People of the Sea and Cedar Workshop Guide

WHATCOM MUSEUM
Education Department

Introduction to the People of the Sea and Cedar Workshop

This program has two parts: a tour of the *People of the Sea and Cedar* exhibition plus the hands-on activity workshop. This program was designed to complement school curriculum on Northwest Coast people for third/fourth grade students. Schools provide approximately eight volunteers who are trained by museum staff.

The workshop gives students hands-on experience with traditional life skills of the Northwest Coast people. Performing these skills provides students with concrete learning experience and appreciation for these people's ingenuity in developing tools and techniques from natural resources.

Museum staff will train school volunteers as well as facilitate timing and organization of the workshop itself. Each group will spend 10 minutes at each station.

The workshop has five hands-on stations. A class is divided into five groups which rotate through all stations during the one-hour workshop. Volunteers at each station guide and assist students.

Station 1: Woodworking - see woodworking tools, split and carve cedar wood.
Station 2: Toys and Games - learn about toys and games Northwest Coast children would have played and how they prepared children for adult tasks.
Station 3: Cedar Bark Processing - learn how cedar is gathered and processed to make everything from diapers to rain gear. Shred and pound the inner bark of cedar.
Station 4: Twining - observe different types of twine and rope made with cedar and nettles. Make twine from cedar inner bark ribbons.
Station 5: Spinning and Weaving - learn which animals' fur was used in blanket-making and how it was processed. Use a spindle whorl and weave on a loom.

Station #1 : Woodworking

Tools & Materials (right to left)

Stone maul

Antler wedge

D-adze

Elbow adze

Crooked knives—steel and beaver tooth

Drill

Dogfish skin

Cedar log (not pictured)

Background Information on Woodworking

Although the cedar was not the most abundant tree in the forest, it was the most suitable for the carving technology available in the Northwest Coast. The wood was relatively soft and easy to carve with stone, bone or shell blades. It split with ease along its grain into straight and true boards in the hands of an experienced wood worker.

Wood was plentiful and the woodworking technology was advanced. Almost everything that could be made of wood was manufactured from that material. Besides longhouses and canoes, tools, weapons, fishing gear, boxes, bowls, spoons, masks, totem poles and crest figures were all carved from wood.

Mauls and wedges were important to carving. Splitting helped to produce chunks of suitably sized and shaped wood for items which needed to be hollowed out. Adzes were used for chopping, shaping and smoothing. The elbow adze was generally used for rough work while the "D" adze was used for finishing work.

Other tools for carving included the chisel, bone drill and crooked knife. All these cut into the wood: the drill to make holes, often for sewing ropes; the chisel and knife for incising the wood. Knives often did the detail work on small surfaces.

Adzes and crooked knives continue to be used in traditional ways with new materials. Most carved pieces made by native peoples were not sanded. Pieces were finished with the adze and crooked knife. In some cases the patterns made by adzing became a part of the design. When an exceptionally smooth surface was necessary or desired, a smoothing method was used. In some cases wood was charred to give it a smooth surface. At other times, sandstone blocks were used as abraders. Beach sand rubbed between the wood surface and a slate abrader rock was still another method of smoothing. Dried dogfish skin was used as sandpaper, creating a very finely sanded finished. The rough skin of this small shark was dried in the sun and cut into small pieces. It retained its abrasiveness for a relatively long period. Two specific tools that required a smooth finish were canoes and canoe paddles. Both cut more easily through the water when well smoothed. Fishing hooks were another item sometimes given a sanded surface.

Station Dialogue

Imagine what this area might have looked like 500 years ago. You would have seen tall trees, thick forests, and people using the waterways for travel. During this time the Northwest Coast people used a variety of trees, but cedar was used for the greatest variety of objects.

We will be looking at a variety of woodworking tools at this station. People of the Sea and Cedar made their tools of materials gathered from their environment. Let's look at the tools and learn how they were used—and are still used today by some native carvers.

Maul: What do you think this is made of? *Hold up the maul and let each student feel it.* It's stone. How do you think it was used? *As a hammer.*

Once a tree was cut down—*show laminated illustration*—mauls were used with a tool like this— *show elk antler wedge*— to drive wedges into the log *strike the maul sharply on top of the wedge.* Wedges and mauls were used to split cedar logs into planks. What were planks used for? *Walls and the roofs of longhouses and bentwood boxes.* What were these logs used for? *Canoes and totem or story poles.*

Wedge: What do you think this is made of? *Hold on to the wedge and let everyone touch it before taking an answer.* What kind of bone? Whose? *An elk antler.*

Adzes: Let's look at the carving tools. The adzes are used to hollow out logs or smooth wood planks. The knife is used to carve detail; the drill to make holes. *Hold up each tool as it's introduced.*

What are the handles made from? *Wood.* What are the blades held on with? *Rawhide and twine.* What are these blades made from? *Metal.* Would metal have been used originally? *No, explorers, traders, and settlers brought sharper steel blades. Traditionally stone or bone would have been used.* Knives were made in the traditional shape and held in the same way.

Knives: Once the main shapes or figures are carved, the woodworker switches to adding details with carving knives. **Beaver tooth carving knife:** Look at this knife blade. What is it made from? *Hint, the tooth of an animal that uses its teeth to cut wood.* The knife is held like this for carving. **Metal crooked knife:** This knife, called a crooked knife, has a metal blade. It's interesting to note that the Northwest Coast people had gotten used to using the curved tooth of the beaver for carving. When metal was available, the blade was intentionally curved. Many Northwest Coast carvers still use a crooked knife.

Drill: This tool has a cedar wood handle and a sharpened deer leg for the blade. What is its purpose? *For drilling holes in soft cedar wood.* Holes were needed so pieces of wood could be pegged or lashed together. You will see how the drill was used in making bentwood boxes in the next station.

Dogfish Skin: What is this made of? *Dogfish skin.* Feel it. What do you think it was used for? *Dogfish skin was used like sandpaper.* What would need to be smooth? *Canoes, paddles , woodworking projects.*

Hands On Activities: Split your group into two. One will be working with the adze, the other with the wedge and maul.

Adze: One at a time, students hold the D-adze and chip away at the cedar log. Make sure they are sitting parallel to the log with their dominant hand closest to the log and using the adze. Make sure there is no one standing behind the log. The station leader may need to sit on the other side of the log and hold it steady.

Wedge & Maul: Using one wood block as a base, stand another wood block on top of it. The station leader will hold the wedge about 1/4 inch from the edge of the block. Students hold the maul with two hands and hit the top of the wedge until a plank splits off. Note: station leader should wear provided leather gloves for safety!

Station #2 : Toys and games

Station replicas of toy and game pieces (left to right):

- Hoop and dart
- Battledore and shuttlecock
- Ring and pin
- Leather ball & cedar puck
- Doll
- Longhouse/plank house model

Station Dialogue

Welcome! At this station we will learn about some of the traditional games played by Northwest Coast children. Some games are very similar to games people play nowadays. Games were a way to:

- Have fun on rainy days.
- Build strength, coordination and teamwork that would come in handy for hunting and fishing.
- Provide opportunities for children to role play adult activities
- Practice skills needed to craft useful things by hand such as tools and clothing.

Background Information on Toys and Games

In Pacific Northwest villages, games and competition functioned as educational activities as well as recreation. Physical competition included ball games, wrestling, racing and tag, rope swing and rope pulling contests. A number of games were played, some very similar to games people still play today.

For children, games provided opportunities to practice fundamental skills that would be used for jobs later in life, such as hunting and fishing. Coordination, teamwork and physical fitness were all important and were utilized in many games.

The process of building game pieces was an important component to how Pacific Northwest children learned, as they had to practice gathering and working with many different materials, like feathers, wood, and pigment. If something was particularly well-made, an elder might take interest and share knowledge to continue improving a skill.

Station Dialogue, Continued

Hoop and Dart Game. These two items were used in a game called hoop and darts. Both boys and girls of all ages played the hoop and dart game. It could be played in the longhouse on rainy days. There were a couple of ways to play. Two teams would sit facing each other, with a wide space between them, forming a passage. One child would stand at the end and roll the hoop in front of the two facing sides. The seated children would throw darts, attempting to get them through the moving hoop. The winners sometimes got the opposite sides darts as a prize. Another option is to place the hoop on the ground and aim at like a target. If your dart landed in the hoop or touched a colored band you gained points. How might skills developed in the hoop and dart game be useful for hunting or fishing? (This game developed accuracy for hunting small animals and spearing fish.) This hoop was made from flexible willow branch wrapped with raffia. After we look at the other game pieces, you will make a dart to keep! Perhaps you'll play the hoop and dart game at school.

Battledore and Shuttlecock. Do these game pieces look familiar? What have you played using similar game pieces. (Badminton or ping pong). This is called a Shuttlecock and this is a Battledore. The object was to bounce the shuttlecock off the battledore as many times as possible. This battledore is carved from a plank of cedar wood. What materials were used to make the shuttlecock? (feathers, cedar lashing) What skills might you learn from the game Battledore and Shuttlecock? (Eye/hand coordination and agility)

Ring and Pin Game. The Ring and Pin game is quite challenging! Perhaps you've tried it. A similar game was played by pioneer kids. Rings of bone or beads are attached to a string which was connected to a bone or wood pin. Hollow bones like salmon vertebrae were often used for the rings. Swinging the string up, players attempt to put the pin through as many rings as possible. The furthest ring was considered the most valuable to catch. This was a game more commonly played by girls. Let each student try briefly. What skills might you learn from this difficult game? (Fine motor skills).

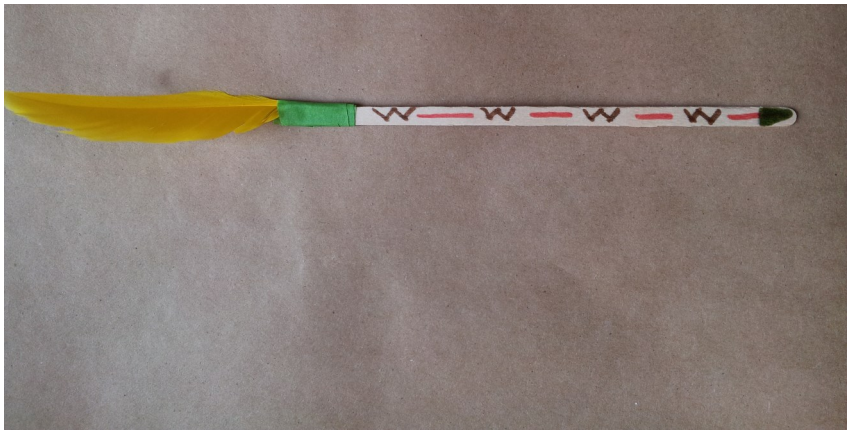
Ball made of wrapped cedar. Physical competition also included ball games similar to hockey and lacrosse. This ball was made by a museum intern. What is it made from? (hand-stitched leather which might be stuffed with moss. We used cotton) This ball is more like a puck. It's made from coiled and lashed cedar bark. Ball playing teaches teamwork, dexterity, and strength.

Model Longhouse. Native American kids played with model houses. Making a small longhouse would teach skills for helping construct a full sized house. Children could then imagine themselves playing adult roles. Children also had model longhouses and canoes with which to role-play.

Dolls. Like children the world over, Native American kids played with dolls. This doll was made of cloth, which would have been traded with a fur trader or homesteader. It's wearing a wool cape called a button blanket. Button blankets were worn for ceremonies. What do you think the skirt is made from? Shredded cedar bark.

Station #1 : Toys and Games

Make a dart for the Hoop and Dart game:



Materials needed:

- Wood coffee stirrers
- Colored masking tape
- Natural feathers
- Fine colored markers
- Sample pictures or darts with suggested designs/patterns

Making toys and games was a way for children to learn how to work with wood, hide, feathers, and other materials.

You will each make a dart to take back to school and then home with you. Your teacher has a hoop so that together you can play the Hoop and Dart game.

Step 1. Take a coffee stirrer stick and 1 feather.

Step 2. Attach the feather to the stick using colored tape. You can help one another by having 1 person hold the stick and feather while the other person applies the tape.

Step 3. Decorate your stick with marker designs on one side, and your name or initials on the other.

Put your dart in this bag with the hoop for safe-keeping. Maybe you'll have time to play in your classroom.

Station #3 : Cedar Bark Processing

<u>Tools & Materials</u>

Cedar bark sample

Inner cedar bark sample

Bundle of cedar bark

Graphics—bark gathering, clothing, diapers, etc.

Bark shredder with mountain lion head

Bark shredder for student use

Shredded bark sample

Bark pounder

Pounded bark sample

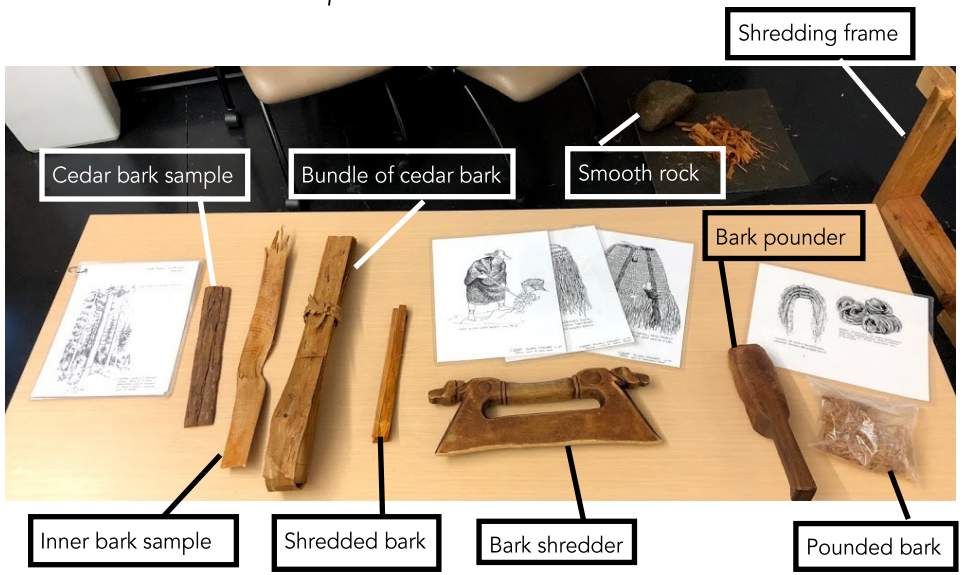
Large smooth rock for pounding bark

Tub with water

Shredding frame

Cedar bark for students to shred

Bag for teachers to take shredded bark



Background Information on Cedar Bark

The People of the Sea and Cedar used more than just the inner wood of the tree. With cedar, as an example, the bark, roots, and withes (small branches) were also used. Bark became a material for clothing, baskets, nets and twine; roots were split for basket and twine making; and withes were tightly twisted to make a thick, strong rope. Sections of inner cedar bark were utilized as string and twine and for tying and lashing.

Bark may seem like an odd material to weave into baskets or for making cloth for clothing. The bark of most trees is hard and rough and seemingly without a good fibrous quality. Cedar bark, however, is substantially different from many other tree barks. It has an obvious fibrous quality and will strip off the tree in long strands.

The fibrous structure of the inner bark allowed it to be shredded along its length, and split along its length and thickness. Shredded bark was the basic product used for cloth. Thin widths of bark were shredded into extremely thin ribbons for use in twine making. Splitting made thicker ribbons ideal for mat and basket making. Experience and skill were needed to split a quarter inch thickness of inner bark into as many as 8 to 12 thin ribbons.

Bark can also be pounded. Pounding wet bark pulverizes the bark fibers, breaking them down into softer fibrous threads. Finely shredded and pre-pounded bark is almost as soft as cotton. Dried, it was used for soft, high quality clothing, to make soft bark towels for drying hands and to make soft material that was used as disposable diapers for babies.

Most bark work was done by women. Men, however, made bark canoe bailers, used bark lashing in tool making, and withes in rope making. Smaller rope and twine were created by women.

Station Dialogue

Welcome to the cedar bark station! We're going to learn how cedar bark was gathered and processed into many useful items. Native people of the Northwest Coast used the inner bark of the cedar tree for several things. What are they? This **drawing** shows a hat, clothing, and basket all made of cedar bark.

Hold up **cedar bark** for students to feel. Here is a piece of cedar bark. Feel the outside. It's rough and ragged. Now feel the inside. It's smooth. It's the inside layers that were used. Hold up the **inner bark** for students to feel. The inner bark is smooth and has perhaps 6 or more layers of material to work with.

The cedar bark was gathered in the spring. Use **laminated illustrations** on cedar bark gathering to show the following: Women would select a mid-sized cedar tree. Here, she's giving thanks to the tree for allowing her to remove some bark. Now she's making a notch in the bark and some vertical cuts. Then she grabs the loose end and pulls it up the tree, hoping to get a nice long strip of bark. Generally only 1 or more strips of bark are taken from a tree. It doesn't kill the tree, but new bark does not grow back in that area. While it's still full of moisture, the outer bark is separated from the inner bark. The inner bark is bundled and taken back to the longhouse for processing during the winter months. It has to season for at least 6 months.

Many native Northwest Coast people still gather and use bark in the traditional ways for making baskets, hats, and other items.

Here are some tools used for working with cedar bark. This is a **bark shredder**. It's a fancy one, carved with mountain lion heads and bead eyes. We will not be using this fancy shredder today, but we can use this one. Hold up the other **shredder**. It was used to pound bark over the edge of a frame. Demonstrate use of shredder. Let each student feel an inner bark sample with one end shredded.

Sometimes, if a very soft piece was needed, it would be soaked in water after it was shredded. Then you would use this tool, a **bark pounder**, and pound the bark until it became very soft. You'll all try this in a moment. Once the pounded bark is dry, it might be used for a soft piece of clothing; with a little more pounding and drying, the bark could be used for a hand towel at a pot-latch; a lot more pounding produced a baby's diaper. Do you think you can get it soft enough for a baby's diaper?

Divide into two groups, one group to shred and the other to pound. Work with the shredders. Switch so every student has a chance to do both tasks. Do not allow students to have shredded bark. This will be used later for other classes to soak and pound. After the end of a given class workshop, wet pounded bark can be given to the teacher to take back to class.

Station #4 : Twining

Tools & Materials

Nettle fiber stalks

Nettle fiber twine sample

Cedar bark twine and rope samples

Cedar ribbon mat

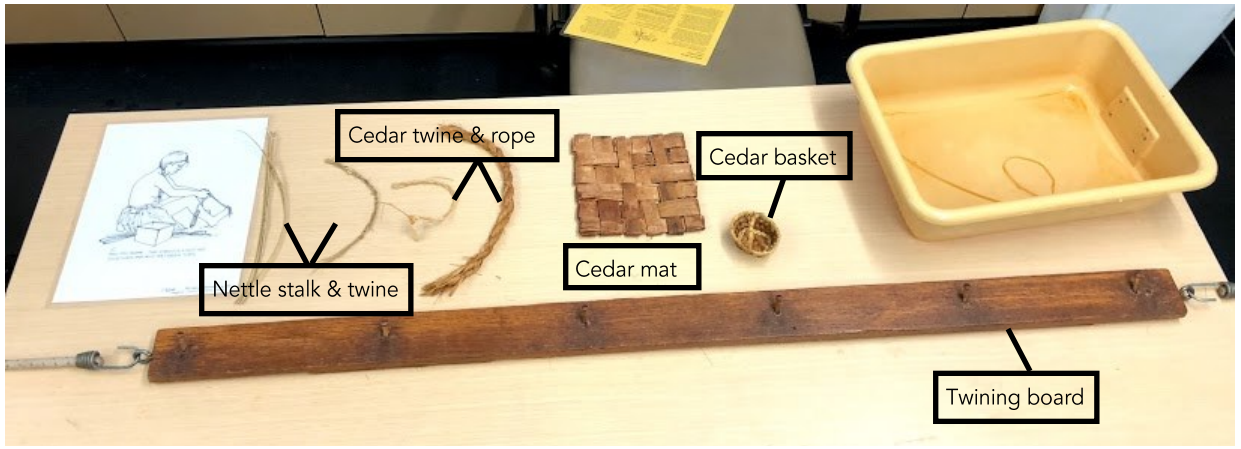
Cedar bark basket

Twining board with 6 pegs

Cedar bark ribbons for twining

Plastic tray to hold water for cedar bark pieces

Laminated illustration of woman twining



Background Information on Twining

For twine making, sections of inner bark were twisted together. Bark was sometimes twisted wet, and at other times twisted dry. Many sections of bark were prepared before the twisting process began. Bark of a workable length and narrow width was shredded, separating it into many ribbon -like layers which are pulled apart. Twine was made using two or more strands of bark.

For two-strand twining, each length of bark was twisted separately in the same direction while at the same time the two pieces were twisted around each other in the opposite direction. With practice, the bark worker was able to twist the bark into twine at a fast pace with very little concentration, similar to today's expert knitter who can work at great speed while keeping up a conversation or while watching television.

When a bark length was used up in the twisting, another length was started up, laying the end of one length over the end of the other. As the twisting process continued, the two ends were twisted into the rope and held tightly with bark segments of differing lengths, so that one length would be used up before the other. In this way, new lengths were added to each of the two twining strands at different places on the finished twine and did not weaken the twine by placement of splices from both strands at or near the same twine section.

Nettle fiber replaced cedar bark as a material for making very fine string. Stinging nettle stocks were gathered in the fall when they had grown to over six feet tall. When the stems were dried there was no danger of a sting from the plant. The stems were split open and flattened out for drying. When dry, the inner pithy layer could be cracked off, and the thin outer skin membrane flaked from the flax-like fibers. The fibers were twisted together into a single-ply by rolling a fiber group between the palm of the hand and the thigh. Pairs of rolled fibers were then twisted together in the same manner as cedar bark lengths to produce a very strong two-ply string, or, more often, the loosely twisted twine was spun on a small spindle whorl. When manufactured by an expert twine maker, the string is hard to tell from the cotton string made today.

Station Dialogue

As the workshop begins, place enough cedar ribbons in the water to soak for your first two or three groups, about 10—15 pieces; add more as needed.

Look at this string. *Hold up nettle twine*. What do you think it is made from? It's a plant from the Northwest that has stinging leaves when touched. *Stinging nettle*. The Native people from this region made a string from the nettle fibers. They collected the nettles in the fall, dried the nettle stems and split them open. *Show the nettle stem sample*. Then they broke off the inside part and scraped. *Show sample*. This stringy fiber is what the string is made from.

The inner bark of the cedar tree, when shredded, would separate into ribbons like this—*show a dry cedar ribbon*. These ribbons could be soaked and woven into mats (show the mat). Our sample is small, big mats were used on the floors of houses, to cover cargo in canoes or as partitions to make rooms in the longhouse. Bunches of ribbons were twisted together to make strong rope like this (show). Smaller pieces were twisted to make twine like this. *Hold up the cedar twine*. Strips of cedar bark can also be woven into baskets of all sizes– *show tiny basket.*

You will make a piece of twine, now. *Give each student a soaked cedar ribbon. Go around to the front of the table and select a center peg on the twining board. Loop your ribbon over the peg so that it is equally divided*. Will you each select a peg and place your ribbon like I have? Make sure the ends of the ribbon are equal.

Now watch as I first twist and then twine the ribbon.

-First I twist each piece individually to the right about half way down the ribbon.

-Then I twine the two pieces together to the left.

-After I have twined to the left as far as the two pieces were twisted, I twist each remaining length of ribbon to the right, then twine the twisted pieces together, to the left.

Remember—it's important that you twist right and twine left so that the ribbons 'lock' into place. Otherwise they will come un-twined.

See, it is beginning to look like string. Now, let's start your twine.

Leave your piece and assist students. Help students who are having challenges. See that they switch at the halfway point

Common challenges:

-twining beyond the point where strands have been twisted

-twisting one ribbon to the right and the other to the left instead of both to the right

-twisting and twining the same direction.

While students are working ask "Do you think the early Native people used a board like this? *Point to twining board. No, they would not*. What would they use? Remember they did not wear shoes. *Turn over laminated illustration of woman using her toe to twine*. Have students tie both ends of the twine. They can take their finished product with them.

Today, most people buy string, rope, and fishing line at the hardware store. Hundreds of years ago, people had to be resourceful and make these items from native plant fibers.

Station #5 : Spinning and Weaving

Tools & Materials

Loom model warped with contemporary yarn

Spindle Whorl

Mountain Goat pelt

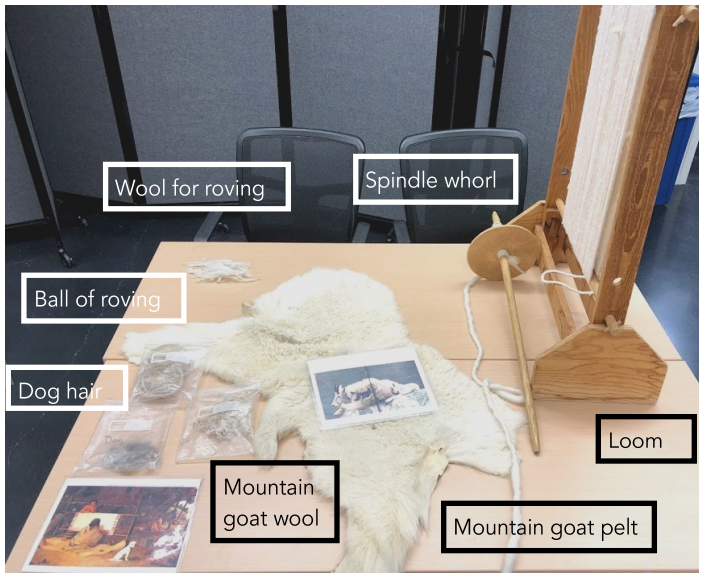
Samples of Mountain Goat and dog hair (please keep bags closed)

Sample ball of roving (please keep bag closed)

Wool samples for roving

Laminated illustration of loom and Salish Wool Dog

Laminated photo of Mountain Goat



Background Information on Weaving

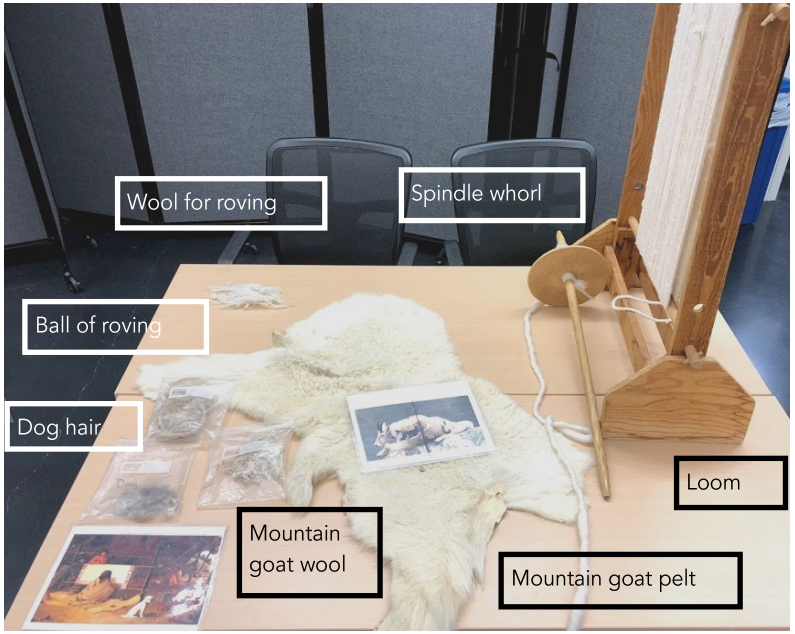
Almost all rectangular weavings were called "blankets" by Europeans, even though many had other uses than bed covering. Often blankets were wrapped around the body as clothing.

Blankets woven by the Northwest Coast people incorporated materials from a number of sources, including mountain goat wool, bird down, soft plant materials, and the fur of the Salish Wool Dog. These dogs were bred specifically for their fur, and were sometimes kept on small islands to keep them from interbreeding with other dogs. When other materials for blankets, as well as finished blankets, became available through trade with Europeans, the wool dogs were no longer needed. They were no longer kept separate from other dogs, and have since interbred to the point that they are no longer recognizable.

Mountain goat wool was collected, cleaned, and carded with dried thistle-like weeds to untangle the wool fibers. Strands of these fibers were twisted into loose yarn by being rolled between the palm of the hand and the thigh. This loose yarn was then spun using a spindle whorl.

One end of the loosely twisted yarn ball was attached to the whorl. The spindle rod was held in both hands and rotated to the right to twist the yarn. Once a section of the yarn was spun, it was wrapped around the spindle whorl and the next section of loosely twisted yarn for the ball was spun. The wooden disc, or whorl, at the end of the spindle whorl acted as a flywheel to keep the tension on the yarn constant as the spindle whorl's axle was rotated between the hands.

Spun yarn was woven into cloth on a two bar loom. Two vertical poles placed in the ground supported the two horizontal bars, one above the other. The bars were warped with yarn so that the warping traveled from the back of the loom under the lower bar and back up to complete the circle around the two bars. The weft yarn was woven in and out around the warp yarns using the hands. No shuttle was used. When the whole circle of warp had been woven, a string or stick was pulled from one specific section of warping. The circle of woven material opened into a single rectangular blanket the width of the weft weave, and the length of the total circle (about twice the length of the distance between the loom bars).



Station Dialogue

The Northwest Coast people couldn't go to the store and purchase colorful balls of yarn. Instead, they harvested wool from two animals. What two animals did the North-west Coast people use for weaving blankets?

One was the ***mountain goat***. This is a mountain goat pelt. Go ahead and feel it. Where is the softest hair on the goat? *On either side of the back ridge.* That is the wool that was used to make yarn.

There were two ways to gather goat wool. Native people could hunt the goat. If this was done, every part of the goat was used, even the horns which were shaped into spoons. Another way goat wool was gathered happened when mountain goats shed in the spring. (*Show photo of shedding goat).* This hair could be gathered from the ground or bushes. Here is a sample. *Show sample of* ***goat wool*** *in plastic bag. Please keep the bag closed.*

The dog they used is no longer around, but this historic painting shows what the dog looked like **(*show picture*).** The Northwest Coast people would shear the fur off of the dogs then spin and weave it. *Show sample of* ***dog fur****.*

Once the wool was gathered, it was rolled on the leg, adding one piece at a time until a long strand was made. This is called making roving. Then it was rolled into a **ball** like this—s*how the ball. Let students roll a small* ***piece of wool*** *on their leg.*

The roving needs to be long and strong. To turn the loose roving into tightly twisted yarn, we use the **spindle whorl**. *Demonstrate the whorl.* Hold the strand firmly but do not pull. Watch as I spin the whorl. See the strand twisting?

Next it goes to the **loom**. Our model loom is much smaller than the real thing. A real loom, like in the picture-***show laminated picture of the loom***- stands about four feet tall with the upright sections stuck into the ground for support.

A simple Coast Salish weaving pattern is over two/under two—*demonstrate technique.* This is an example of a twill weave pattern.

Now divide the group sending students to weave and spin. Switch groups so everyone gets a chance to try both activities.

Note: When two volunteers are available the weaver will demonstrate how the yarn is woven in and out of the upright strings with the fingers using a simple weave over two and under two method. The spinner will demonstrate the spinning process and show students the painted designs on the spindle whorl.