Being prepared is one important way to take care of yourself and your family and shows respect for the land. Sometimes challenges happen that you don't expect, and there are things you can do to return home safely. Getting through an emergency situation on the land takes a combination of supplies, skills, and attitude. To learn about these, we will share ideas, and use a handout to learn about seven steps to use to survive. By the end of this lesson, you will be able to describe the seven steps to follow in an emergency, and how to use the *STOP* approach to know you are in a challenging or emergency situation."
- **Begin by finding out what students already know by asking the following questions:**
  - What are examples of unexpected challenges that could happen when out enjoying the land in winter? (*Fall, scrapes/sprains, lost, snow machine or vehicle breaks down, getting separated from family members, animal encounters, weather changes...*)
  - What is an example of an emergency that happens fast, and is a clear emergency? (*Someone breaks through the ice on a snow machine and gets wet, someone flips their snow machine and breaks a leg or arm...*)
  - What is an example of an emergency that happens slowly and may be harder to recognize? (*The winds kick up and the temperature drops below what was planned for, making you cold. While hunting, one person has the back pack with supplies, and is separated from another, and there is a sudden blizzard.*)

- Why is it important to have a good attitude in a challenging situation? (*You can think better and be more creative to face the challenges if you have a good attitude. If you panic or give up it can make a hard situation worse.*)
- How did the Dene Athabascan peoples make fire when they went to harvest from the land? (*The most common way to make a fire was by using a fire drill to create a spark.*)
- **Connect the Values of today's lesson with the objectives, pick at least two to highlight:**
  - **Self-sufficiency and Hard Work:** *Our Ancestors learned how to use what the land provided to survive and thrive in interior Alaska. We still draw on that knowledge and the values of hard work and taking care of our communities today.*
  - **Care and Provision for the Family:** *Providing food for our families and community members takes work in the winter time, and the land provides what we need. When we show respect to the animals and land, we show respect to our Ancestors who taught us the skills and values we use today.*
  - **Sharing and Caring:** *Winter is a special time to connect with family, Elders, and our communities.*
  - **Respect for Elders and Others:** *We show respect for our Elders by honoring the knowledge they and our Ancestors have shared to stay safe and healthy on the land. We honor our Elders when we share what the land has provided.*
  - **Respect for the Land and Nature:** *We are connected to the land and rely on the land to live and thrive. These ways continue to keep the land healthy for us and our children and grandchildren. This value helps us make sure the things we need (moose, caribou, trees, water, clean air) will be here for us for a long time.*
  - **Practice of Native Traditions:** *The winter is a time to sing, dance, hear stories, connect with friends and relatives, and celebrate together. Travel to activities in winter takes planning so that we arrive and return safely.*
  - **Honoring Ancestors:** *There are many ways we honor our ancestors in the winter. We do this through our songs, dances, stories, sharing, beading, hunting animals with respect, and by expressing our appreciation for the land and all it provides.*
  - **Spirituality:** *Being out on the land in every season is an important way to connect to our Ancestors and our spirituality.*
- **Seven Steps to Survive:** In an emergency, there are seven important steps that will help you face the challenge and survive.
  1. Recognition: Admit you are in trouble, and that your life may be in danger.
  2. Inventory: Take stock of what you have on hand, and attend to any injuries the best you can.
  3. Shelter: Preserve body heat and plan how you will stay warm:  
Clothing/Shelter/Fire/Sleeping bag.
  4. Water: Find a safe source of water and/or a way to collect water.
  5. Signal: Help rescuers find you.
  6. Food: After you are safe and warm, food will help while you wait.
  7. Play: Stay positive and alert.

**Step 1: Recognize you are in an emergency.** Admit you are in trouble, and that your life may be in danger. Some emergencies are obvious such as someone falls into cold water and soaks their clothes (it would be important to quickly get them into warm dry clothes and warm them up so the situation doesn't get more serious). Sometimes, it is harder to recognize that you are in a bad situation. The sooner you can recognize it and do something, the better.

**Step 2: Take an inventory.** An inventory is thinking through your current challenge, and noticing what you have on hand that can help you face the challenge. What is the biggest threat? Is there an injury or risk that needs to be handled right away? Where are my supplies? My first aid kit? Am I safe in this location, or do I need to change something to be in a safer place?

- **Inventory Activity:** 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 item you think you need, you may be able to use something else in a creative way to meet the same need.

**Step 3: Shelter.** One of the biggest threats to survival in an emergency, especially in Alaska, is hypothermia. Hypothermia is when the body is too cold. Making sure you have a way to stay warm or get warm is more important than water or food. If you have to wait for rescue, make sure you can stay warm.

Some ways to stay warm:

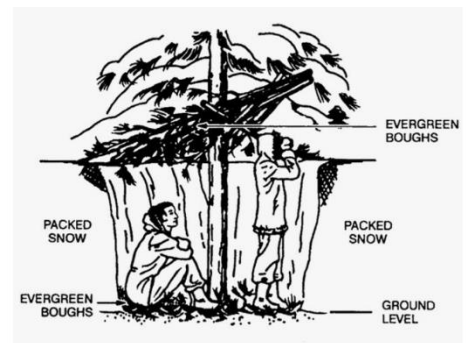
- Warm dry clothes, and a rain jacket or plastic bag to keep you dry.
- Build a fire: collect wood that can burn, use matches and firestarter from your backpack to build a fire. Snow may be thinner under trees or fallen trees, making it easier to locate fallen branches you can use. Choose dry wood and twigs.  
Activity Extension for fire building: How did the Dene Athabaskan peoples make a fire without matches? Using only what the land provided, they made a hand drill. To see how a hand drill works to start a fire, you can watch this video, *How to Make a Hand-Drill Fire* (3:48):  
<https://www.youtube.com/watch?v=TpluzWZsbJc>. After watching that to get the basic concept, you can watch and try this one, which helps get at the idea of using things in different ways: *Hand drill fire using clothes pins* (1:21):  
<https://www.youtube.com/watch?v=v27ht7BtF-0>
- Sleeping bag: If you don't have a sleeping bag with you, you can put on extra clothes and wrap yourself in a tarp, behind something that protects you from the wind.
- Natural protection: Find a good tree or rock that helps protect you from the wind.

- Build a snow shelter: If it looks like you will need to stay put, you can create a shelter with branches or a tarp to help keep you warm and dry. There are two main ways to make a quick snow shelter:

**Snow Cave:** Think like a beaver. Beavers build their lodges in a bell shape, so that the entrance to the cave is below where they sleep or sit. This naturally traps the heat. Look for a location where the snow has drifted into a big pile. Dig up to dig out a hole in an upright bell shape. [[Drawing by Alastair Mcdowell](#)].



**Tree Pit Shelter:** If you are in an area where there are trees, you can dig out the snow around the trunk, and pack the walls to keep them from falling in. Use any branches to cover the floor and give yourself a drier place to sit or lie down. If there are other branches, put them overhead to help trap some heat.



**Step 4: Water.** After being warm, being hydrated (having enough water) is the next most important thing. What will you drink after the water you have with you is gone? People need between 2–4 quarts of water per day to stay hydrated. In the winter, most water will be frozen. If you need to get water from snow, it is best to dig down to where the snow is more compact. Eating fluffy snow will make you thirstier. If you have a thermos with warm water or tea or cocoa, that will help keep you warmer. If you have a little pot or a way to melt snow over a fire or camp stove, that will both warm you and keep you hydrated.

**Step 5: Signals.** When people come to look for you, make it easier for them to find you by using signals. There are different kinds of signals: active and passive. Active signals have to actively be done (using a signal mirror to make a flash, or throwing grass on a fire to make more smoke, or blowing a safety whistle) Passive signals are signals that work without you (like using branches to make a huge “X” on the snow, and then checking it to make sure more snow hasn’t covered it up). You want your signal to stand out and get noticed. Think of ways to make your signal stand out. Example: When creating a word signal with rocks, use dark stones on a lighter background (or light rocks on a dark background), use block letters or straight lines as sharp angles stand out from the more flowy lines of nature.

**Step 6: Food.** Food can help you keep up your strength and your spirits. Try to make any food you have with you last by eating only a little at a time. In the winter, you may need to carry more with you, as the land won’t have berries or other edible plants available.



**Step 7: Play.** In this case, it means to keep yourself busy in ways that help you keep a positive outlook and stay alert. A positive outlook means looking for the positive in your situation, and doing all you can to stay healthy and survive your challenge. Playing games that keep your mind active and alert can help. Examples:

- If you are with another person, play games such as “I Spy” or “20 Questions.” [In “I Spy,” one person sees something from where they are sitting and says, “I spy with my little eye something that is...” then gives a clue. The other person makes a guess. The first person can continue to give clues until the person guesses it. In “20 Questions,” one person thinks of anything in the world, it doesn’t have to be where they are. The other person tries to guess what it is by asking questions that can be answered with “yes” or “no”, in 20 questions or less.]
- You could recite the multiplication table.
- *Brainstorm with the students other games they could play or things they could do to keep busy and alert while waiting for rescue.*
- **STOP can be an easy tool to remember (with less steps):**
  - **Sit:** Take a moment to take a deep breath. Unless you are in immediate danger, it is best to stay put.
  - **Think:** Use your brain, don’t panic. Think about what you have with you to help.
  - **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, water, signal, food).
  - **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.
- **Survival Rules of Three and Survival Priorities** (From <https://www.backcountrychronicles.com/wilderness-survival-rules-of-3/> )

“For real survival situations it is better to remember and prioritize by the four levels of the Survival Rules of 3:

  - You can survive for 3 Minutes without air (oxygen) or in icy water
  - You can survive for 3 Hours without shelter in a harsh environment (unless in icy water)
  - You can survive for 3 Days without water (if sheltered from a harsh environment)
  - You can survive for 3 Weeks without food (if you have water and shelter)

The main point of the Rules of 3 that **we have to concentrate on the most immediate problem first...** There is no need to think about food if the main threat to your survival is hypothermia because your clothes are wet. And make no mistake, if you are shivering and can’t get dry and warm, you may not be able to function after three hours. If you are alone, you may have only about three hours to live.”
- **Always let someone know where you are going, and when you plan to come back.**

Whenever you go out onto the land, make sure someone who is not with you knows where you are going, and when you plan to get back. If you are late in returning, this will be important for people that need to come look for you.

## Learning stories

- What stories have they heard about people who have been in an emergency on the land in winter? What helped them survive? What can they learn from these stories?
- Invite a local Alaska Native leader, Elder, or culture bearer to share a story or explain what they bring with them when hunting or going out on the land in the winter.

## Evaluation

At the end of the lesson, ask the students these questions:




- What is the STOP approach to knowing when you are in an emergency, to take an inventory, and make a plan?
- What are the seven steps of survival used in an emergency situation?

## Additional Resources

- ***Three Ways to Build a Snow Shelter***: Good pictures and detailed description: <https://www.gearpatrol.com/outdoors/a212343/how-to-build-a-snow-shelter/>
- ***How to Survive Winter Emergencies*** article with good tips for a variety of kinds of winter situations: <https://theprepared.com/emergencies/guides/survive-cold-weather-winter-scenarios/>

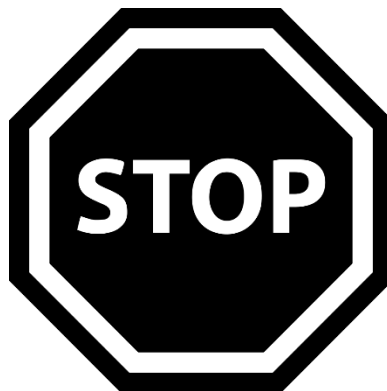
## The Seven Steps to Survive

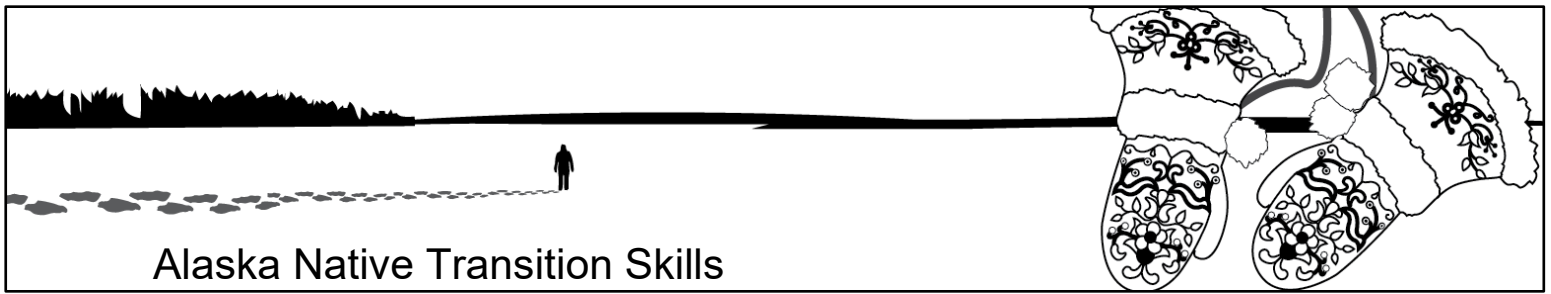
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	1. Recognition: Admit you are in trouble, and that your life may be in danger.
	2. Inventory: Take stock of what you have on hand, and attend to any injuries the best you can.
	3. Shelter: Keep your body heat and plan how you will stay warm. Will you use warm clothes? A shelter? Fire? Sleeping bag?
	4. Water: Find a safe source of water or a way to collect water.
	5. Signal: Help rescuers find you.
	6. Food: After you are safe and warm, food will help while you wait.
	7. Play: Stay positive and alert. Keep your mind busy.

**Once you recognize that you are in an emergency, use STOP!**

<b>S</b>	<b>Sit:</b> Take a moment to take a deep breath. Unless you are in immediate danger, it is best to stay put.
<b>T</b>	<b>Think:</b> Use your brain, don't panic. Think about what you have with you to help.
<b>O</b>	<b>Observe:</b> Look around you to see what you have with you. What do you have around you that can help with your basic needs? (Shelter, Water, Signal, Food)
<b>P</b>	<b>Plan:</b> <ul style="list-style-type: none"><li>○ Treat any medical needs.</li><li>○ Make sure you have shelter, and can stay warm.</li><li>○ Find water.</li><li>○ Figure out how you will signal people who come to look for you.</li><li>○ Find food.</li></ul>





## Alaska Native Transition Skills

### Snow Shoes

#### Overview

Without snow shoes, the Dene Athabascan ancestors would not have been able to survive in interior Alaska. In the past, the ancestors did everything in the winter wearing snow shoes. They hunted, walked to retrieve food from food caches, checked trap lines, and packed down trails for dog teams. Even today, where more people use snow machines as their primary way to get around in the winter, snow shoes are a critical part of navigation in the winter.

*Note to teachers: be aware of how you talk about the land. Going out onto the land 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

- A3, A4, A5, A6, B2, C1, C3, D1, D4, D5, E2, E8

#### Athabascan Values Related to this Lesson

- Self-sufficiency and Hard Work
- Care and Provision for the Family
- Sharing and Caring
- Respect for Elders and Others
- Respect for the Land and Nature
- Practice of Native Traditions
- Honoring Ancestors
- Spirituality

#### Learning Objectives

The student will be able to:

- Describe how snow shoes were traditionally made.
- Describe why snow shoes help people walk on top of deep snow.
- Describe why snow shoes are still important today.

#### Materials

- Student Handout: *The Origin of Snow Shoes* (Accessed online at: [https://www.fs.usda.gov/Internet/FSE\\_DOCUMENTS/stelprdb5109544.pdf](https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5109544.pdf))
- Teacher resource: An interview with George Albert, traditional snow shoe maker.
- If possible, bring in examples of traditional snow shoes and modern snow shoes.

## Vocabulary

Babiche	Babiche is a type of cord or lacing of rawhide or sinew traditionally made by Native Americans. It was used as a type of string or rope. In snow shoes, babiche is used in the webbing on the front and back of the snow shoe.
Binding	The long piece of moose hide which attaches the foot to the snow shoe. It is tied to the foot in a way that it can be quickly kicked off if the person wearing them falls through ice.
Birch	The type of tree used in making traditional snow shoe frames.
Frame	The outer edge of the snowshoe.
Rawhide	Thin strips of moose or caribou hide, woven across snow shoes to create the webbing in front and behind the foot.
Snow pack	A way to describe how compacted the snow is. Packed snow is firm and easier to walk on (with or without snow shoes). Powder is fluffy snow that is difficult to walk on. Deep snow can also be packed on top, with powder underneath. A light weight person or animal may be able to walk on top, but a heavier person or animal will break through, known as “post-holing.” Snow shoes help a person stay on top of the snow and avoid punching through.

## Activities and Adaptations

- **Share the goal of today’s lesson:** “Today we are going to talk about snow shoes. Snow shoes were an important tool for the Ancestors of the Dene Athabascans to survive on the land in winter. Today, the snow shoes may look different than those used traditionally, but they are still a very important part of traveling in winter safely. To learn about this, we will share ideas and stories, watch a video, and look at a handout. By the end of this lesson, you will be able to describe how snow shoes were traditionally made, describe why snow shoes help people walk on top of deep snow, and describe why snow shoes are still important today.”
- **Begin by finding out what students already know by asking the following questions:**
  - What are snow shoes? *(A type of foot wear with a broad surface that ties to the boots. Worn to walk in deep snow.)*
  - What do snow shoes do? *(They keep you from sinking into deep snow. Staying on top of the snow is much easier than wading through it.)*
  - What did the Ancestors use to make snow shoes? *(Birch was used for the frame, and moose or caribou hide was used for the webbing.)*
  - How do snow shoes work? *(The snow shoe spreads your weight over a bigger surface area than your boot alone would. This holds you up.)*

- **Connect the Values of today's lesson with the objectives, pick at least two to highlight:**
  - **Self-sufficiency and Hard Work:** *Our Ancestors learned how to use what the land provided to survive and thrive in interior Alaska. We still draw on that knowledge and the values of hard work and taking care of our communities today.*
  - **Care and Provision for the Family:** *Providing food for our families and community members takes work in the winter time, and the land provides what we need. When we show respect to the animals and land, we show respect to our ancestors who taught us the skills and values we use today. Snow shoes allowed people to move on the land in winter. Everything needed to make snow shoes was provided by the land.*
  - **Sharing and Caring:** *Winter is a special time to connect with family, Elders, and our communities.*
  - **Respect for Elders and Others:** *We show respect for our Elders by honoring the knowledge they and our Ancestors have shared to stay safe and healthy on the land. We honor our Elders when we share what the land has provided.*
  - **Respect for the Land and Nature:** *We are connected to the land and rely on the land to live and thrive. These ways continue to keep the land healthy for us and our children and grandchildren. This value helps us make sure the things we need (moose, caribou, trees, water, clean air) will be here for us for a long time.*
  - **Practice of Native Traditions:** *The winter is a time to sing, dance, hear stories, connect with friends and relatives, and celebrate together. Travel to activities in winter takes planning so that we arrive and return safely.*
  - **Honoring Ancestors:** *There are many ways we honor our ancestors in the winter. We do this through our songs, dances, stories, sharing, beading, hunting animals with respect, and by expressing our appreciation for the land and all it provides.*
  - **Spirituality:** *Being out on the land in every season is an important way to connect to our Ancestors and our spirituality.*
- **Snow Shoes Introduction—**
  - Snow shoes allow a person to walk on top of the snow instead of breaking through and having to wade or punch through deep snow. The weight of the person is spread out from the snow shoe over the surface of the snow.
  - Snow shoes allowed the Dene Athabascan Ancestors freedom in the winter time to move about to hunt and trap. It allowed them to make trails for their dog teams when snow was too deep for the dogs to run in.
  - Most Indigenous people in North America who live in snowy areas have their own designs of snow shoes that fit the environment where they lived. Some are long, some are more rounded, some have upturned toes, some are flat. Dene Athabascan snow shoes tend to be long, with a rounded front (which is somewhat upturned), and a rounded back which tapers to a point.

Look at this handout with students and talk about the significance of the different shapes that are used. Talk about how the snow shoes came to the tribes of Alaska and North America. Student Handout: *The History of Snow Shoes* (Accessed online at: [https://www.fws.gov/sites/default/files/documents/2024-09/history-of-snowshoes-lesson-plan\\_final.pdf](https://www.fws.gov/sites/default/files/documents/2024-09/history-of-snowshoes-lesson-plan_final.pdf))

- Mr. George Albert was the last person still making Dene Athabascan snow shoes in the traditional way. Dene Athabascans use a specific kind of birch tree to make the frame. Watch this video with Mr. George Albert showing how he makes snow shoes: <https://www.youtube.com/watch?v=PZefeeHPMqI>. (See the Learning Story about an interview with George Albert to learn more about how they are made.)
- To incorporate Dena'ina language into this lesson, watch this Smithsonian Arctic Studies Center video on snow shoes: *Sharing the Dena'ina Language (3 of 3): Snowshoes*: <https://www.youtube.com/watch?v=oCX3upCAX80>
- **Snow Shoes Now—**
  - Why are snow shoes important today, now that we have snow machines?
    - There are times you need to walk in the snow, even with a snow machine. Sometimes the snow is too fluffy or unstable and has to be stamped down with snow shoes before it is safe to take a snow machine through it. If a snow machine breaks down, a person may have to hike out.
    - People need to be able to walk in areas that the snow machine doesn't go, such as when they are checking trap lines or hunting in deep brush.
    - People enjoy going for walks or hikes in the winter, and snow shoes make it more enjoyable to be out on the land.
    - People like to do snow shoe races.
    - Older culture bearers say that being out in winter without snow shoes is like being unable to walk.
    - Ask the students if they have used snow shoes, and to share their experiences.
- **Picking Out Snow Shoes—** One way to think about choosing snow shoes is to think of the terrain, the load, and the snow conditions. What works in one set of snow conditions may not work as well in others. People need to find snow shoes that fit the ways they use them most of the time.
  - Too big of a snow shoe makes it hard to walk very easily. Most people look for a snow shoe that will be the smallest it can be (for easier walking) but that will still keep them "floating" on the snow.
  - Smaller snow shoes are good for: Hard packed snow, walking on established trails, smaller people who are not carrying a heavy back pack.
  - You need bigger snow shoes if you: Hike in soft or very deep snow, are carrying a heavy load, you are a bigger person, or if you plan to break trail or go in an area with no trail.



- REI has a good article about these ways to select the best type of snow shoe.  
<https://www.rei.com/learn/expert-advice/snowshoes.html> (Commercial site, but information is accurate and reliable.) This commercial site has a chart showing sizing recommendations by weight and snow conditions:  
<https://cascadedesigns.com/blogs/msr-gear-guides/snowshoe-sizing-how-to-pick-snowshoe-length? pos=3& sid=1d1fe2e10& ss=r>

## Learning stories

- Interview with George Albert, the last Dene Athabaskan traditional snow shoe maker: Read the interview with students (teacher resource). Discuss the process shown in the video and described in the learning story of how George makes the snow shoes.
- Invite a local Alaska Native leader, Elder, or culture bearer to share a story or explain how they used snow shoes when they were growing up. Have someone bring in examples of traditional snow shoes and explain why the snow shoes are shaped a certain way. (Example: Snow shoes with the toe upturned sharply work better in wooded uneven terrain).

## Evaluation

At the end of the lesson, ask the students these questions:

- How are snow shoes traditionally made?
- How do snow shoes help people walk on top of deep snow? How do they work?
- Why are snow shoes important to use in the winter?

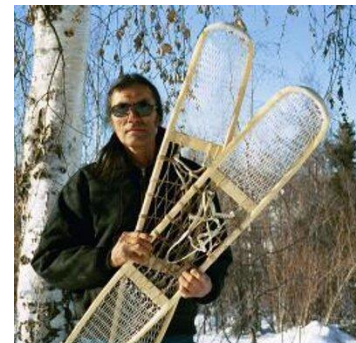
## Additional Resources

- ***The Athabaskan Snowshoe Makers Residency*** (7:32) Video shows George Albert and other Elders sharing how to make snow shoes, with brief interviews of the culture bearers: <https://www.youtube.com/watch?v=c0Whah0U28Q>
- **Slide show of George Albert's snow shoes and workshop** (Traditional Dene Athabaskan snow shoe maker): <https://www.adn.com/rural-alaska/slideshow/photos-snowshoe-maker-george-albert/2011/02/04/>
- **George Albert blog on snow shoes:** <http://albertsnowshoes.blogspot.com/>
- Nelson, Mautner, & Bane. (1982). *Tracks in the Wildland: A Portrayal of Koyukon and Nanamiut Subsistence*. Walsworth Publishing Company. Excellent book with traditional knowledge of subsistence practices and other traditional knowledge.
- **Canadian Encyclopedia Article on Snow Shoes:** <https://www.thecanadianencyclopedia.ca/en/article/snowshoes>
- **Commercial sites with guidance on selecting the right snow shoe for a person and the conditions they will use them:** <https://www.rei.com/learn/expert-advice/snowshoes.html> and <https://cascadedesigns.com/blogs/msr-gear-guides/snowshoe-sizing-how-to-pick-snowshoe-length? pos=3& sid=1d1fe2e10& ss=r>

## Interview with George Albert, Dene Athabascan Traditional Snow Shoe Maker

*Interviewed 2/18/2022 by Rain Van Den Berg*

Mr. George Albert grew up in Kokrines, about 28 miles from Ruby, Alaska. He lived with his mother and father, his brother Phillip Jr., and sisters Barbara and Rose, and younger brother Howard. His family moved up river in the Fall to work the traplines. During the winter, they traveled by dog team and sled. Once the river broke up in the Spring, they moved to their fish camp for the summer months. His mother made all of the clothes and boots the family needed to be comfortable in the winter from moose hides.

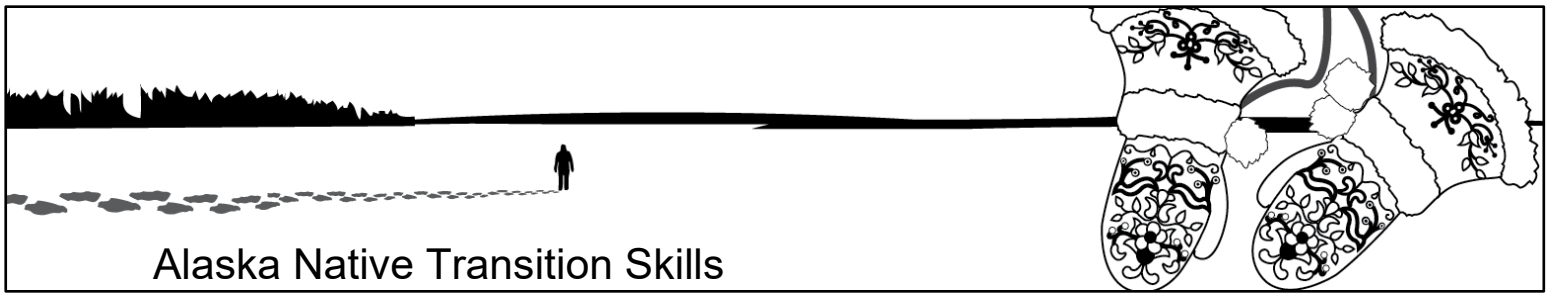


When Mr. Albert was a young man, he decided he wanted to learn how to make snow shoes. For two years, he tried making the frames for snow shoes. He cut birch trees, but they kept breaking when he tried to shape them into a frame. One day, he cut some birch trees and they bent into shape without breaking. This is how he learned that there is just one kind of birch tree that works for making snow shoes. He took his frames to an Elder, and she wove the babiche to make the webbing on the snow shoes. He made more frames, and taught himself how to do the webbing by carefully copying what she had done. Over the years, he has learned tips from people such as his uncle Peter Demoski and George Yaska. After more than 40 years making snow shoes, he is highly respected for his fine work.

How does Mr. Albert make his snow shoes? He finds trees that have a straight grain, so he can split it to the right thickness. He can look at a tree and see how the grain will be on the inside, because he has had so much practice selecting the best trees. He cuts the trees, removes the bark, and splits them. If a tree splits too easily, it isn't very strong. After they sit inside overnight, he bends the wood around a mold and clamps it into place while it dries. It dries for 5 days. Once dry, it will hold its shape. Traditionally, Dene Athabascans used babiche (animal sinew or rawhide) to make the webbing. For snow shoes that get used every day, this would need to be redone about 3 times a winter. Because of this, George now uses a type of braided twine that is usually used by fisherman to make nets. It is lightweight and strong. He covers the webbing and frame with a marine grade verathane to seal it from moisture. Snow shoes made this way will hold up to decades of use.

Many people have bought his snow shoes to hang as art because they are so beautiful, but George prefers to make snow shoes that will be used. Mr. Albert has used snow shoes his whole life. When he had dogs and a sled, he often had to break trail with his snow shoes when the snow was too deep for the dogs. He wore them to walk his trap lines when harvesting beaver and other animals. He wore them moose hunting. Even on a snow machine, it is very important to have snow shoes in case you need to break trail or in case you break down and have to walk out. Mr. Albert also enjoyed racing in snow shoes for fun.

Mr. Albert still has a high demand for his snow shoes, and still enjoys making them. He feels he is still learning his craft even after so many years. *[Photo Credit: Image from Mr. George Albert with his snow shoes from his Twitter site, <https://twitter.com/albertsnowshoes>]*



## Alaska Native Transition Skills

### Important Things to Know about Snow

#### Overview

The Ancestors of the Dene Athabascan people were finely tuned into snow conditions. Mobility and survival during the winter months depended on keen observations of changing snow conditions and what it meant for traveling on the land. In this lesson, students will learn about some of the important types of snow to be familiar with when going on the land in winter.

*Note to teachers: be aware of how you talk about the land. Going out onto the land 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

- A3, A4, A5, A6, B2, B3, C1, C3, D4, D5, D6, E1, E2, E8

#### Athabascan Values Related to this Lesson

- Self-sufficiency and Hard Work
- Care and Provision for the Family
- Sharing and Caring
- Respect for Elders and Others
- Respect for the Land and Nature
- Practice of Native Traditions
- Honoring Ancestors
- Spirituality

#### Learning Objectives

The student will be able to:

- Describe three reasons it is important to know about the snow conditions before you go.
- Describe the best snow to eat if you are thirsty.
- Describe the best way to create a snow shelter and why you would need to build one.

#### Materials

- Student Handout: *Building a Shelter in the Snow*

## Vocabulary

Precipitation	Rain, snow, sleet, or hail that falls from the clouds.
Prepared	Ready to do or deal with something.
Siwashing	Koyukuk term for camping without a tent. In winter, this was a way of making a shelter using only natural materials, and a small ax.
Temperature	How cold or hot it is.
Weather	The environmental conditions in an area such as sun, rain, snow, winds, and temperature.
Wind Chill	The wind makes it feel much colder than the temperature alone would suggest. Wind chill should be considered to determine what clothing is needed. Wind chill can cause hypothermia and frost bite if not prepared for.
Winter	The coldest season of the year.

## Activities and Adaptations

- **Share the goal of today's lesson:** "Today we are going to learn about the different types of snow and why knowing these can help you as you travel on the land in winter. To learn about this, we will share ideas and stories and look at different ways to make a snow shelter. By the end of this lesson, you will be able to: describe three reasons it is important to know about the snow conditions before you go; describe the best snow to eat if you are thirsty; and describe the best way to create a traditional Koyukon snow shelter and why you would need to build one."
- **Begin by finding out what students already know by asking the following questions:**
  - What are different kinds of snow that make it easier or harder to get around on the land in winter? *Deep snow can be hard unless you have snow shoes, wet snow is heavy and gets your boots wet, icy snow can be good to walk on top of unless it is too thin and you break through...*
  - Why is it important to know about snow conditions before you travel on the land? *Depending on how you plan to travel, the snow conditions will make it easier or harder.*
  - What is the best kind of snow to use for water? *Heavy snow, or snow nearer the ground in deep snow has a higher amount of water in it.*
  - Can you build a shelter in the snow with only an ax? *With an ax and a pair of snowshoes you can build a good shelter in the snow.*
- **Connect the Values of today's lesson with the objectives, pick at least two to highlight:**
  - **Self-sufficiency and Hard Work:** *Our Ancestors learned how to use what the land provided to survive and thrive in interior Alaska. We still draw on that knowledge and the values of hard work and taking care of our communities today.*

- **Care and Provision for the Family:** *Providing food for our families and community members takes work in the winter time, and the land provides what we need. When we show respect to the animals and land, we show respect to our Ancestors who taught us the skills and values we use today.*
- **Sharing and Caring:** *Winter is a special time to connect with family, Elders, and our communities.*
- **Respect for Elders and Others:** *We show respect for our Elders by honoring the knowledge they and our Ancestors have shared to stay safe and healthy on the land. We honor our Elders when we share what the land has provided.*
- **Respect for the Land and Nature:** *We are connected to the land and rely on the land to live and thrive. These ways continue to keep the land healthy for us and our children and grandchildren. This value helps us make sure the things we need (moose, caribou, trees, water, clean air) will be here for us for a long time.*
- **Practice of Native Traditions:** *The winter is a time to sing, dance, hear stories, connect with friends and relatives, and celebrate together. Travel to activities in winter takes planning so that we arrive and return safely.*
- **Honoring Ancestors:** *There are many ways we honor our ancestors in the winter. We do this through our songs, dances, stories, sharing, beading, hunting animals with respect, and by expressing our appreciation for the land and all it provides.*
- **Spirituality:** *Being out on the land in every season is an important way to connect to our Ancestors and our spirituality.*
- **Discuss the following concepts:**
  - 1) **Why has it been important for the Dene Athabascan peoples to be experts on snow?**  
The Dene Athabascan peoples perfected how to live in Interior Alaska through generations of trial and error. The winter is a special time where the land freezes and transportation becomes much easier because of frozen waterways and snow packed trails. It can also be difficult as conditions can quickly change. For travel, hunting, trapping, and walking on the land, it is important to know the snow conditions as well as the expected weather. Discuss the information in the following table, and talk about the student's experiences with these different kinds of snow conditions. How would these kinds of conditions affect travel and activities on the land?

**Different kinds of snow and how it can affect transportation:**

This table is adapted from *Tracks in the Wildland: A Portrayal of Koyukon and Nunamiut Subsistence* by Nelson, Mautner, and Bane (1982) page 91.

Type of snow	Where it happens	Effect on transportation
Fresh-fallen powder		Makes dog team travel difficult, snow machines may bog down
Wind-packed snow	Occurs in areas of sparse vegetation cover with strong winds	Will usually support several hundred pounds; excellent for surface travel.
Rough snow	Occurs in areas of wind packed snow	Dog sleds are slightly affected; snowmachines much more so.
Granular snow	Usually occurs under soft snow or wind-packed crust; can be exposed in open, windy areas	Dogs, people, machines, and sleds lose traction, slip, and become bogged down.
Deep soft snow	Is found in moderate amounts in wind-sheltered valleys	Difficult snow-shoeing necessary to break new trails if the snow is more than 2 feet deep.
Ground drift	Fine granular snow that is blown along the surface	With strong winds, travel can be very uncomfortable.
Icy crusted snow	Occurs whenever temperatures rise above freezing, and/or rain occurs	Causes rapid wearing of snowshoes and will cut the feet and legs of sled dogs; snowmachines are less affected.
Frost crystals (also called "devil's snow")	Occurs in extremely low temperatures; the crystals may get up to 3" deep.	Produces severe drag on sled runners; creates sore feet for dogs; any wind will quickly dissipate this kind of frost.
Melting snow	Occurs primarily in late spring	Severely slows travel; dogs develop sore feet; Shoe webbing gets soaked; snowmachine tracks pack with heavy wet snow.

- 2) Finding "snow water": Did you know that not all snow has the same amount of water in it? If you need to collect snow to use as water, here are some ways to find the best snow, known as "snow water." Snow water is collected by digging down closer to the ground. The snow down deeper tends to be cleaner, and is more dense with water. If you fill up a bucket with snow from the surface, and melt it, it only makes a small amount of water compared to the snow collected down deep. Snow deeper down also tends to melt into cleaner water.

(Refer to the green box with a quote from Elder Evelyn Alexander as she describes collecting snow water:

<http://www.ankn.uaf.edu/curriculum/Athabascan/ObservingSnow/exploring.html>)

Snow on the trees can also be good to eat for moisture. If snow is too powdery, it will actually make you more thirsty, as it doesn't have very much water in it. ("The Koyukon Athabascan Dictionary (Jette and Jones 2000) lists duxtseedla', "snow on trees," and notes that it undergoes melt-freeze metamorphism on the branches and can be eaten for moisture, while powdery snow only increases thirst." From *Observing Snow Unit, Exploring Native Snow Terms*.

- 3) Building a snow shelter, or "siwashing" (to camp without a tent in Koyukon Athabascan). Within the living memory of the Elders, earlier Dene Athabascan peoples would build this kind of shelter when they traveled long distances and couldn't carry heavy supplies. They traveled by snow shoes and lived on what they could carry on their backs using what the land provided. Though this is not practiced now as much as in the past, it is a good survival skill to know about in case of emergencies. All that is required to build one is a small ax, and a pair of snow shoes.

To make this kind of shelter, find a stand of spruce trees out of the wind. Find a bigger tree with broad, overhanging branches. Using a snow shoe as a shovel, clear a broad patch of snow from beneath the tree. Cut some green spruce branches and place them in a pile and place any bedding (sleeping bag) on top of these. Directly in front of the shelter, build a large fire which reflects the heat back under the tree. The best kind of firewood is a poplar tree, especially one that has rotted in the center. Poplar wood will burn slow, and doesn't spark as much as spruce. It will be easier to keep burning through the night. (Nelson, Mautner, & Bane. (1982). *Tracks in the Wildland*. Walsworth Publishing Company, figure 24 on page 110).



## Learning stories

- Ask the students to share a story about how members in their family check the snow conditions before traveling on the land in winter. How do they prepare for different kinds of snow?
- Invite a local Alaska Native leader, Elder, or culture bearer to share a story or explain how they test the snow conditions, or how they plan their route due to snow conditions. Some questions to explore: *What do you consider the best snow conditions for hunting? For trapping? For going in the snow machine? How have the snow conditions changed in our area since you were younger (due to climate changes)?*

## Evaluation

At the end of the lesson, ask the students these questions:

- What are three reasons it is important to know about the snow conditions before you go?
- What is the best snow to eat if you are thirsty?
- How do you create a traditional Koyukon snow shelter? Why would you need to build one?

## Additional Resources

- *Observing Snow Curriculum*: Excellent curriculum with many learning stories from Elders. <http://www.ankn.uaf.edu/curriculum/Athabascan/ObservingSnow/index.html>
- *Inuit Snow Terms: How Many and What Does It Mean?* by Larry Kaplan (2003): Interesting article on the myth that Inuit (Eskimo) have 100+ words for snow. [https://www.uaf.edu/anlc/research-and-resources/resources/archives/inuit\\_snow\\_terms.php](https://www.uaf.edu/anlc/research-and-resources/resources/archives/inuit_snow_terms.php)
- Nelson, Mautner, & Bane. (1982). *Tracks in the Wildland: A Portrayal of Koyukon and Nanamiut Subsistence*. Walsworth Publishing Company. Excellent book with traditional knowledge of subsistence practices and other traditional knowledge.
- *A Unit on Predicting Weather* <http://ankn.uaf.edu/Curriculum/Units/PredictingWeather/PredictingWeather.pdf>
- *Indigenous Knowledge and Cultural Weather Perspectives* [https://www.stf.sk.ca/wp-content/uploads/2015/10/s106\\_3.pdf](https://www.stf.sk.ca/wp-content/uploads/2015/10/s106_3.pdf)



## How to Make a Traditional Koyukon Snow Shelter

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1. To make this kind of shelter, find a stand of spruce trees that are out of the wind, as much as possible. Look for a big tree with broad, overhanging branches.
2. Using a snow shoe as a shovel, clear a broad patch of snow from under the tree.
3. Cut some green spruce branches and place them in a pile and put your bedding (sleeping bag) on top of this pile.
4. Directly in front of the shelter, build a large fire which reflects the heat back under the tree. Note: The best kind of firewood is from a poplar tree, especially one that has rotted in the center. Poplar wood will burn slow, and doesn't spark as much as spruce. It will be easier to keep burning through the night.



Image from Nelson, Mautner, & Bane. (1982). *Tracks in the Wildland*. Walsworth Publishing Company, Figure 24 on page 110.

## Dene Athabascan Snow Terminology (examples)

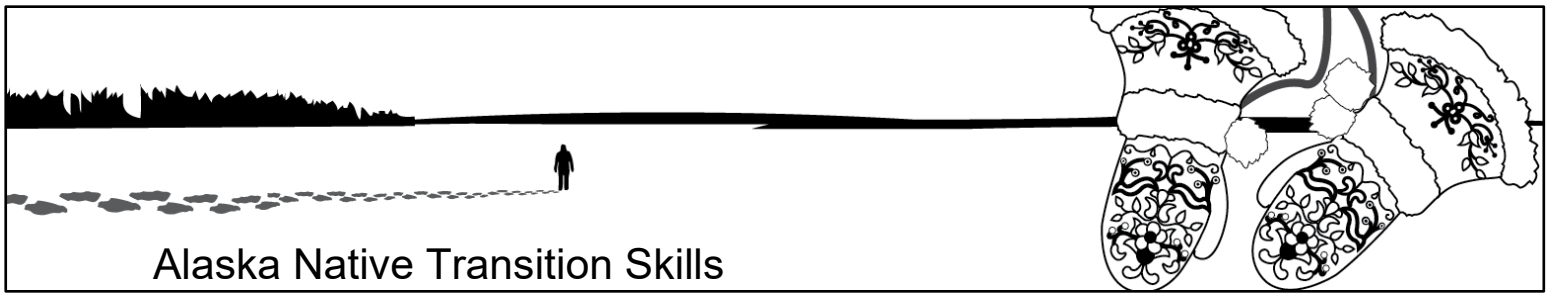
From *Observing Snow* Unit:

<http://www.ankn.uaf.edu/curriculum/Athabascan/ObservingSnow/index.html>

*Exploring Native Snow Terms* (Lesson)

<http://www.ankn.uaf.edu/curriculum/Athabascan/ObservingSnow/exploring.html>

Snow Type	Tanana: Minto	Koyukon	Gwich'in
snow	tsitl	tseetl	zhah
falling snow	yoth	yo[	
"it's snowing"	e[yoth	e[yo[	ahshii
powder or new snow	kocheda'		chat
snowflake	tseetl zrax		zhah tsuu
hard snow		tseetl tl'ene'	tsi[
dry snow	tsitl naga'		
wet snow	tsitl tr'ela	yo[ tlugge'	da'ant[oh
blowing snow	tsitl e[choyh	mek'oodaats'eeye	tsi[ hàat[it
wind	e[tr'eyh	tets'eeyh	ahtr'aai
snow drift	tsitl kat'ena	menedaalts'eyh	zhah khàdk'at
snow on tree branches	dwx tsidla'	duhtseedle'	deh zhàa
frost	srwx	suh	shr--
falling frost	tsitl done'	k'ekk'utl done'	
ice crusted snow	xwlu	tleehuloo	gwiluu
depth hoar, bottom snow	yeth uga'	[eyh	tsaih ghyàa
snow water	tsitl tu	tokaas	
ice	[ut	[oo	[uu
river/lake ice	tenh	tehn	tan
slush	zrax	noozaah	
overflow ice	nolgat	ggeetl	
overflow (water)	tenh ko tu'	tenh kontoo'	
glacier	get [u	[oo se[	git
winter trail	xwyh tena		chuuluu
snowshoes	oyh	oyh	aih
sled	xwtl	hutl	kha[



## Alaska Native Transition Skills

### Traveling on Rivers Safely in Winter

#### Overview

Winter makes travel between communities in the Alaska interior much easier when all of the rivers are frozen. As winter is an important time to visit relatives, celebrate, and share stories, people need to know how to stay safe as they travel riverways in the winter. In this lesson, students will learn about navigating frozen rivers and conditions to watch for that may indicate a dangerous situation.

*Note to teachers: be aware of how you talk about the land. Going out onto the land 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

- A3, A4, A6, B2, B3, C1, C3, D4, D5, D6, E1, E2, E8

#### Athabascan Values Related to this Lesson

- Self-sufficiency and Hard Work
- Care and Provision for the Family
- Sharing and Caring
- Respect for Elders and Others
- Respect for the Land and Nature
- Practice of Native Traditions
- Honoring Ancestors
- Spirituality

#### Learning Objectives

The student will be able to:

- List some common kinds of dangerous ice situations.
- Describe how to recognize these dangerous ice situations.
- Describe at least three reasons it is important to avoid these kinds of dangerous ice when traveling on frozen water in the winter.

#### Materials

- Student Handout: *How to Spot Dangerous Ice*

## Vocabulary

Open lead	An area of open water.
Overflow	A condition when there is water or slush on top of river ice.
Prepared	Ready to do or deal with something.
Slough	Swampy area.
Winter	The coldest season of the year.

## Activities and Adaptations

- **Share the goal of today's lesson:** "Today we are going to learn about overflow and how to recognize dangers when travelling on frozen rivers. There are many things that cause safe or dangerous ice on the rivers. Knowing what to look for can help you travel and get to your destination safely. To learn about this, we will share ideas and stories, and look at images collected during the "Dangerous Ice" project, and talk through ways you can travel more safely on frozen rivers. By the end of this lesson, you will be able to list some common kinds of dangerous ice situations, describe how to recognize these dangerous ice situations and what to watch for, and describe why it is important to avoid these kinds of dangerous ice when traveling on frozen water in the winter."
- **Begin by finding out what students already know by asking the following questions:**
  - What makes ice on a river safe to travel on? (*Cold temperatures, packed snow, thick ice, being with someone who knows the area you are travelling*)
  - What are examples of areas on a river that are dangerous to travel across? (*Gaps in the ice, open water, thin ice, water or slush on top of ice, fallen river banks.*)
  - What is dangerous about overflow and open water? Why is it important to recognize it? (*Getting wet in the extreme cold and wind can cause frost bite or hypothermia, the snow machine can fall through the ice and be hard to get out.*)
- **Connect the Values of today's lesson with the objectives, pick at least two to highlight:**
  - **Self-sufficiency and Hard Work:** *Our Ancestors learned how to use what the land provided to survive and thrive in interior Alaska. We still draw on that knowledge and the values of hard work and taking care of our communities today.*
  - **Care and Provision for the Family:** *Providing food for our families and community members takes work in the winter time, and the land provides what we need. When we show respect to the animals and land, we show respect to our Ancestors who taught us the skills and values we use today.*
  - **Sharing and Caring:** *Winter is a special time to connect with family, Elders, and our communities.*
  - **Respect for Elders and Others:** *We show respect for our Elders by honoring the knowledge they and our Ancestors have shared to stay safe and healthy on the land. We honor our Elders when we share what the land has provided.*

- **Respect for the Land and Nature:** *We are connected to the land and rely on the land to live and thrive. These ways continue to keep the land healthy for us and our children and grandchildren. This value helps us make sure the things we need (moose, caribou, trees, water, clean air) will be here for us for a long time.*
- **Practice of Native Traditions:** *The winter is a time to sing, dance, hear stories, connect with friends and relatives, and celebrate together. Travel to activities in winter takes planning so that we arrive and return safely.*
- **Honoring Ancestors:** *There are many ways we honor our ancestors in the winter. We do this through our songs, dances, stories, sharing, beading, hunting animals with respect, and by expressing our appreciation for the land and all it provides.*
- **Spirituality:** *Being out on the land in every season is an important way to connect to our Ancestors and our spirituality.*
- **Dangerous Ice Overview—**
  - Fall freeze-up and snow bring a greater freedom to travel throughout interior Alaska. These conditions are usually pretty stable and reliable November through March. There are areas on rivers or conditions that happen even in the middle of winter that make the ice unstable for travel. This lesson goes over some of the most important to know about.
  - **Student Handout:** Talk through the student handout and look at the pictures from the booklet *“On Dangerous Ice: Changing Ice Conditions on the Tanana River”*. This resource is specific to the Tanana river, but the conditions described happen on many rivers and water ways in interior Alaska. Highlight the causes for the conditions shown in the discussion, as follows (Information below summarized from the *On Dangerous Ice* booklet. For more details, refer to the booklet).
  - **Recognizing dangerous ice:**
    - **Go with someone who knows the river.** Experience goes a long way to knowing where dangerous spots may be on the river. Learn from someone who has travelled that way before. When on your own, know that even though an area has been safe before, things can change.
    - **Open leads:** Areas where there is a gap in the ice, with open water. Often, steam rises from these open areas of water, and can be seen from a distance. It is very dangerous to try to “skip” over these areas with a snow machine. It is better to go around them. Ice crystals forming on the water can also be a way to tell there is open water and very thin ice.
    - **Collapsing Ice:** As water level decreases through the winter, gaps form between the bottom of the ice and the new lower water level. The weight of the ice can cause it to fall in, and expose open water below. It is something that commonly happens in sloughs (swampy areas). Collapsed ice can catch on a ski of the snow machine, causing you to get stuck or thrown off.

- (Collapsing Ice, continued) It can create an ice dam where water builds up behind it and then overflow onto the river. Holes or ledges caused by a collapse can fill in with thin ice and snow, making them hard to see.
- **Overflow:** “Overflow (water on ice or slushy ice) can be caused by a number of conditions.
  - **In cold weather**, as ice thickens, the channel under the ice becomes constricted. Water pressure may build up forcing water through cracks to the surface.
  - **In warming weather**, the higher rate of water flow increases water pressure in the narrow channel, which can cause the ice to be pushed up and crack, allowing water to seep onto the ice surface.
  - **Heavy snowfall** also can cause overflow by weighing down the ice causing it to crack and allowing water to seep through” (*On Dangerous Ice: Changing Ice Conditions on the Tanana River*, page 20).
  - It can be caused by an ice collapse, making an ice dam which flows water onto the surface. This water on top of the ice causes thinning and melting of the ice on the surface.
  - No matter what the air temperature, water from underground springs can come up through cracks in the ice and form pools of water on the ice.
- **Erosion:** As the river flows, it can undercut the banks of the river in sandy areas. In the winter, chunks of the bank of the river may break off and smash through the river ice. A steep drop-off from a cutbank or sandbar can be hard to see up ahead when traveling in low light or poor visibility due to bad weather. A fall from such a drop can cause serious personal injury and damage your snow machine. Also, there could be thin ice or open water below the bank.
- **Melting:** In late Spring, the river will thaw differently in different areas. If there is silt blown onto the river, those darker areas will melt faster. Any melting areas may cause the ice to thin.
- **Tips for navigating the ice** (from Phillip Albert):
  - On a snow machine, ride right next to the rough ice, as it tends to freeze first and is thicker. If you are on foot, stay on the rough ice.
  - When you return, be sure to stay on the same path. You know the path you made is safe.
  - On small pond, there can be fish underneath, and their swimming around can make the ice thinner above.
  - If near a beaver lodge, don’t go near the lodge on the pond. The beavers chew the ice to get at their feed, so right above the feed pile the ice is thin, and you can fall through.

## Learning stories

- Ask the students to share a story about a time they experienced overflow or other dangerous ice conditions on a river, or if they have heard family members sharing stories about this. What did they do? What happened? Could a negative outcome have been prevented?
- Invite a local Alaska Native leader, Elder, or culture bearer to share a story or explain how they navigate frozen rivers and know how to read the landscape to know where to safely go when traveling in the winter.

## Evaluation

At the end of the lesson, ask the students these questions:

- What are some common kinds of dangerous ice situations?
- How do you recognize these dangerous ice situations? What can you watch for?
- Why is it important to avoid these kinds of dangerous ice when travelling on frozen water in the winter?

## Additional Resources

- ***On Dangerous Ice: Changing Ice Conditions on the Tanana River***—Explains the ice dynamics of the Tanana River in order to educate the general public about conditions they may encounter when traveling on the river in the winter and to provide general safety tips or guidelines. This was made by the UAF Oral History Program.  
<https://jukebox.uaf.edu/sites/default/files/documents/Dangerous%20Ice%20web%202013-08-07-A-1.pdf>
- **Information about the “Dangerous Ice” project:** <https://jukebox.uaf.edu/dangerous-ice-project-background>

## How to Spot Dangerous Ice

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From November to March, Interior Alaska freezes up and makes travel on the land easier. To stay safe, watch for dangerous ice so you can avoid a bad situation.

Always try to go with someone who knows the river. Learn from someone who has travelled that way before. When on your own, know that even though an area has been safe before, things can change.

**Open leads:** Areas where there is a gap in the ice, with open water. Watch for steam rising, which can show an areas of open water.



Photo by Knut Kielland.

**Ice crystals** can also show you areas of thin ice.



Photo by Knut Kielland.



**Collapsing Ice:** Collapsed ice can catch on a ski of the snow machine, causing you to get stuck or thrown off. It can create an ice dam where water builds up behind it and then overflows onto the river. Holes or ledges caused by a collapse can fill in with thin ice and snow, making them hard to see.



Photos by Karen Brewster.

**Overflow:** When water and slush form on top of the ice, it can mean thin ice. It can also get you wet (which is dangerous in the cold).



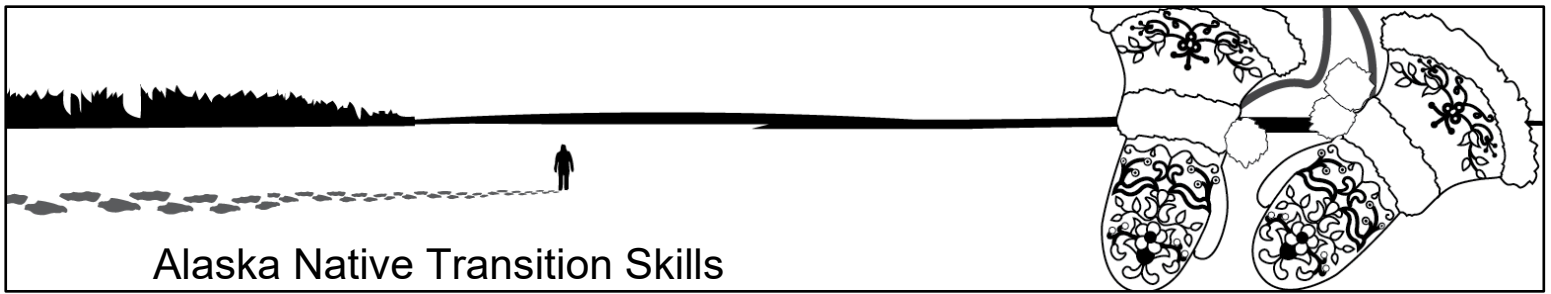
Photo by Bill Schneider.

**Melting:** In late Spring, the river will thaw differently in different areas. If there is silt blown onto the river, those darker areas will melt faster. Any melting areas may cause the ice to thin.



Photo by Karen Brewster.

Note: Photos in this handout are from the UAF Oral History Program booklet *On Dangerous Ice: Changing Ice Conditions on the Tanana River*. Photographs are used with permission of the authors. Access complete booklet at: <https://jukebox.uaf.edu/sites/default/files/documents/Dangerous%20Ice%20web%202013-08-07-A-1.pdf>



## Alaska Native Transition Skills

### Predicting Winter Weather

#### Overview

The ancestors of the Dene Athabascan people were finely tuned into weather. Mobility and survival during the winter months depended on keen observations of changing weather conditions, storms, and increasing winds.

In this lesson, students will learn about some of the traditional ways of predicting weather, as well as ways of being prepared for weather that are based on technology.

*Note to teachers: be aware of how you talk about the land. Going out onto the land 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, A2, A4, B1, B3, B4, B5, C2, C3, D2, D3, E1, E2, E3, E4

#### Athabascan Values Related to this Lesson

- Self-sufficiency and Hard Work
- Care and Provision for the Family
- Sharing and Caring
- Respect for Elders and Others
- Respect for the Land and Nature
- Practice of Native Traditions
- Honoring Ancestors
- Spirituality

#### Learning Objectives

The student will be able to:

- Demonstrate or describe how traditional ways of knowing the weather (observations of wind and clouds, past experiences with local conditions, etc.).
- Describe ways to use technology to be prepared for weather.
- Describe reasons why is it important to know what weather to expect when planning to be out on the land in winter.

#### Materials

- A way to show the predicted weather using an app for discussion.
- Student handout: *Prepare for the Weather*

## Vocabulary

Forecast	The weather that is predicted to happen in the near future, based on observations and patterns that have happened in the past.
Precipitation	Rain, snow, sleet, or hail that falls from the clouds.
Predict	To say or guess that a specific thing will happen in the future, or will happen because of something.
Prepared	Ready to do or deal with something.
Temperature	How cold or hot it is.
Weather	The environmental conditions in an area such as sun, rain, snow, winds, and temperature.
Wind Chill	The wind makes it feel much colder than the temperature alone would suggest. Wind chill should be considered to determine what clothing is needed. Wind chill can cause hypothermia and frost bite if not prepared for.
Winter	The coldest season of the year.

## Activities and Adaptations

- **Share the goal of today's lesson:** "Today we are going to learn about the importance of knowing the possible weather conditions before going on the land in winter. Indigenous peoples and scientists alike depend on weather observation to find patterns in the weather. These patterns help them predict and prepare for the weather that is coming. We can use many ways to do this, including traditional knowledge and technology. Knowing the weather can help you be more prepared. To learn about this, we will share ideas and stories and look at weather forecasts. By the end of this lesson, you will be able to: describe examples of traditional ways of knowing the weather; describe ways to use technology to be prepared for weather; and describe reasons why is it important to know what weather to expect when planning to be out on the land in winter."
- **Begin by finding out what students already know by asking the following questions:**
  - 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 and travel.*
  - How do we predict the weather? *Computer apps; observation of wind and 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, such as if it will snow, or what the wind chill will be. Weather can impact visibility, and safety on a snow machine or walking. Sudden changes in weather can create a dangerous situation if you are not prepared.*

- **Connect the Values of today's lesson with the objectives, pick at least two to highlight:**
  - **Self-sufficiency and Hard Work:** *Our Ancestors learned how to use what the land provided to survive and thrive in interior Alaska. We still draw on that knowledge and the values of hard work and taking care of our communities today.*
  - **Care and Provision for the Family:** *Providing food for our families and community members takes work in the winter time, and the land provides what we need. When we show respect to the animals and land, we show respect to our Ancestors who taught us the skills and values we use today.*
  - **Sharing and Caring:** *Winter is a special time to connect with family, Elders, and our communities.*
  - **Respect for Elders and Others:** *We show respect for our Elders by honoring the knowledge they and our Ancestors have shared to stay safe and healthy on the land. We honor our Elders when we share what the land has provided.*
  - **Respect for the Land and Nature:** *We are connected to the land and rely on the land to live and thrive. These ways continue to keep the land healthy for us and our children and grandchildren. This value helps us make sure the things we need (moose, caribou, trees, water, clean air) will be here for us for a long time.*
  - **Practice of Native Traditions:** *The winter is a time to sing, dance, hear stories, connect with friends and relatives, and celebrate together. Travel to activities in winter takes planning so that we arrive and return safely.*
  - **Honoring Ancestors:** *There are many ways we honor our Ancestors in the winter. We do this through our songs, dances, stories, sharing, beading, hunting animals with respect, and by expressing our appreciation for the land and all it provides.*
  - **Spirituality:** *Being out on the land in every season is an important way to connect to our Ancestors and our spirituality.*
- **Discuss the following concepts:**
  - **Why is it important to know what weather is coming? How does it change how you prepare?** *Example: How would you prepare knowing it would be 15 degrees and sunny on a Spring snow machine ride, vs. a snow machine ride in late November with the temperatures of -15 degrees? What would you do differently knowing it would be very windy? Snowing? Discuss how this would change your clothing needs, possibly influence the route you decide to take, and the supplies you need to take with you in case of emergency.*
  - **The Dene Athabascan people have been predicting the weather and seasons from observing the animals, wind, sky, moon, sun, and waters for long before technology.** *Specific Examples of Koyukon (Dene Athabascan) Ways of Predicting the Weather (from Tracks in the Wildland (1982, pages 86–87):*

- Clouds: clouds in the shape of horse's tails are an indication of strong wind up high. This can mean strong ground winds within 24 hours. If clouds form on one side of a mountain peak, that also can be a sign of a very strong winds headed this way. Heavy dark clouds, especially in the west or south, are usually a sign of a snow storm on its way. A high thin overcast with a very light snow is an indication of stable weather, but it may produce a blizzard which makes it hard to see when traveling.
- One type of snow called "devil's snow" by the Koyukon happens right before a very cold spell. It's not true snow, but fine ice crystals. There's usually no wind and the "Devil's snow" may get as deep as an inch. Temperatures -65 degrees to -70 degrees usually follow snow like this, and the bitter temperatures often last several days.
- Sometimes you can tell a storm is coming because the horizon looks soft or a little blurred. Suspended ice crystals and stirred up snow usually mean a storm is coming within a few hours. An alert traveler can notice this and start to seek shelter before the storm hits. Sometimes, suspended ice crystals also called "Sun dogs" make rings of light around the moon. From experience, when this happens after it has been mild weather, it can mean the beginning of intense cold or a snowstorm.
- 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.
- **Technology, based on science, is another tool for predicting the weather in order to plan and prepare.** In this activity, the teacher can share a weather app (such as Weather Underground, or the Weather app on any Smartphone) or visit <https://www.weather.gov/> and search by city to get current conditions and the forecast. With the students, look at the current conditions and discuss what they mean. Use the student handout *Prepare for the Weather* to discuss how you would make decisions for preparation based on the weather forecast information.
  - Temperature: The temperature during the day can be very different than the night. A forecast will give you the high and low temperatures that are expected.
  - Wind: Wind can make visibility harder if it is also snowing or raining. Many forecasts also include "feels like" information for the temperature, as wind chill can "feel" very different than a still day at the same temperature. Wind chill should be considered to determine what clothing is needed. Wind chill can cause hypothermia and frost bite if not prepared for.
  - Percentage of a chance of precipitation: Most forecasts include a percentage of accuracy for the prediction of snow or rain. Talk about the difference between a 90% chance of heavy snow, vs. a 20% chance. Until it happens, the weather of the future is a guess, but some guesses are better than others.

- Local conditions: Online information might not be accurate for a small and rural location. Usually NOAA's weather service is dependable, but local knowledge can be a very important part of predicting the weather in rural Alaska. You might know that a certain wind direction tends to bring fair weather, where a different wind brings snow. These are things an app won't tell you, and where indigenous and local knowledge are very important.

## Learning stories

- Ask the students to share a story about how members in their family check the weather before traveling on the land in winter. How do they prepare for different kinds of weather?
- Invite a local Alaska Native leader, Elder, or culture bearer to share a story or explain how they know the weather is changing. Some questions to explore: *What does the wind tell us about the weather? What does it tell us about when hunting will be good? What does it tell us about conditions for travel? What do the clouds tell us about the weather and what is coming?*

## Evaluation

At the end of the lesson, ask the students these questions:

- What are some examples of traditional ways of predicting the weather?
- How can you use technology to prepare for the weather?
- Why is it important to know what weather to expect when planning to be out on the land in winter?

## Additional Resources

- *A Unit on Predicting Weather*  
<http://ankn.uaf.edu/Curriculum/Units/PredictingWeather/PredictingWeather.pdf>
- *Indigenous Knowledge and Cultural Weather Perspectives* [https://www.stf.sk.ca/wp-content/uploads/2015/10/s106\\_3.pdf](https://www.stf.sk.ca/wp-content/uploads/2015/10/s106_3.pdf)
- Nelson, Mautner, & Bane. (1982). *Tracks in the Wildland: A Portrayal of Koyukon and Nanamiut Subsistence*. Walsworth Publishing Company. Excellent book with traditional knowledge of subsistence practices and other traditional knowledge.
- *Wunderstation app from Weather Underground*: Customized weather information directly from local weather stations. <https://www.wunderground.com/wunderstation>
- *Weather 101: A Tutorial on Cloud Types* (5:05) Video uses complex language but has good information about cloud types and what they can mean for the weather. Not Alaska specific. <https://www.youtube.com/watch?v=FMagDRCpJ14>



## Prepare for the Weather

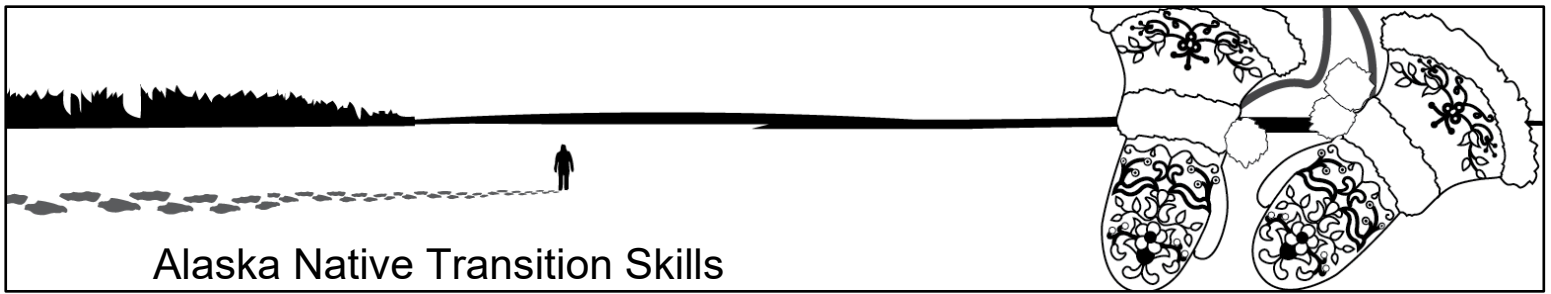
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Before you go out onto the land, it is important to know the weather you can expect. You can find out the predicted weather using traditional and local knowledge. You can also use technology and science. Knowing the weather can help you be more prepared and comfortable.

### Weather words:

- **Temperature:** How cold or hot it is. The temperature during the day can be very different than the night. A forecast will give you the high and low temperatures that are expected. *How does knowing the temperature help you plan for being out on the land?*
- **Wind:** The natural movement of the air outside. Wind can make the temperature feel colder than it is. *How does knowing the wind help you plan for being on the land?*
- **Precipitation (snow or rain):** Most forecasts include a percentage chance of snow or rain. A 90% chance of snow is much higher than a 20% chance. *How does knowing if snow or rain are predicted help you plan for being on the land?*
- **Local knowledge:** Online information might not be accurate for a small and rural location. Local and Alaska Native knowledge about what to expect are important sources to trust for weather information. *How can local knowledge of the weather help you plan for being on the land?*





## Alaska Native Transition Skills

### Challenges and Survival on the Land in Winter

#### Overview

In this lesson, students will apply what they have learned throughout the unit in case scenarios. Being prepared can make the difference between an enjoyable trip and a challenging trip.

*Note to teachers: be aware of how you talk about the land. Going out onto the land 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

- A4, B3, C1, C3, D5, D6, E2

#### Athabascan Values Related to this Lesson

- Self-sufficiency and Hard Work
- Care and Provision for the Family
- Sharing and Caring
- Respect for Elders and Others
- Respect for the Land and Nature
- Practice of Native Traditions
- Honoring Ancestors
- Spirituality

#### Learning Objectives

The student will be able to:

- Demonstrate knowledge of the seven steps of survival in an activity.
- Demonstrate knowledge being prepared in an activity.

#### Materials

- Student Handout: *The Seven Steps to Survive in Winter* (from lesson 5)

#### Vocabulary

**Come-a-long** A hand-operated winch with a ratchet used to pull objects. A strap or cable is hooked onto the vehicle, and then the other end is attached to a tree or rock. The ratchet moves and slowly pulls the heavy object.

**Oriented** Knowing where you are on the land, and which direction from where you are your village or destination is.



Prepared	Ready to do or deal with something.
Winter	The coldest season of the year.

## Activities and Adaptations

- **Share the goal of today's lesson:** "Today we are going to talk through some case scenarios that could happen in winter. These are stories of challenges that require courage and creativity to survive. We will share the situation, discuss how the people could use the seven steps for survival to face the challenge. By the end of this lesson, you will be able to show you know how to use the seven steps of survival in an activity, and show you know what you would need to have, to be prepared to overcome challenging situations on the land in winter."
- **Begin by finding out what students already know by asking the following questions:**
  - What are the seven steps to survival? (*Recognition: Admit you are in trouble, and that your life may be in danger. Inventory: Take stock of what you have on hand, and attend to any injuries the best you can. Shelter: Preserve body heat and plan how you will stay warm: Clothing/Shelter/Fire/Sleeping bag. Water: Find a safe source of water and/or a way to collect water. Signal: Help rescuers find you. Food: After you are safe and warm, food will help while you wait. Play: Stay positive and alert.*)
  - How do you use "S-T-O-P" to recognize you are in a serious situation? (*Sit, Think, Observe, and Plan...*)
  - Why is it important to be prepared when you go out on the land in winter? (*The weather can change or unexpected things can happen, and if you have what you need it isn't bad, but if you are unprepared it can be dangerous.*)
- **Connect the Values of today's lesson with the objectives, pick at least two to highlight:**
  - **Self-sufficiency and Hard Work:** *Our Ancestors learned how to use what the land provided to survive and thrive in interior Alaska. We still draw on that knowledge and the values of hard work and taking care of our communities today.*
  - **Care and Provision for the Family:** *Providing food for our families and community members takes work in the winter time, and the land provides what we need. When we show respect to the animals and land, we show respect to our Ancestors who taught us the skills and values we use today.*
  - **Sharing and Caring:** *Winter is a special time to connect with family, Elders, and our communities.*
  - **Respect for Elders and Others:** *We show respect for our Elders by honoring the knowledge they and our Ancestors have shared to stay safe and healthy on the land. We honor our Elders when we share what the land has provided.*

- **Respect for the Land and Nature:** *We are connected to the land and rely on the land to live and thrive. These ways continue to keep the land healthy for us and our children and grandchildren. This value helps us make sure the things we need (moose, caribou, trees, water, clean air) will be here for us for a long time.*
- **Practice of Native Traditions:** *The winter is a time to sing, dance, hear stories, connect with friends and relatives, and celebrate together. Travel to activities in winter takes planning so that we arrive and return safely.*
- **Honoring Ancestors:** *There are many ways we honor our Ancestors in the winter. We do this through our songs, dances, stories, sharing, beading, hunting animals with respect, and by expressing our appreciation for the land and all it provides.*
- **Spirituality:** *Being out on the land in every season is an important way to connect to our Ancestors and our spirituality.*
- **Being Prepared:**  
Our Ancestors knew how important it was to be prepared. Survival on the land in winter depends on having what you need with you to face unexpected challenges. When you are prepared, you can get through what could be a dangerous situation safely.
- **Scenarios activity:**  
This lesson gets students to apply the *Seven Steps for Survival* and other information learned in the unit to a series of case scenarios. Begin by sharing the scenario. In the discussion, bring in how the seven steps for survival could be applied, how the situation could have been avoided using things such as weather forecasting, or by knowing about the snow pack or ice conditions. Discuss how the person might use things they have in different ways to meet their survival needs.
  - **Getting wet:** You are running your snow machine, and you get stuck in overflow water. Your snow machine gets stuck, but appears to be okay and isn't sinking. Your feet and legs get wet as you work to get the snow machine out. The water has soaked your pants and boots and socks. It is very cold. With wind chill, it is 20 degrees below zero. What do you need to have with you in this situation? What is the danger in this situation? What do you need to do to face this challenge? What could be the consequence of not being prepared?

*Discussion: It is very important to get warm and dry. A come-along could help you get your snow machine out faster. You need to get out of the wet clothes and put on dry clothes. The danger in this situation is hypothermia and frost bite. Work quickly to change your clothes, and get a fire going. As soon as you can, get back on your snow machine and get where you are going. When you are wet, the wind can freeze your clothes and cause frost bite. When traveling by snow machine it is best to go with others on snow machines in case someone runs into trouble.*

- **Injured:** When you were running the snow mobile, and you hit a hidden stump under the snow and were thrown off your snow machine. Your ankle was injured when you hit the stump, and looks badly sprained and bruised. It may be broken. You are out about a two-hour ride from home. The snow machine appears to be okay, but it is hard for you to walk. What do you need to have with you in this situation?

*Discussion: You need a basic first aid kit, and a way to communicate where you are so medical help can be ready when you arrive. Stabilize the ankle by wrapping it with an ace bandage and splint if needed. Make sure you are wearing warm, dry clothes as you may have some shock from the pain. Get back home to get proper medical care. When traveling by snow machine it is best to go with others on snow machines in case someone runs into trouble*

- **Spending the night out unexpectedly:** You are running along on your snow machine after seeing friends in a nearby village. You are trying to get home before it is too dark. There is some snow blowing around which makes it harder to see. Your snow machine stops working, and you realize you have a broken snow machine drive belt. You don't have a spare. You try to use your cell phone and there is no signal. You realize you cannot make it home tonight, and will have to spend the night outside. What do you need to have with you in this situation?

*Discussion: Having the basics to make a shelter to stay warm and dry would be important. If you are with others, you can use your shared body heat. You need to try to stay awake and to stay warm. Food and water will also help you get through the night more comfortably. If you had a satellite phone with you, it would have a better range than a cell phone, and would help let people know where you are. If you have the supplies you need, it may be uncomfortable, but not life threatening to be out overnight. In this situation, it would have been much better if you had a simple repair kit with a spare drive belt, spark plugs, and extra oil and fuel.*

- **Fall through the ice:** You are checking the trap lines with your uncle. There is fresh snow, so it is hard for you to see that the ice is thin where you are walking, and you break through. Your uncle is checking another trap, and can't hear you. Even if he could, it wouldn't be safe for him to come where you are, or he could fall through as well. What will help you in this situation? What do you need to have on your body? What do you need to have nearby to prevent hypothermia?

*Discussion: You need to have ice picks around your neck, and to NOT be wearing hip waders (which would fill with water and pull you under). If your uncle comes, he could help by tossing you a rope with a piece of wood tied to it. The wood will float and he can pull you out without coming too close. In your back pack, it is important you are carrying dry clothes and a way to get warm as quickly as possible. Hunting knife could help you if don't have ice picks. This could be an emergency space blanket, a sleeping bag, and fire making supplies.*

## Learning stories

- Invite a local Alaska Native leader, Elder, or culture bearer to share a story or explain how they prepare before hunting or going out on the land to harvest. Ask the Elder to share that show creativity in facing a challenge in winter or stories of how people in similar situations to the case scenarios survived. Discuss with the Elder the purpose of the activity, so they understand the goal is to learn the skills a student would need to be prepared.

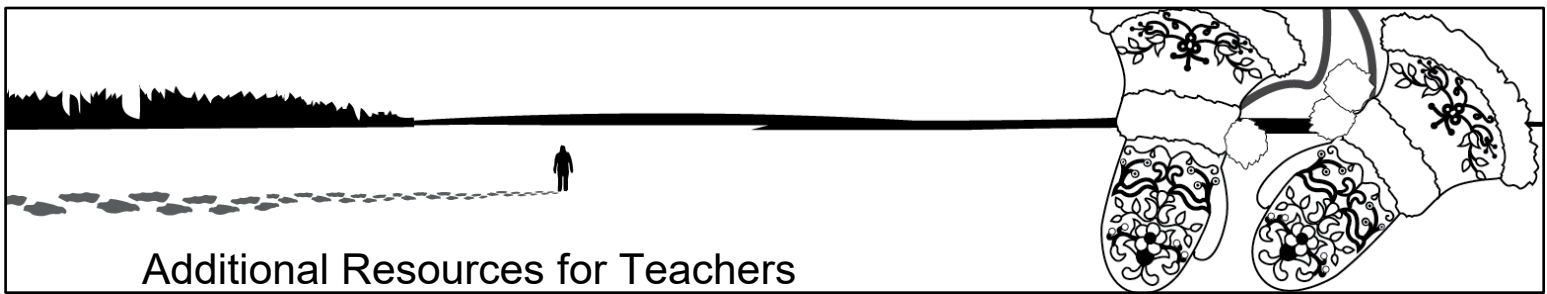
## Evaluation

At the end of the lesson, ask the students these questions:

- Were you able to show you knew how to apply the seven steps of survival in an activity?
- What are some examples of being prepared that we talked about during the activity?

## Additional Resources

- ***On Dangerous Ice: Changing Ice Conditions on the Tanana River***—Explains the ice dynamics of the Tanana River in order to educate the general public about conditions they may encounter when traveling on the river in the winter and to provide general safety tips or guidelines. There is a good list of things to bring when out on snow machines for safety with pictures, starting on page 52.  
<https://jukebox.uaf.edu/sites/default/files/documents/Dangerous%20Ice%20web%202013-08-07-A-1.pdf>



## Additional Resources for Teachers

These were resources we found as we developed the curriculum that may be helpful. These links were accessed 6-2025.

### **Tips for Non-Alaska Native Teachers who want to invite an Elder in to speak:**

This is part of a unit on weather, and also has good guidance on incorporating traditional knowledge systems into lessons. See page 3 for information on how to appropriately invite an Elder or culture bearer into the classroom:

<http://ankn.uaf.edu/Curriculum/Units/PredictingWeather/PredictingWeather.pdf>

**Interview with Adeline Peter Raboff – Author and Historian** by Angela Gonzalez: Blog entry March 13, 2021, Athabascan Woman Blog. Interview with historian who studied and mapped the distribution of Koyokon, Inupiat, Lower Tanana and Gwich'in in 1800. It is a powerful lesson in how mobile the people were before contact. <https://athabascanwoman.com/>

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

**Alaska Native Language Center:** Great resources on incorporating indigenous language into lessons: <https://www.uaf.edu/anlc/index.php>

**Alaska Digital Library:** Find more historic images of Dene Athabascan cultures and people (and other Alaska Native peoples) for use in the classroom: <https://vilda.alaska.edu/digital>

**Smithsonian Arctic Studies Collection:** Search the site by region/culture to find artifacts and historic photographs for use in the classroom: <https://learninglab.si.edu/org/sasc-ak>

**Tribal Vocational Rehabilitation Program (TVR):** Each region of Alaska has a TVR. In the Fairbanks area, the Tanana Chiefs Conference Tribal Vocational Rehabilitation Program (TCC TVR) provides assistance to advance vocational opportunities for individuals with disabilities that enrich tribal, cultural, and traditional values which promote independence and self-determined quality of life. To see a brochure about the subsistence supports available, see: <https://www.tananachiefs.org/wp-content/uploads/2021/05/Vocational-Rehabilitation-Program-Brochure-6May2021.pdf>

# Alaska Cultural Standards

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

<p><b>A5:</b> 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><b>A6:</b> Live a life in accordance with the cultural values and traditions of the local community and integrate them into their everyday behavior.</p> <p><b>A7:</b> 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><b>D4:</b> Gather oral and written history information from the local community and provide an appropriate interpretation of its cultural meaning and significance;</p> <p><b>D5:</b> Identify and utilize appropriate sources of cultural knowledge to find solutions to everyday problems; and</p> <p><b>D6:</b> Engage in a realistic self-assessment to identify strengths and needs and make appropriate decisions to enhance life skills.</p>	<p><b>E4:</b> Determine how ideas and concepts from one knowledge system relate to those derived from other knowledge systems;</p> <p><b>E5:</b> Recognize how and why cultures change over time;</p> <p><b>E6:</b> Anticipate the changes that occur when different cultural systems come in contact with one another;</p> <p><b>E7:</b> Determine how cultural values and beliefs influence the interaction of people from different cultural backgrounds.</p> <p><b>E8:</b> 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>

## **Dene Athabaskan Values—**

*From the Alaska Native Knowledge Network: <http://ankn.uaf.edu/ancr/values/athabaskan.html>*

- Self-sufficiency and Hard Work
- Care and Provision for the Family
- Family Relations and Unity
- Love for Children
- Village Cooperation and Responsibility to Village
- Humor
- Honesty and Fairness
- Sharing and Caring
- Respect for Elders and Others
- Respect for Knowledge & Wisdom from Life Experiences
- Respect for the Land and Nature
- Practice of Native Traditions
- Honoring Ancestors
- Spirituality

Source: **DENAKKANAAGA ELDERS CONFERENCE- 1985**

### **MINTO FLATS: DENE ATHABASKAN VALUES**

Every Athabaskan Is Responsible To All Other Athabaskan For the Survival Of Our Cultural Spirit, and the Values and Traditions Through Which it Survives. Through Our Extended Family, We Retain, Teach, and Live Our Athabaskan Way.

With guidance and support from elders, we must teach our children Athabaskan values:

- Knowledge of Language
- Sharing
- Respect for Others
- Cooperation
- Respect for Elders
- Love for Children
- Hard Work
- Knowledge of Family Tree
- Avoid Conflict
- Respect for Nature
- Spirituality
- Humor
- Family Roles
- Hunter Success
- Domestic Skills
- Humility
- Responsibility to Tribe

Our Understanding of Our Universe and Our Place In It Is A Belief In God and a Respect For All His Creations