

Unit 9

Hunting and Trapping

Overview

For First Peoples, hunting and trapping have always been important for maintaining life. In the past, the animals of the land, sea and air provided food, clothing and material resources for many technologies. Today many First Peoples are less reliant on hunting and trapping, but these activities are still culturally important in diverse ways.

In this unit students can investigate the Indigenous science and traditional knowledge inherent in hunting and trapping practices from a number of perspectives, including:

- cultural and spiritual connections to animals.
- traditional ecological knowledge about the life, behaviour and habitats of the animals
- reciprocal and sustainable aspects of hunting
- science knowledge that underlies the use of various technologies during the hunting and trapping processes (relates to physics, biology and environmental sciences)
- science knowledge that underlies the processing of skins and furs, including tanning (relates to chemistry, biology, environmental sciences.)

How you approaches this unit may depend a great deal on the location of your school. In some parts of the province, students will have considerable personal experience with hunting and trapping. In other areas, such as in urban centres, students may find the topic unfamiliar or even disturbing.

Guiding Questions

- In what ways can trapping and hunting impact an ecosystem?
- How was/is Indigenous knowledge used to hunt and trap sustainably?
- What Indigenous scientific knowledge is used in traditional methods of processing and preserving animals both as food and as resource materials including furs and hides?

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Relevant BC Learning Standards for Senior Secondary Science

Course	Key Content Standards	Key Curricular Competencies
Science 10	<ul style="list-style-type: none"> Practical applications and implications of chemical processes, including First Peoples knowledge transformation of energy 	<p>Questioning and predicting</p> <ul style="list-style-type: none"> Make observation aimed at identifying their own questions, including increasingly abstract ones, about the natural world. <p>Planning and conducting</p> <ul style="list-style-type: none"> Collaboratively and individually plan, select and use appropriate investigation methods, including field work and lab experiments, to collect reliable data. <p>Processing and analyzing data and information</p> <ul style="list-style-type: none"> Experience and interpret the local environment Apply First Peoples perspectives and knowledge, other ways of knowing and local knowledge as sources of information <p>Evaluating</p> <ul style="list-style-type: none"> Consider social, ethical, and environmental implications of the findings from their own and others' investigations <p>Applying and innovating</p> <ul style="list-style-type: none"> Contribute to finding solutions to problems at a local and/or global level through inquiry <p>Communicating</p> <ul style="list-style-type: none"> Express and reflect on a variety of experiences, perspectives, and worldviews thorough place.
Chemistry 11	<ul style="list-style-type: none"> applications of organic chemistry 	
Environmental Science 11	<ul style="list-style-type: none"> First Peoples knowledge of climate change and interconnectedness as related to environmental systems Resource stewardship 	
Life Sciences 11	<ul style="list-style-type: none"> First Peoples understandings of interrelationships between organisms 	
Physics 11	<ul style="list-style-type: none"> Application of simple machines by First Peoples 	
Physics 12	<ul style="list-style-type: none"> First Peoples knowledge and applications of forces in traditional technologies 	

Cross-Curricular Connections

Social Studies courses

- This unit can be correlated with Unit 6 in the FNESC Teacher Resource Guide, *BC First Nations Land, Title, and Governance*. In Unit 6, Hunting and Trapping Case Studies, students use primary source documents to examine how government laws and policies impacted traditional hunting and trapping in the early 20th century.

Culinary Arts 10, Food Studies 10

- Content Standard: First Peoples food protocols, including land stewardship, harvesting/gathering, food preparation and/or preservation, ways of celebrating, and cultural ownership
- Curricular Competencies: Evaluate the influences of land, natural resources, and culture on the development and use of tools and technologies

Resources

For further information on these resources, see the annotations in the Bibliography, beginning on page 273.

Suggested Resources

- Samples of items made by First Peoples out of tanned hides

Print

- Moran, Bridget and Mary John. *Stoney Creek Woman*. Arsenal Pulp Press, 1988.

Web based

- The Ancient and Arduous Art of Brain Tanning Buffalo Hides. Gene Gade. Online article at <https://bit.ly/2SgEYfA>.
- Big Game Information. BC Ministry of Forests, Lands and Natural Resource Operations. Online at <https://bit.ly/2DVnmRp>
- “Experiments In Hide Brain-Tanning With A Comparative Analysis of Stone and Bone Tools.” Matthew Richter and Darby Dettloff. <https://bit.ly/2DX9VAj>.
- *Hunting & Trapping Regulations Synopsis*, published by the BC Fish and Wildlife Branch at <https://bit.ly/2MHPPxZ>
- *The Learning Circle*. Classroom Activities. Indigenous Affairs, Canada, 2012. <https://bit.ly/1MTii1J>

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- Management Guidelines for Furbearers. BC Ministry of Forests, Lands and Natural Resource Operations. Online at <https://bit.ly/2GRLjfx>.
- Traditional Animal Foods of Indigenous Peoples of Northern North America. Harriet V. Kuhnlein and Murray M. Humphries. McGill University. Online at <http://traditionalanimalfoods.org/>

Video

- Deadfall Trap, SKCradleboard Initiative, 2015.
https://youtu.be/9_vKkCoqi5g.
- Hide Tanning the Woods Cree Way. Video, 17 minutes. Portage College, 2014. Online at <https://youtu.be/SWUCC00yGd8>.
- Skeena River Trapline. National Film Board, 1949, 16 min.
<https://tinyurl.com/fnesc35>

Additional Resources

- Furniss, Elizabeth. *Dakelh Keyob: The Southern Carrier in Earlier Times*. Quesnel School District and Kluskus, Nazko, Red Bluff and Ulkatcho Indian Bands, 1993.
- Keith Lemaigre. Trapping. La Loch Community School, Saskatchewan. Lesson plans and activities dealing with trapping. <https://tinyurl.com/fnesc36>.
- “Life on the Line. Are fur trappers stuck in the past or a vital piece of Canada’s living heritage?” CBC website and videos.
<http://www.cbc.ca/news2/interactives/fur-trapping/>
- McIlwraith, Thomas. *‘We Are Still Didene’: Stories of Hunting and History From Northern British Columbia*. University of Toronto Press, 2012.

Blackline Masters

- 9-1 Mammals of BC
- 9-2 Mammals of BC - Classified
- 9-3 Traditional Hunting and Trapping Technologies
- 9-4 Dead-Fall Trap Examples
- 9-5 Steps in Brain Tanning

Outline of Activities

- 9.1 Hunting and Trapping: A Way of Life
- 9.2 Knowing Animal Habitats and Behaviour
- 9.3 Traditional Hunting and Trapping Technologies
- 9.4 The Physics of Trapping
- 9.5 The Chemistry of Tanning

Suggested Activities

Note: There are more activities here than most teachers will incorporate into their units. It is not expected that you will use all of the activities, or follow the sequence as they are described. These activities are intended to be adapted to fit the needs of your students and classroom, as well as inspire ways that you can include relevant Indigenous content in your lessons.

It is important for students to approach these activities with a respectful frame of mind. This reflects an Indigenous perspective of hunting, which views the animals as relations who give themselves up to aid people. In the past, hunters followed special protocols, rituals and ceremonies before going on the hunt, and many still do today. During and after the hunt there were also protocols to be followed. These ensured humans kept in balance with other species.


Activity 9.1

Hunting and Trapping: A Way of Life

Introduce the cultural importance of the hunting and trapping lifestyle in the past, and for some First Peoples, today.

- a. Introduce the topic by discuss what students know or understand about the practice of hunting and trapping.
 - Ask questions such as:
 - Do you have experiences with hunting or trapping?
 - Why did First Peoples hunt and trap in the past?
 - Do people still hunt and trap today?
 - Who governs hunting and trapping?
 - Explain that for most First Nations communities in the past, hunting and trapping were vital for health, nutrition, culture and society. Today hunting and trapping are still important for many First Peoples, who continue to rely on animal food sources for food security.
 - Ask students to think about the types of Indigenous Scientific Knowledge that First Peoples used in the past to ensure that they used the animal resources as a sustainable source of food and materials. You could discuss as a class, or students could brainstorm ideas and share them.
 - Explain that they will be exploring some of the ways that First Peoples used scientific knowledge in traditional hunting and trapping activities.

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 *Skeena River Trapline*,
National Film Board,
1949. 16 min.
<https://tinyurl.com/fnesc35>



- b. *Skeena River Trapline*. Students can view this 16 minute National Film Board movie, made in 1949, when trapping was more of a way of life than it is today. Let students know that, consistent with the time it was made, the term Indian is used throughout to refer to Indigenous people, and that the narrator mispronounces the name Gitxsan. Note: The film shows the shooting, skinning and processing of a deer.
- Ask students to watch and listen for examples of scientific knowledge that the trapper used.
 - Discuss what technologies were used. Ask, how do you think these were different in pre-contact hunting and trapping?
- b. *Stoney Creek Woman*. Students can read or listen to a description of the hunting and trapping life for a First Nations family in the early twentieth century from the book *Stoney Creek Woman*. (Bridget Moran and Mary John. Arsenal Pulp Press, 1988.)
- The book is the story of Mary John, a Dakelh woman who was a strong leader in her community and provincially.
 - Pages 38 to 42 describe her memories of going to hunting and trapping camps on her family's traditional territories as a child. The passage explains how the whole family was involved in the hunting and trapping activities, and conveys the strong emotional attachment to those experiences.
 - Students can listen or read to identify the roles of each member of the family in the different activities, such as setting up and maintaining camp, harvesting and preparing the game hunted for food and the furbearers trapped for income.
 - Discuss how the passage conveys a sense of place associated with hunting and trapping on the land. For example, there was so much to see on the land that was full of life; observing the animals and birds; living off the land in camp; feelings connected with arriving and leaving camp – anticipation for arrival and sadness at leaving; accustomed to the hard life on the trapline; “the places in which we lived – all, all were important to the survival of our family. (p 42)”
- c. A Hunter's Story. Students can read a short account of hunting by a First Nations Elder. It discusses how he learned to hunt, and how hunting and trapping have changed. It is found on page 19 of *The Learning Circle: Classroom Activities*. Indigenous Affairs, Canada. 2012, online at <https://bit.ly/1MTii1J>
- d. Local Hunting and Trapping Connections. Investigate how significant hunting and trapping activities are in your local area.
- Discuss with students if they are aware of hunting or trapping activities in your region. Some may have families that engage in hunting.
 - Students can refer to the BC Hunting and Trapping Regulations Synopsis to find out what areas are permitted hunting areas in your region, and what animals are allowed to be hunted or trapped there.

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- Download the current *Hunting & Trapping Regulations Synopsis* published by the Fish and Wildlife Branch at <https://bit.ly/2MHPPxZ> or you can get printed versions at various locations such as the local ServiceBC office.
 - Ask students to find out from the regulations if they would be able to get a hunting license and if so, what they would have to do to get it. Have them find out how much it would cost for the license. (Everyone aged 10 and over can get a hunting license. There are Youth Hunting Licensees.)
- d. Local First Nations. Where possible, students can learn about traditional and current hunting and trapping practices of local First Nations.
- Invite an Elder or knowledge-keeper to talk about their traplines in the area, if they have any.
 - Language: Find words and phrases in the local First Nations language that relate to hunting and trapping.

Activity 9.2

Knowing Animal Habitats and Behaviour

Students consider how did/do Indigenous hunters understand and make use of behaviours of animals and their habitats when they hunt and trap.

- a. What animals provided significant resources for First Peoples in the past?
Have students work in groups to brainstorm animals that First Peoples in BC hunted or trapped in the past.
- Students can identify how they think then animals were used by First Peoples in the past. (food, furs for clothing, hides for many purposes, bones for tools)
- b. Students can work with Blackline Master 9-1, page 243, *Mammals of BC* to find other animals that aren't on their list.
- Students could use the Blackline Master for a classification activity, either by cutting the words into cards or by listing categories in their notebooks. Ask students to classify them from different perspectives, such as from:
 - an Indigenous perspective
 - a wildlife biologist's perspective
 - a tourism perspective
 - an environmentalist perspective
 - Blackline Master 9-2, page 244, *Mammals of BC Classified*, suggests one way of sorting the animals. Ask, whose perspective does this classification does this show? (e.g. a hunter and trapper's perspective)
- c. Ask, "What would a hunter or trapper need to know about the animals they harvest? Discuss some reasons why a hunter or trapper would need to

 Blackline Master 9-2,
page 244, *Mammals
of BC Classified*

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understand things like the life cycle, the anatomy, the food sources or the behaviours of an animal.

- Ask students to predict how animals' habits and habitats might influence the methods of hunting and trapping.
 - Some understandings that hunters and trappers require include:
 - How the animal behaves in each season
 - Reproductive cycles
 - Feeding patterns
 - Population numbers, when to harvest, when to leave so the population can recover
 - How to identify an animal's home (e.g. bear cave, muskrat pushup, beaver den, marmot hole)
 - How the animal senses work. Some have good eyesight or a keen sense of smell; most animals have acute hearing.
- d. Students choose one of the mammals to research in depth to find out how they were utilized by First Peoples in the past, and what traditional scientific knowledge was required to harvest them successfully and sustainably.
- Note that the suggested activity focusses on mammals, but you may want to give students the option of researching a bird species that has traditionally been hunted by the local First Nations community.
 - Discuss what types of information they could find out about their animal, such as:
 - anatomy
 - preferred habitat
 - distribution/ range in BC
 - food sources
 - life cycle
 - best time to harvest
 - behaviours e.g. do they like to stay in groups, or are they loners?
 - predators
 - After they have conducted their research, students can decide on how they will present their findings. For example, they could do it orally, visually or in written form.

Suggested online resources for researching animals:

- *Big Game Information*. BC Ministry of Forests, Lands and Natural Resource Operations. Online at <https://bit.ly/2DVnmRp>
 - This page has links to documents about the major big game animals in BC. They describe the ecology of the animal, including its ecological relationships, and its distribution and life history.
 - The animals listed are: bighorn sheep, black bear, caribou, cougar, elk, grizzly bear, moose, mountain goat, mule and black-tailed deer, North American bison, thornhorn sheep and white-tailed deer.

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- The documents include some information about traditional uses by First Peoples.
- *Management Guidelines for Furbearers*. BC Ministry of Forests, Lands and Natural Resource Operations. Online at <https://bit.ly/2GRLjfx>
 - This page has links to documents about some of the key furbearing animals in BC. They describe the physical, biological, behavioural characteristics and guidelines to manage the species.
 - The animals listed are: beaver, bobcat, coyote, fisher, fox, lynx, marten, mink, muskrat, otter, weasel, wolf, wolverine.
 - The documents do not include information about First Peoples traditional uses of the animals.
- *Traditional Animal Foods of Indigenous Peoples of Northern North America*. Harriet V. Kuhnlein and Murray M. Humphries. McGill University. Online at <http://traditionalanimalfoods.org/>
 - This is a comprehensive database compiled from an academic survey of published literature about Indigenous uses of animals.
 - To access information about specific animals students should first select the Animals tab on the home page, then follow further links to get to their animal of study.
 - The ethnographic database covers all of northern North America and is not broken down by province. Students will need to be familiar with BC First Nations to identify specific content relation to BC.

Activity 9.3

Traditional Hunting and Trapping Technologies

Students investigate what technologies First Peoples use to hunt animals in the past, prior to the introduction of guns and steel traps.

- Ask students to suggest ways that First Peoples harvested animals in the past, before the introduction of guns and steel traps.
- Students can use Blackline Master 9-3, page 245, *Traditional Hunting and Trapping Technologies* to guide an investigation of the main methods traditionally used by BC First Nations. It can be used in a number of ways:
 - Identify each of the methods and the technologies involved.
 - Identify which technologies were used in your region.
 - Match the method with the animals that it was usually used for
- Students work individually or in groups to research one of the technologies in depth. Discuss what types of information they could learn about. For example:

 Blackline Master
9-3, page 245,
*Traditional Hunting and
Trapping Technologies*

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- why it was used
 - how it was used
 - what materials were needed to make or use it
 - what Indigenous scientific knowledge was used in its construction and operations
 - what scientific principles are involved in the technology. e.g. How is energy used or transferred during its operation?
- d. Students can represent their findings visually and share their projects with the rest of the class or others. Suggestions include:
- Design and build models of the technology
 - Illustrate the steps involved in making or using the technology


Activity 9.4

The Physics of Trapping

Students investigate what scientific principles First Peoples used in a traditional trapping technology.

- a. Explain that students will construct a working model of a deadfall trap and test the physics applied during its use.
- b. There are many ways to build a deadfall trap. Students can investigate different styles.
- Two styles are shown on Blackline Master 9-4, page 246, *Deadfall Trap Examples*.
 - The “figure 4” deadfall trap is demonstrated by a First Nations knowledge-keeper in the video *Deadfall Trap*, SKCradleboard Initiative, 2015. https://youtu.be/9_vKkCoqi5g
 - Other styles of deadfall traps may be found in books or online.
- c. Designing the trap.
- Students choose one style to construct.
 - Have students make a diagram of their version of the deadfall trap.
 - They can add arrows to indicate movement and how energy will travel when the trap is triggered.
- d. Students construct a working model of the trap.
- They can use materials found in the class, at home, or outdoors.
 - Students may want to help each other to be able to get their model to work.
 - Important: No animals are to be used in the experiment!
- e. Have students analyse their deadfall trap as a simple machine. What simple machines are used in its construction?

 Blackline Master 9-4,
page 246,
Deadfall Trap Examples

 Hands-On Activity

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- f. Students can design an experiment to collect qualitative and quantitative data using their model.
- Discuss how students could use the model to demonstrate the scientific ideas of pressure, kinetic and potential energy, forms of energy, and conservation of energy.
 - Students carry out their experiment and draw conclusions.
- g. Discuss the knowledge First Peoples used to design a deadfall trap that would humanely trap an animal. (For example, make it the right size for the target animal; ensure it is heavy enough to kill the animal instantly.)
- h. Ask students to reflect on the activities with questions such as:
- How did you feel building a model of a deadfall trap?
 - Did you find building the trap model easy or difficult? Why?
 - Why might a trapper use a deadfall trap today?

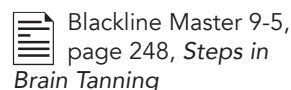


Activity 9.5

The Chemistry of Tanning

Students explore how First Peoples use knowledge of chemistry to produce tanned skins and hides.

- a. Show students samples of items made by First Peoples out of tanned hides, such as moccasins. Students may have some items they can bring from home to share.
- Students can observe the items and records sensory and other details they notice.
- b. Have students work individually or in groups to find out the steps involved in traditional brain tanning techniques.
- Ideally students would be involved in the processes, but this will be possible in only a few situations. However, some schools may have access to an Elder or knowledge-keeper who can explain the process.
 - Students can use a variety of resources and create their own list of steps involved.
 - Students can develop their own ways of presenting the steps in a graphic organizer. However they should include basic information about each step, such as materials, techniques and intended results of the steps.
 - Alternatively, they can use Blackline Master 9-5, page 248, *Steps in Brain Tanning* to record the tanning procedure.
 - Resources for researching brain tanning. Encourage students to find their own resources. Here are some suggested resources to begin with:
 - *Hide Tanning the Woods Cree Way*. Video, 17 minutes. Portage College, 2014. Online at <https://youtu.be/SWUCC00yGd8>. Students will note that the Elder who demonstrates the tanning combines traditional



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chemicals and tools with some modern additions.

- *The Ancient and Arduous Art of Brain Tanning Buffalo Hides*. Gene Gade. Online article at <https://bit.ly/2SgEYfA>. This is a US-based article which focusses on tanning bison, but is applicable to other animals. It includes an explanation of the chemistry of using brains for tanning.
 - Southern Dakelh tanning methods are discussed in the book *Dakelh Keyoh: The Southern Carrier in Earlier Times* by Elizabeth Furniss. See pages 33-34.
 - *Experiments In Hide Brain-Tanning With A Comparative Analysis of Stone and Bone Tools*. Matthew Richter and Darby Dettloff. <https://bit.ly/2DX9VAj>. A US scientific study investigating traditional methods of brain tanning.
 - Note that many online websites and videos about brain tanning are by non-Indigenous trappers who sometimes characterize the process as “primitive.” If students come across such a reference it will be a good opportunity to discuss the sophistication of the techniques and the vast amount of scientific understanding and knowledge that is involved.
 - Students could work together to illustrate the steps and make a class display.
- c. Ask students to identify the scientific knowledge and skills required for brain tanning.

Blackline Master 9-1
Mammals of BC

beaver	fisher	otter
bison	fox	rabbit
bighorn sheep	grizzly bear	sea lion
black bear	lynx	sea otter
bobcat	marmot	seal
caribou	marten	thinhorn sheep
cougar	mink	weasel
coyote	moose	whales
deer	mountain goat	wolf
elk	muskrat	wolverine

Mammals of BC - Classified

Furbearers

beaver
bobcat
coyote
fisher
fox
lynx
marmot
marten
mink
muskrat
otter
rabbit
weasel
wolf
wolverine

Big Game

bighorn sheep
bison
black bear
caribou
cougar
deer/elk
grizzly bear
moose
mountain goat
North American bison
thinhorn sheep

Marine Mammals

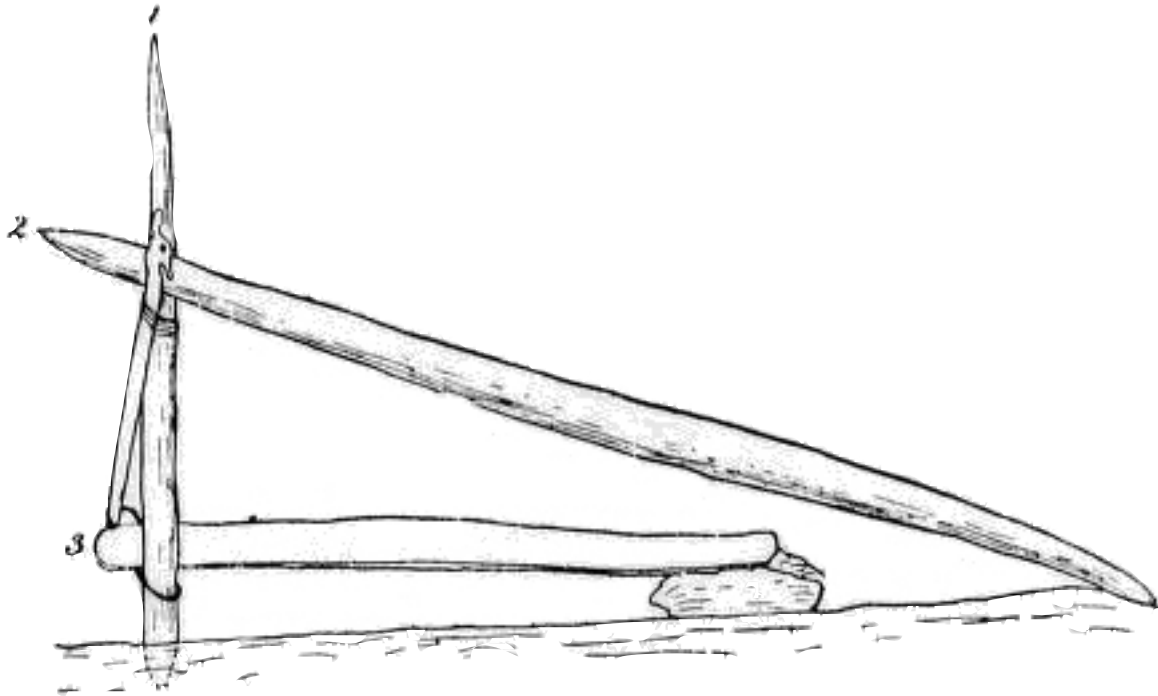
sea lion
sea otter
seal
whales

Traditional Hunting and Trapping Technologies

First Peoples of BC used a variety of technologies for hunting and trapping animals before guns and steel traps became widespread. The methods used depended on where the people were located, and the type of animals they were harvesting.

bow and arrow
corrals and fences
club
deadfall traps
nets
pitfall trapping
slings
snares
spear

Deadfall Trap Examples



Tssetsaut Marmot trap

Marmots are caught by means of traps of simple construction. A stick, the end of which is carved in the shape of a blue jay, crane or some other animal is tied to a longer stick, which is placed upright in the ground (1).

A heavy club-shaped stick (2) is laid over the place where the two sticks are tied together, pressing on the head of the carved stick. The lower end of the latter is held to stick 1 by means of a loop. The lower end of stick 2 is burdened with heavy stones. A small flat stick or board (3) is placed over the loop, and lies in the entrance to the marmot hole. This board is covered with dirt and grass, and as soon as the animal steps on it the loop slips down stick 1, the heavy stick falls down and breaks its back. All these sticks are painted red, and are then covered with stones and grass. They also bear property marks.

Source: Franz Boas. *Tenth report on the North-Western Tribes of Canada*. British Association for the Advancement of Science. 1895. Pages 42-43.

Haida Marten Deadfall



FIG. 5.—Diagram of marten deadfall.

A stake (*a*) was driven into the ground, and a small stick (*b*) carrying the bait (*c*) at one end was fastened to this about midway up. Another stake (*d*) was then driven into the ground some distance in front of these and to one side. Over the top of this another stick was laid extending toward the bait. At that end it was held to the stick *b* by a noose lying in a notch just back of the bait. The bait was also fastened to this noose. The other end of the stick *e* supported one end of the stick *f*, which constituted the dead fall proper. This was weighted along the end *g* next to the ground; and it also had four posts (*h*) to guide it in its descent. They were curved over from each side and fastened together at the top. To prevent the animal from approaching the bait in any other way similar stakes were continued up to and around it. Now, when the bait was pulled off, the noose came away from its notch, whereupon the stick *e* flew up, letting *f* down upon the animal's back. The Haida name for *d* is *x.ā'ña k'udjigā'ño*; for *e*, *x.ā'ña-i*; for *f*, *sí'txa sqā'gida*. The weights are called *qeng.āā'ño*.

Steps In Brain Tanning

Skins are often prepared using plants that contain tannin compounds, giving the term tanning. However, Indigenous people in BC, Canada and elsewhere traditionally have used different chemical ingredients. The results provides an exceptionally soft, durable and waterproof leather or hide.

The goals of preparing hides are to remove water from the skin, prevent decay, flexibility make it waterproof.

Technique, materials	Time	Intended results
1. Soaking		
2. Cleaning		
3. Stretching		
4. Fleshing		
5. Scraping and thinning		

Steps In Brain Tanning, page 2

6. Prepare brain emulsion		
7. Brain treatment		
8. Soaking		
9. Drying		
10. Softening		
11. Smoking		

