Plant Teachings
for Growing Social-Emotional Skills

Cultivating Resiliency and Wellbeing with Northwest Plants

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A Collaborative Project by GRuB and Northwest Indian Treatment Center
Funding through Seattle Indian Health Board

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For the Love of Native People

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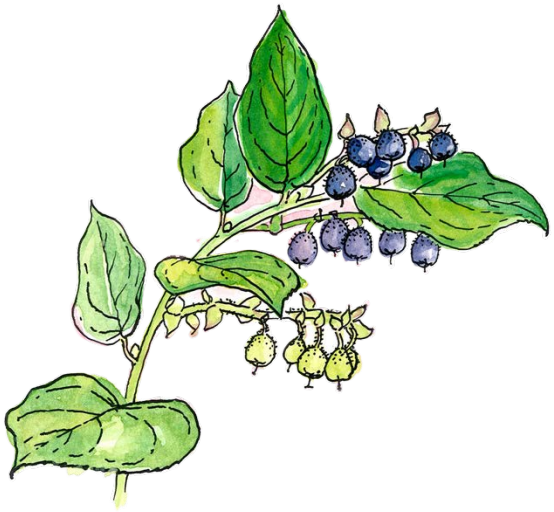
In gratitude to The Plants, our first teachers,
and to the many elders who have kept this work alive
throughout the generations. May this work
honor you and uphold you in the future.

Artwork by Annie Brulé

We call the plants the First People.
They were the first created in our oral tradition
before the animals, before the fish, before the birds,
and their duty was to hold the earth together and live their life as a teaching
for those who would be created in the future.

The plants left many things to us as human beings.
They left the ones who would be our food,
they left the ones that would be our medicine,
they left the ones that would be our building material,
they left the ones that would be our basketry material,
they left the ones that would be the scent and fragrance of the sacred in this universe,
they left beauty and they dressed the earth.
The earth was bare before the plant people were created.

–Bruce Miller (Skokomish), Gifts of the First People



Artwork by Annie Brulé

Introduction

From Chenoa Egawa, Sable Bruce, Elise Krohn, and Lisa Wilson

In this curriculum we focus on the world of plants. Through the stories and experiences of our elders and ancestors, we know that plants are among our very first teachers. They are our allies—each carrying unique wisdom and valuable teachings that can help us learn, grow, and heal. Plants lead through example. Alder demonstrates how to build a healthy community through collaborating with other species and creating a place where many plants and animals can thrive. Yarrow reminds us of the importance of healthy boundaries, while willow shows us how to be flexible, yet strong. As we spend time building relationships with plants, we come to understand the depth of their wisdom, and we connect to important teachings of who we are and how we can be happy, healthy, and resilient.

Unfortunately, in today's modern world, many of us have grown distant from our plant relatives and the natural world. The pace and demands of dominant culture have us living in our minds, over-thinking, and disconnected from fully experiencing our internal and external world. Distance from the natural world can lead to distance from ourselves. We might be aware that something is missing and feel lonely or lost, but might not remember what that is. What does this disconnection mean for our emotional, mental, physical, and spiritual wellbeing? We may feel alone and lose sight of the interconnectedness of life. We may overlook the value of what we have and take things for granted. We may carry the heaviness of our history, but have grown so accustomed to it, we don't realize its weight on our beings. We are searching for the remedy, not realizing it's all around us.

Plants reconnect us with the natural world and ourselves. Spending time in nature, being quiet, and observing and listening to plants brings our hearts, minds, and bodies into alignment. It slows down our thoughts, releases stress, and puts us at peace—helping us to feel what it is like to be truly present in the moment. It soothes us. Think back to a time you were out on the land, perhaps picking berries. Remember the feeling of the earth under your feet, the wind and sun awakening your skin, the smells activating your senses, and the taste of the harvest. Those memories are what it means to be human.

This book is rooted in the plant teachings of the Coast Salish lands and culture. It is part of a toolkit including plant cards, a teaching guide, and activities that weave together plant knowledge, traditional stories, social-emotional skills, reflection questions, mindfulness activities, and movement. The toolkit was developed through a partnership between GRuB, Northwest Indian Treatment Center, and Seattle Indian Health Board. Over two years, a team of plant experts, mental health workers, and cultural experts worked together to synergize and synthesize the plant teachings. The book and cards can be integrated into many different settings, including behavioral health programs, community health and wellness, K-12 social-emotional lessons, and outdoor education programs. Several skillsets are integral to the toolkit, including mindfulness, self-awareness, tolerating stress, and building healthy relationships.

Mindfulness

Mindfulness is a pathway towards reconnecting with ourselves and nature. It is practiced around the world and is part of many spiritual traditions. Practicing mindfulness helps us to be fully present in the moment, to slow down before we act, and to choose skills that help us to move toward our goals. Mindfulness tools include breathing, accessing the six senses of the body (sight, hearing, smell, taste, touch, and thinking), envisioning a resource like a place or person that/who brings us a sense of peace, or practicing reminders of compassion toward ourselves and/or others. Mindfulness also includes inquiry—asking ourselves questions that help us gain greater understanding of our feelings, values, and intentions so that we might access our wisdom and take steps to create the life we want.

When we are mindful, we are in the now, not fixated on the past or thinking about the future. We can be aware of our biases and judgments without needing to act on them. When we are stuck in extremes, like acting from a solely emotional state or using only rational thinking, mindfulness can help us notice our imbalance and move toward a state of inner wisdom. Willow, with its ability to remain flexible in extreme environments, is a remind of this.

Mindfulness is an accessible practice that can be done at any time and enhances the healing impact of resources that are available to us. For example, through waking up our senses, we can more deeply accept the teachings of plants and nature—even a dandelion growing out of a city sidewalk. We can practice mindfulness when strolling in a park, sitting next to a tree, or even feeling the sun on our skin. Mindfulness helps us to embrace the positive things in our lives. Life is always changing, and if we are not in the moment, we miss the gifts that are present now. Mindfulness practices can help reduce suffering, anxiety, and pain through helping us control what we pay attention to and for how long.

Mindfulness can be like a superpower. Imagine running through a forest unmindfully and stepping into a patch of nettles. The sting will remind you to wake up and be aware of your surroundings! Once you slow down you might notice many useful or beautiful things around you, like the strengthening medicine of nettles. If you feel overwhelmed with a task, you can use mint to help bring clarity and focus so you can accomplish your goals more effectively.

Self-Awareness

Plant teachings can help us to be more aware of our inner state. We can learn to identify, understand, and regulate our emotions. Like the deeply rooted cottonwood tree, we can tap into our source and bring our emotions to the surface. We can remember our inner strength and that we belong. As we sit under the bigleaf maple tree, we might notice its willingness to invite many species into its branches. It shows us the importance of celebrating the gifts that diversity brings to our lives. How can we be more open to new experiences, people, and perspectives? Can we willingly let go of judgmental thoughts or assumptions, and be open to change? When we are trying to overcome a challenge, we might learn from dandelion—a common weed that thrives just about anywhere, including mowed lawns and cracks in the sidewalk. How might dandelion's creative solutions to challenges help us to develop our own problem solving abilities?

Tolerating Stress

Pain and stress are a part of life. Yet, when we resist reality and focus on the pain and stress, it can make things even more difficult. Plants show us ways to be resilient in the face of life's challenges. Douglas fir survives fires by making thick bark. It protects itself from insect infestations and makes pitch to heal injuries. What skills might we develop to adapt in stressful situations? Oak grows slowly and invests its energy in making deep roots, hard wood, tough leaves, and nutritious acorns. This patience pays off during drought, storms, and other challenges. By practicing patience and thinking about our long-term goals, we can reduce our own stress as well as others'. Other skills in tolerating stress include accepting reality with grace (wild rose), soothing oneself through smelling, touching, tasting, or listening to something calming (plantain), and finding joy in the moment (strawberry).

Cultivating Healthy Relationships

Plants must develop balanced relationships with other species around them in order to survive. This interdependence is found everywhere in nature and reflecting on it can help us build our own social awareness skills. Trees that are attacked by insects can communicate warning signals through scent to neighboring plants so they can build their own defenses. Trees also build healthy forest communities through root and fungal networks by sharing food and medicine with other trees that are needing support. Salmonberries demonstrate interdependence as they feed insects, birds, deer, and squirrels. They shade streams and keep waters cool for spawning salmon. In return, these animals care for salmonberry through fertilizing the soil, pruning branches, pollination, and seed dispersal. When we share our gifts with others, the whole community grows stronger.

Plants can help us to heal individual and community discord and/or trauma. Fireweed's downy seeds fly on the wind and take root in clear-cuts, burns, and slides. Over time they establish a network of roots that stabilize and regenerate disturbed soil. When we drink fireweed leaf tea, it balances gut bacteria and helps reduce inflammation that can lead to disease. In learning from fireweed, we might find ways to heal ourselves and the land. We might also take action to repair the harm we have caused others. Yarrow, or "warrior plant," contains medicine that stops bleeding and fights infections. It also helps break fevers through opening the skin pores and inducing sweating. Yarrow helps us to establish healthy, positive, and safe boundaries in our physical, emotional, and spiritual being.

Reciprocity is a foundational teaching in social awareness. For thousands of years, Native Peoples have gathered and still gather foods on the prairies, including nutritious bulbs, berries, nuts, and wild greens. In order to keep the prairies open and healthy, people have cultivated optimal environments for preferred species with techniques like burning and pruning. This practice of receiving the gifts of the land and giving back through active stewardship is necessary for upholding camas prairie ecosystems, for example. Reciprocity is also necessary in maintaining healthy relationships with people.

Honoring Plants, Places, and Cultural Knowledge

-Adapted from the *Tend, Gather and Grow Teacher Guide*

This book was developed to support Native programs in behavioral health, drug and alcohol treatment and recovery, and wellness. It is also intended to encourage non-Indigenous people to connect with local plants in order to live more healthfully, respectfully, and sustainably. There are inherent tensions in releasing the book to diverse audiences, including concerns of cultural appropriation and misuse of plants. We are living in the context of a painful and persistent history of colonialism, white supremacy, and systematic oppression. Historical and ongoing colonial settler practices negatively impact Native People and their traditional lands. Plant communities have changed drastically and many important cultural foods and ecosystems are diminished and difficult to access. We encourage people who are using this teaching tool to practice honorable harvest ethics and to uphold plant communities (see page 59). This may mean not harvesting rare plants at all. It might also mean taking part in local ecosystem restoration projects and in growing desired native edible and medicinal plants in backyard and community gardens.

Many Native People hold cultural knowledge very close in order to protect plants, places, and cultural traditions. There are many multiple reasons for this. In Northwest Coastal Native Culture, knowledge is considered wealth and can be a part of heritage. Harvest sites, plant knowledge, recipes, and spiritual traditions may be passed down through a family or a spiritual community. This may protect the knowledge so it is not misused, and the plants so they continue to thrive. Cultural appropriation and the misuse of knowledge among settler communities has undermined tribal sovereignty in several ways, including non-Indigenous researchers claiming copyright authority over Indigenous knowledge and the overharvest of plant communities. We have intentionally left out plants that are at risk for overharvest. Our project team has collaborated with tribal elders and other tribal culture keepers to ensure that the information provided here is appropriate to share broadly. All stories and plant teachings are included with permission from the storyteller or plant knowledge keeper. When telling a story from this book, it is important to always acknowledge where the story came from and to name the storyteller. Stories are powerful teaching tools, especially if you reflect on them, listen to them multiple times, and retell them. We encourage you to also tell your own plant stories, for we are not only storytellers, we are also story makers.

This book is intended to be a doorway into deepening our human relationships with plants. Perhaps you have different cultural teachings around the plants in this book, or you connect with other plants that are teachers. We hope that this encourages you to engage with your own plant traditions—there is so much precious medicine all around us.

Part 1
Plant Teachings

Artwork by Annie Brulé

Alder – *Build Community*

Alder trees are the first plants to grow in places that have been damaged by landslides, fires, and other environmental disasters. They rebuild the soil and create a forest home where plants and animals can thrive.

Alder (*Alnus rubra)* is a common tree growing up to 100 feet tall along waterways and in wet forests. Seedlings grow as much as three feet per year and form groves. Young trees have smooth, silvery-brown bark while older bark is often spotted with white lichen, moss, and dark patches. The inner bark and wood turn a brilliant reddish-orange when cut. Leaves are toothed on the edges and are sharply pointed at the tip and base. In early spring, red and yellow male flowers, called catkins, hang from leafless branches like fancy tassels and give the treetops a reddish flush—a sure sign that spring is just around the corner. Female flowers grow on the same tree. They mature from green nubs into dark brown cones that resemble small pinecones.

Medicine: Alder reestablishes harmony in our body as well as on the land. The bark is most commonly used for medicine, but the leaf buds, immature male catkins, and immature female green cones are also used. Alder is bitter and promotes healthy digestion. It supports the function of the liver, including breaking down waste products, stimulating digestive juices, and breaking down fats. It is a favorite remedy for when you eat a fatty meal and have indigestion. Alder is also antimicrobial and is used to treat internal and topical infections. It tightens puffy, irritated tissue including an inflamed gut. Skin disorders including acne and boils may respond well to using alder medicine.

<u>Harvest Alder</u>

Alder is a favorite remedy for fighting sore throats and easing indigestion. The bark is best harvested in spring or fall, but still contains medicine the rest of the year. Look for a branch that has recently fallen down, or cut a small branch and strip the bark. If you are harvesting thick bark from the trunk or larger branches, separate the medicinal red inner bark from the tough outer bark, as the inner bark has the strongest medicine. You do not need to separate the branch or twig bark. Watch how quickly it turns reddish-orange! You can suck on the bark, boil a small handful in 2 cups of water for 10 minutes and drink it throughout the day, or dry the bark and save it for making medicine later.

You can pick immature green male catkins or female cones in late spring through early winter and suck on them like lozenges. It is fine to swallow the plant material.

Traditional Technologies: Alder bark makes a beautiful orange-to-red dye. It is harvested in spring to summer at the warmest time of day when the sun is directly on the tree. Alder wood is used in woodworking to make many things including utensils, carvings, and furniture. The wood burns well and is prized for smoking salmon. It burns clean and is non-crackling.

Learning from Alder – Build Community

If possible, take a walk in a forest with alder trees. If not, imagine you are there, noticing how many trees grow together and form a community. See the mosses and lichens that create a patchwork of colors on the tree trunks. Let's explore the history of this place:

Long ago this forest was burned by a fire, or was clear-cut. Alder seeds traveled in on the wind and landed on the barren soil. They grew fast—as much as three feet per year—and developed a partnership with tiny bacteria in the soil. The alder invited the bacteria to live on its roots and use some of their sugary food in exchange for fixing nitrogen—an important plant food—in the soil. This partnership creates fertile soil for plants to grow.

Each autumn, alder leaves fall and break down, forming rich humus on the ground that insects and other animals can live in. As alder trees grow tall, they create a shady home where other plants and animals can live. Alder twigs feed deer, elk, and moose. Small birds eat the seeds and use the trees for cover and nesting. Beavers eat alder bark and use the branches for constructing their dams. Alder protects fish and other wetland species by providing shade over streams, rivers, and ponds.

The seeds of evergreen conifer trees like cedar, hemlock, and spruce are brought into the alder grove by the wind or by animals. These seeds will grow to be trees even taller than alder. They also live longer—alders only live about 100 years, whereas evergreen conifers can live many hundreds to a thousand years. Eventually, evergreen conifer forests replace alder forests. But alder seeds will continue to travel on the wind to another disturbed site, where they can help heal the soil and start a new forest community!

Nature shows us that diversity among plants and animals is a source of strength and resilience. Every living thing requires support from the whole to survive and thrive. Is human diversity also a source of strength and unknown possibility? Skokomish Elder Bruce Miller said, "Don't teach all of our children exactly the same thing. If you teach them everything all the same, they won't need one other and the world will split apart."

- *How can I strengthen my relationships with plants, the land, and spiritual traditions?*
- *How can I support people who are different from myself? What can I learn from our differences?*
- *How can I contribute to the health of my community?*

Bigleaf Maple – *Willingness*

This large, multi-trunked tree offers a home to mosses, lichens, ferns, insects, birds, squirrels, and other animals. Large leaves create a shady, protective canopy. Each autumn, bigleaf maple releases multitudes of leaves and seeds, which fall to the ground and feed the forest floor. Through welcoming many species and sharing its gifts, bigleaf maple makes new life possible.

Bigleaf maple *(Acer macrophyllum)* thrives in wet forests and open fields. Young bark is green and smooth, while mature bark becomes furrowed and gray-brown in color. Older trees are often covered in mosses and licorice ferns. Massive leaves have five tips like a hand and can grow over a foot in diameter. Flowers bloom in March through April before leaves emerge. They are greenish-yellow and hang in clusters. Each flower is bowl-shaped, cupping many pistils with a downy fur at their base, resembling a tiny bird nest. Bees and other insects harvest the sweet nectar. Fruits are shaped like wings attached in a V pattern. They emerge from the flowers looking like bunny ears popping out of a hole. Once fully developed in late summer, they travel like helicopters in the wind.

Bigleaf maple leaves fall in great quantities in the autumn, providing hiding places for insects and eventually breaking down into compost that contributes to healthy soil. Each spring, thousands of seeds germinate, but only a few survive through summer. Bigleaf maple can grow nine feet in a single year and can live as long as 300 years.




Food: Bigleaf maple flowers are harvested in spring when they are budding on the tip and are fully open at the base of the flower cluster. They are full of sweet nectar and pollen. Try eating the flowers straight, using them as a garnish on salads or soups, or add them to baked goods like pancakes. The tasty, young sprouting branch tips can be peeled then eaten straight or added to salads. They become bitter and tough as they get larger. Bigleaf maple leaves are traditionally used for pit roasting and for wrapping food. In early spring, bigleaf maple trees can be tapped to gather sap. This is heated and reduced into maple syrup.

Maple Flower Fritters

These fritters are delicious with maple syrup and cinnamon on top! You can also use pancake or biscuit mix and dip the flower clusters into the batter.

10–15 maples flower clusters
½ cup flour
½ teaspoon baking powder
A pinch of salt
2 eggs
¼ cup milk
¼ cup oil (sunflower, coconut, or another high-heat oil)
Herbs and spices of your choice

Mix flour, baking powder, salt, and herbs or spices in a bowl. In another bowl, whisk eggs with milk. Turn a medium-sized sauté pan on medium-high heat and add oil. Once heated, dip maple flower clusters in the egg mixture, dust them with flour mixture, and place in the pan. When fritters are golden, flip, and let them brown on the other side. Drain on paper towels. Serve hot.

Traditional Technologies: Bigleaf maple wood burns clean and does not spark—making it a preferred wood in summertime to prevent forest fires. It is good for smoking salmon. The inner bark of the branches can be harvested in springtime and used to make strong cordage for rope. Bigleaf maple is called "paddle tree" by many Northwest tribes and has been used for basketry, house construction, cradleboards, bowls, spoons, and other implements.

Learning from Bigleaf Maple – Willingness

Imagine an old bigleaf maple tree that is firmly planted in the ground and reaching high into the forest canopy. All along the trunk and branches, you will see a variety of mosses, lichens, and ferns. If you get up close, you might find insects living in the plants growing on the tree. Golden spring blossoms feed bees and other insects. Squirrels sprint up the trunk for safety and hop through the branches. Birds sing and chirp down at you.

Bigleaf maple is a reminder of willingness. Notice how it invites a community to grow on its trunk and branches— showing us how we can be with others in an open and generous way. We can also "try on" new experiences and perspectives with an open mind.

Bigleaf maple also teaches us to be willing to let go—as it releases little helicoptering seeds and then leaves in autumn, which blanket the forest floor. In winter, the leaves decompose and release nutrients into the soil. This process feeds the next growth of leaves and buds in spring. In contrast to being willing, notice when you are feeling willful. Are you denying, pushing away, or ignoring something? Can letting go of willfulness allow for growth, change, and new opportunities?

- *How can I let go and open to this situation?*
- *Where is my body holding tension? Am I willing to breathe and let go?*
- *In what ways can I become more willing?*

Camas – *Reciprocity*

In springtime, camas prairies bloom in a sea of dense purple flowers. Many Native families historically traveled to prairies and camped for several weeks to harvest camas bulbs, cook them, and preserve them for later use. Cultivation techniques, including burning, aerating the soil with digging sticks, and weeding out unwanted plants, prevented the prairies from becoming forests. Native People have taken care of the prairies and the prairies have taken care of them in return.

Camas has six-petaled, purple flowers and grass-like leaves. Bulbs grow four to eight inches beneath the surface and resemble small potatoes or onion bulbs. Giant camas (*Camassia leichtlinii)* has darker purple flowers and thicker leaves than common camas *(Camassia quamash).* Giant camas blooms a couple of weeks later and is more common east of the Cascades, in the San Juan Islands, and in Southern British Columbia. Camas can be grown in gardens in well-drained soil with full sun.

Camas prairies are open grasslands that would have been taken over by conifer forests thousands of years ago without management by Native People. Many types of food and medicinal plants thrive on prairies. They also provide open hunting grounds for wild game. When Europeans settled in the Pacific Northwest, they prohibited prairie management techniques by Native People, including burning. This, along with land development, has diminished the prairies to less than three percent of their range just 100 years ago.

Food: Camas bulbs are dug in spring to early summer when the flowers or seeds are visible. This helps to distinguish it from a similar-looking poisonous plant, called death camas *(Toxicoscordion venenosum),* which has white flowers and similar-looking leaves and bulbs. Narrow t-shaped digging sticks that are made from hardwood, bone, antler, or metal make it possible to selectively harvest bulbs without damaging them or disturbing large sections of prairie. Harvesting also aerates the soil and allows moisture pockets to form, making it easier for new seeds to sprout.

To clean camas, pinch off the stem where it enters the bulb and the roots from the base of the bulb. The brown outer skin will peel off easily and you will be left with a white bulb that resembles an onion. Rinse remaining dirt from the bulbs. If you are pit-roasting camas, you can leave the outer skin and peel the bulbs once they are cooked.

If camas has gone to seed, sprinkle the seeds back on open soil. Only keep bulbs that are attached to seeds or flowering stalks, since death camas bulbs and leaves look almost identical. The small bulb-like roots can be roasted, boiled, or dried for use as a winter food. When they are roasted slowly and for a long time, they become sweet. A compound in camas called inulin helps to support gut health and provides carbohydrates without raising blood sugar.

Spring Salish Soup

This delicious soup is packed with spring vitality. Nettles are incredibly nutrient-dense and salmon provides essential fatty acids and a protein. White beans can be used as an alternative to the camas and leafy greens like chard or kale can be used in place of nettles.

3 tablespoons olive oil
1 large onion, chopped
3 cloves garlic, minced
6 cups of water
3 cups fresh or frozen camas bulb, or 2 cups dried camas
1 grocery bag full of fresh spring nettles
2 cups of baked, canned, or smoked salmon
Salt and pepper to taste

In a soup pot on medium heat, cook the onions and garlic in olive oil until they become translucent, about 5 minutes. Add water and camas, bring to a boil. Turn down heat, cover with a lid, and simmer for about 20 minutes. While the soup is simmering, wash nettles in a colander then cut them into small pieces with scissors. Once the camas is tender, add the nettles. Cook an additional 5 minutes. Add the salmon and then season with salt and pepper. Cook time 40 minutes. Serves: 4–6.

Learning from Camas – Reciprocity

Camas is one of the most important Native foods or "First Foods" in the Pacific Northwest. First foods have been integral to Indigenous cultures for millennia and are often featured in important teaching stories and ceremonies in Indigenous communities. Camas teaches us how plants care for people and people care for plants. We receive and we give back.

Camas – A Plateau Native Story, as told by Roger Fernandes, Lower Elwha Klallam.
A long time ago in a village, there was a time of great hunger. There was no food to be found–no game to hunt, no plants to gather. The People were very hungry. There was a grandmother who heard her grandchildren crying because they were hungry. She was so sad that she had nothing to give them. She left the village and went up a hill nearby. She began to cry. She cried for her grandchildren. As she cried, she began to sink into the ground. After a while, she was gone. She was under the earth. Her grandchildren missed their grandmother. They wondered where she was and began to look for her. They climbed the hill, and as they reached the top, the granddaughter said, "Grandma is under the ground! I can feel her!" The children dug into the ground and found camas bulbs. Grandmother had become camas, and now the children and the People had food to eat. Camas is a main food of the Native people of the Plateau region. And that is all.

- *Who do I care for, and who cares for me?*
- *I receive and appreciate the gifts of the land. What does this look like for me?*
- *I give back to the land to support future generations. What is my commitment?*

Cedar –*Kindness and Generosity*

In Coast Salish traditions, Western Red Cedar is called Grandmother, Long Life Maker, and Rich Woman Maker. The gifts of cedar include materials for building grand longhouses and swift, rot-resistant canoes, and for making durable clothing, tools, art, and medicine.

Cedar *(Thuja plicata)* is a tall evergreen tree with a drooping top, a wide buttressing base, and a fluted trunk with gray to cinnamon-red bark. Leaves are flat and scale-like. Branches are often J-shaped. Small, round, male cones mature in summer and give the tree a yellowish appearance. They release pollen that makes the air appear hazy and covers everything in golden dust. Cedar seed cones are shaped like rosebuds. Cedar trees can live to be over 1,000 years old. They provide homes to birds, squirrels, and other small mammals. Cedar roots may connect with other trees through mycelia—or fungal networks—and share nutrients with young cedars and other types of trees that are distressed.

Medicine: Cedar leaf can be made into a tea, bath, respiratory steam, or infused oil. Some of the traditional uses include making a cedar bath or topical medicine for painful joints, and the tea for coughs and fevers. The dried leaves make a wonderful incense and are used in smudging for purification.

Cedar is a powerful antimicrobial. Scratch the leaf and you will notice strong smelling oils, which repel insects, molds, fungi, bacteria, and viruses. Cedar also promotes immune function through stimulating white blood cells. Cedar can be used topically as an infused oil for the skin, a bath, a steam, or incense. To use fresh cedar leaves for medicine—just chop them fine with scissors or coarsely chop them and place them in a blender or food processor. Fresh cedar-infused oil can be used for body oil or in salves and creams. To make it, use a double boiler and gently heat it for up to a week until it is deep green and smells like the forest. Dried cedar leaves also have good medicine. Bundle several small branches with a rubber band and then hang them in a place with good ventilation, or dry them in baskets.

<u>Cedar Respiratory Steam</u>

Cedar is one of the most useful medicines for fighting coughs and sinus infections. Place a handful of dried or fresh finely chopped cedar in a medium-sized bowl. Pour boiling water over the cedar until the bowl is half full. Put your face over the bowl at a comfortable distance and cover your head with a towel. Breathe deep! Steam for 3–5 minutes several times a day. You can add 1-2 drops of essential oil like eucalyptus, rosemary, or mint.

<u>CAUTION</u>: Consult an Elder, herbalist, or knowledge keeper on when and how to use cedar internally as it is only used in small amounts and is not safe during pregnancy.

Traditional Technologies: Cedar bark is prized for its durability, flexibility, and water resistance. Soft fibers have been used for clothing, mats, napkins, towels, and even diapers. Weavers create ornate cedar baskets and hats with narrow strands of cedar bark. Long straight cedar roots are split and used in basket-making. Long branches can be split and made into rope, fish traps, binding material, and baskets. Harvesting cedar bark in springtime is a Native tradition that remains vibrant today, although cedar is more challenging to find. Protocols for gathering and honoring the tree are still practiced. Cedarwood is highly rot-resistant and beautiful. Native carvers use it to make masks and welcome figures.

Learning from Cedar: Kindness and Generosity

This abbreviated Coast Salish story from Lower Elwha Klallam storyteller Roger Fernandes speaks to the teachings of cedar:

A long time ago there was a tall and strong Grandma Cedar Tree. One day, a little tree, who was her grandson, began to grow next to her. She happily watched him grow and grow. She also was able to protect him from the wind, the hot summer sun, and the hungry deer. When he was lonely, she called the birds to his branches to keep him company. So he grew healthy and strong until he was bigger than his grandma.

Grandma was getting very old, and she needed protection and care. Grandson Cedar was able to protect Grandmother from the strong wind, the hot sun, and the hungry deer. He was also able to call the birds to her branches when she missed her old tree friends. One day she said, "Grandson, don't worry about me. I am old now. Take care of yourself. Do not worry about me anymore." But he said, "Grandma, when I was little you protected me from the strong wind, the summer's hot sun, and the hungry deer. And when I was lonely, you called the birds to me so I would have company. Grandma, you did all these things for me, and now I will do them for you." And so, Grandson Cedar Tree took care of his beloved Grandmother Cedar Tree.

Take a moment to focus your attention on your inner self. Perhaps you can sit at the base of a cedar tree or smell cedar leaves. What do you need right now? What do others around you need right now? When you have the ability to help and care, you can offer that support and enjoy seeing your gifts help others to thrive. Generosity is not just about giving, it is also about receiving. When we graciously accept help, we are part of an exchange of energy that supports healthy and connected individuals and communities.

- *What does it look like to be gentle and kind?*
- *Can I receive generosity and kindness with an open heart?*
- *How can I practice generosity in my life right now?*

Cottonwood – *Wellspring*

A cottonwood tree can tap into deep sources of water in the earth and bring it to the surface. This wellspring is associated with spirit—the essence of who we are and where we come from. In some Native cultures, cottonwood is also associated with the stars. If you cut a small branch, you can see the star inside.

Cottonwood (*Populus trichocarpa)* grows 150–200 feet tall and towers above groves of willow and alder in river valleys and floodplains. Grey bark becomes deeply furrowed with age. Winter buds are full of fragrant yellow-to-red resin. Leaves are shiny and dark green above, and silvery below. They have rounded to heart-shaped bases and finely-toothed edges. Male and female flowers grow on separate trees. Male catkins are reddish. Female catkins have light green capsules that release seeds with white, fluffy down. Cottonwood fluff flies great distances on the wind and can be so thick that it looks like snow falling in summertime.

Cottonwood is a whole ecosystem within itself. Roots pump water from the ground and carry it up to the massive canopy of leaves, providing shade that keeps the river water cool for salmon and other species. The filtered light and rich leaf mulch created by the canopy also support a vibrant habitat for shorter plants. Insects make homes in soft cottonwood trunks and woodpeckers hammer holes to find them. These cavities become nests for birds, squirrels, and raccoons. Eagles, osprey, and great blue herons make platform nests in the upper branches of cottonwood. Beavers eat the wood and use logs to build dams. Cottonwood resin is sometimes called “bee glue” because bees gather it to make propolis, a sticky brown substance they use to seal their hives against invading insects, microbes, and harsh winds.

Food: Cottonwood catkins are rich in Vitamin C and can be eaten raw or added to soups.

Medicine: *Populus* means “the people” in Latin, and cottonwood is called the people’s tree. It is a beloved plant around the world and is also called “Balm of Gilead.” A compound called salicin, which is found in the leaves, buds, and bark, lowers fevers, reduces inflammation, and eases pain. Cottonwood bud oil is a favorite remedy for swollen arthritic joints and sore muscles. It is also high in antimicrobials and antioxidants that heal and protect skin. Use it for sunburns (use cool water and aloe vera first to cool the burn), chapped lips, wounds, and eczema.

Cottonwood leaves are harvested in spring through mid-summer. They dry well in baskets or paper bags and will keep for about a year. You can use them in teas or herbal baths for reducing pain and inflammation.

Cottonwood bark is made into a decoction for breaking fevers and fighting infection, including coughs and sore throats. It can be harvested in any season but is most potent in spring and fall. To harvest, choose lower or recently fallen branches. Strip bark with a knife, leaving behind the hard inner wood. Dry in a basket or paper bag. The bark has a bitter, yet aromatic, flavor. Use a small handful of peeled bark or a heaping teaspoon of finely cut bark per cup of water. Simmer for 10–15 minutes. Drink ½ to 1 cup up to 3 times a day.

CAUTION: People who are allergic to bees or aspirin should avoid using cottonwood.

Cottonwood Bud Oil

Harvest cottonwood buds in January through early March. If you are lucky, a windstorm will knock down tall branches with large buds. Some have catkins inside which do not have as much resin and are not as medicinal. Snap the leaf buds off the branches and place them in a plastic bag.

You Will Need: Extra virgin olive oil (enough to cover the buds), a double boiler, a pressing cloth like muslin, a strainer, a glass jar for long-term storage, and a label.

Place your buds in a double boiler and fill with olive oil until the buds are completely covered. Heat on a very low setting. Do not allow the olive oil to get hot enough to boil! Turn the burner on and off to keep the temperature low. Heat for a day to several days. The oil will become very fragrant. Pour this into a glass jar and let sit for several weeks to several months. Press out the oil through muslin cloth. Let the pressed oil rest for an hour or so. If there is any water or solid material, it will fall to the bottom of your container. Pour your oil (minus any water or solids at the bottom) into a glass storage container with a tight-fitting lid. Label and store in a cool, dark place. Cottonwood oil will last several years.

**Helpful Hint:* Sticky cottonwood resin will adhere to anything else it touches. To remove it, use a high percentage rubbing alcohol. Oil or hand sanitizer will also remove it from your hands.

Traditional Technologies: Native People have used cottonwood resin for waterproofing. The fruit capsules and buds are used to make dye. The wood is soft and lightweight when dry, and is grown in plantations to make pulp for paper.

Learning from Cottonwood – Wellspring

In many cultures around the world, water is associated with our inner emotions and our spirit. Cottonwood is a reservoir of water. A single tree has miles of roots that anchor deep in the earth, drawing massive amounts of water up to the surface. It can hold this water in its trunk and breathe it out through its leaves, thus helping to generate rain. Cottonwood reminds us to dive inside ourselves and access our inner spirit. We are connected to a greater source of strength.

- *When I feel alone, isolated, or overcome with fear, can I bring these emotions to the light without judgement?*
- *What teachings, traditions, or skills do I have to help me tap into my inner source of strength?*

Dandelion – *Problem Solving*

Dandelion is resilient. Each plant produces thousands of seeds that can fly miles in the wind and take root in the most depleted soil, including cracks in the sidewalk, dry fields, and roadsides. Roots grow fast– breaking up hard soil and releasing nutrients. Dandelion provides nutritious food and powerful medicine to people and many other species. It reminds us that gifts are sometimes "weeds" found right under our feet. We too can rise up from difficulty and become medicine.

Dandelion *(Taraxacum officinale)* is a common plant that is surprisingly easy to misidentify. Many look-alike plants have similar leaves, but dandelion leaves are hairless. They have deeply toothed edges, hence the French name: "dent de lion," or lion's tooth. Roots and stems exude a white sap. There is only one flower per stem. Seeds form "wish balls" that are carried away with the slightest breeze or breath. The flowers are pollinated by over 90 insects.

Food: Dandelion leaves can be a gourmet green if you know when to harvest and how to prepare them. While they taste a little bitter, they add flavor variety as well as concentrated nutrients to dishes. They can be steamed, sautéed, or boiled, and incorporated into dips, casseroles, and soups. Boiling older leaves in a pot of water for about five minutes removes some of the bitterness. They are high in vitamins and minerals including potassium, calcium, magnesium, iron, and vitamins A, B, and C.

Dandelion buds can be eaten like capers when they are still tight little buttons. They look like little watermelons and taste best cooked or pickled. Remove sepals (they look like tiny leaves) to decrease bitterness.

Dandelion flowers have a sweet and mild flavor. The base of the flowering head and the green sepals are bitter. You can pull the flowers off and use them straight in salads or add them to cooked foods like quiche, pancakes, muffins, and fritters. They are high in vitamin A.

Medicine: Dandelion is one of the oldest documented medicinal herbs. A European variety was intentionally imported to the Americas on the Mayflower ship (around 1620) as a food crop and a panacea or "cure-all." It spread and was quickly incorporated into American Indian medicine.

Dandelion leaves are used as a simple and safe diuretic, meaning that they help the kidneys to excrete excess water from the body. They can be eaten, dried and made into tea, powdered and placed in capsules, or infused in vinegar. Dandelion flower is a popular addition to facial cleansers and creams because of its high nutrient content. The flower oil is also used topically for inflammation, sore muscles, and arthritic joints. The milky, white sap from the plant inhibits the growth of warts. Try dabbing warts with sap daily for a couple of weeks.

Dandelion root generally helps our body to get rid of waste products. It supports our liver, an organ that is responsible for breaking down dietary toxins, drugs, hormones, and metabolic waste. It also promotes the elimination of excess uric acid, which can cause tissues to become more inflamed and reactive, potentially leading to allergies, hay fever, and gout.

Arthritis, acne, psoriasis, hepatitis, and premenstrual syndrome may be improved by taking dandelion. Dandelion root also acts as a gentle laxative through stimulating bile, which helps us to break down fat, and through promoting the rhythmic contraction of the intestines.

Dandelion root contains up to 25% inulin—a compound it produces to store energy. Inulin helps us to absorb minerals including calcium and magnesium, and is also a prebiotic—meaning that it feeds healthy gut flora. Inulin provides some of the energy of carbohydrates without the need for insulin, making it an ideal plant for diabetics. In addition, diabetics are typically deficient in minerals, and dandelion helps to replenish these.

To receive the optimal anti-inflammatory and liver supportive benefits of dandelion, use fresh roots by eating them or making glycerite or vinegar with them. The dry root tea is boiled as a decoction and is nutritive, good for digestion, and detoxifying.

Dandelion Root Latte

When dried dandelion root is roasted it gets sweeter and is reminiscent of coffee. Place chopped, dried roots on a cookie sheet and roast in an oven for about 30 minutes at 275°. When the roots turn golden brown and begin to smell sweet and roasted, they are done. Place 1 teaspoon per cup in a pan of cold water, bring to a boil, and turn down to simmer for 5–10 minutes with the pot covered. Serve hot with milk and honey.

Learning from Dandelion – Problem Solving

Dandelion is masterful in problem-solving. It can grow just about anywhere and its seeds are known to travel as far as five miles in the wind. If soil is hard and infertile, dandelion roots create pathways for water to enter, break down minerals, and create fertile ground. When mowed, dandelions quickly flower just under where the mower will cut. When weeded, a tiny piece of root left in the soil will grow into a new plant.

Sit with or notice dandelions growing around you. Take a few deep breaths and think about the challenges that you face in your life. Consider how dandelion finds creative solutions to many of its challenges. Think through these steps in problem-solving:

- *What is one challenge you face right now?*
- *What would you like to see happen with this challenge? Name your goal clearly.*
- *What do you think is contributing to the challenge? What are the facts? Looks for as many perspectives as possible.*
- *Brainstorm solutions—be creative and think of as many as you can!*
- *Decide which solution best fits with your goal.*
- *Put your plan into action.*
- *Evaluate how it worked.*
- *What would you change next time?*

Douglas Fir – *Adapt*

Douglas fir has been here for millions of years—adapting to extreme changes in the land, climate, and species living around it. It can take many growth forms, including a scraggly bonsai-looking tree shaped by harsh weather, and a 1,000-year-old giant with a 15–foot trunk and a tall crown surpassing 300 feet. Tough Douglas fir needles withstand cold temperatures without freezing and will hold onto water during drought. Its thick bark protects it from fires.

Douglas fir *(Pseudotsuga menziesii)* is an evergreen conifer, meaning that it keeps its needles all year long and bears woody cones. It is the most common tree in the Pacific Northwest and is the third tallest tree in the world. Young bark is gray and smooth with resin blisters, but when it grows over a foot thick, it begins to turn corky, reddish-brown, and deeply furrowed, making it the "grooviest" tree in the forest. Needles are all the same length, are pointed at the tip (but are not sharp), and are spirally arranged around the branch like a bottlebrush. They smell like citrus and pine when crushed. Woody female cones hang down and have three-pronged bracts that resemble the tail and rear feet of a mouse.

Food: Douglas fir spring tips are edible and are high in Vitamin C and electrolytes. You can eat them fresh, freeze them, or dry them. Both hot tea and sun tea are tasty. Douglas fir tips are also a nice addition to foods like pesto, shortbread cookies, and sauces. The tips can be infused in honey or vinegar and used for flavoring syrups and desserts including ice cream. You can carefully dry them for later use or freeze them. As the needles get older they develop more tannins, become tough, and are less aromatic, but you can still use them for tea.

<u>Nature's Gatorade</u>

In springtime, Douglas fir tips are tender and delicious. They are high in Vitamin C and electrolytes, and are sometimes called "Nature's Gatorade" and "the original energy drink." For generations, Coast Salish People have valued them for warding off hunger and thirst during intense physical activity or travel. You can eat a few tips straight or make them into a hot infusion or a sun tea. The hot tea tastes stronger but is less aromatic. Steep the tea in cool water for several hours or overnight for best results. You can also add the tips to water with lemon, strawberry, cucumber, or other fruits to make refreshing flavored water.

Medicine: Like other evergreen conifers, Douglas fir needles and pitch are high in aromatic resins that fight infection and stimulate immunity. Tea made from fresh young needles or dried older needles is useful for fighting colds and boosting energy. Douglas fir also supports skin health through inhibiting microbes, providing Vitamin C, and acting as a gentle astringent. The dried needles make a nice aromatic bath. Wilted and finely chopped needles are infused in oil to make body oil, lotion, or salve. Soft pitch is used directly on wounds or added to salves.

Traditional Technologies: Douglas fir resin is traditionally used for waterproofing canoes, tools, and implements. The bark and pieces of the rotten wood (punk) from stumps or fallen trees make excellent fire starters and fuel for cooking. It is a good wood for summertime because it burns hot and clean, yet does not spark. This reduces the chance of starting a damaging fire. Douglas fir bark or chunks of wood from a stump light quickly and burn for a long time. The wood is hard and resilient. Big posts and cross beams are made from fir. Timber companies often plant it because it is adaptable and it yields the highest amount of timber of all trees in North America. It is used for lumber, plywood, pilings, marine structures, railroad ties, flooring, furniture, pulp, and many other things.

Learning from Douglas Fir – Adapt

Find a Douglas fir tree. Take a few minutes to relax and open your senses. Notice the thick, groovy bark of the tree, protecting it from fire and other damage. Look closely at its needles. Can you see a thick, waxy coating? This helps the needles to hold onto water when it is hot and to buffer extreme cold. Scratch the needles. What do you smell? Can you find pitch covering any injuries on the tree? Pitch is similar to a Band Aid and triple-antibiotic in one–protecting the tree from harm. Look closely at the cones and see if you can find the three-pointed bracts sticking out of each scale that resembles the tail and hind feet of a mouse. In a Coast Salish story, it is said that a long time ago, mice were running from a fire and climbed into Douglas fir trees to find refuge. They hid in Douglas fir cones and are still stuck there today. What else do you notice about Douglas fir? Reflect on these questions:

- *What helps me to adapt in challenging situations? (rest, good food, time with family or friends, cultural and/or spiritual activities)*
- *How do I know I am in a harmful situation?*
- *How can I protect myself when I am in a harmful situation?*
- *What can plants teach me about being resilient in times of change?*

Fireweed – *Restore*

Fireweed is often the first plant to return to burned or logged areas. Fluffy seeds fly in the wind and quickly rise up steadfast and strong. Roots form a network that stabilizes and regenerates the soil. Flowers provide nectar to pollinators and add beauty to the barren landscape. Over time, fireweed helps restore a healthy ecosystem.

Fireweed's (*Chamaenerion angustifolium*) purplish-red stems grow up to seven feet tall and are covered with willow-shaped leaves that are dark green above and silvery below, hence the common name "willow herb." The central vein is distinctly light-colored and extends straight out to the tip of the leaf. Lateral leaf veins have a unique quality—they do not extend to the outer edge of the leaf, but loop together near the margin. This makes it easy to identify before it flowers. At the top of the stems, four-petaled purple flowers form spikes and are almost luminescent. Unlike most other flowers, they bloom low on the stem first and work their way up toward the top. Fireweed fruits are long and very narrow. They split open to release hundreds of seeds, each with a white feathery tuft that easily flies in the wind. Fireweed usually grows in large patches. Each above-ground plant may be connected to others by roots. You will find patches along roadsides, forest edges, clear-cuts, and in open fields from low to high elevations.

Food: Fireweed shoots are a nutritious spring food containing Vitamin C, flavonoids, and beta-carotene. They are delicious when eaten fresh or lightly cooked. Sauté them or steam them like asparagus so they still have a little crunch to them. You can detect a little mucilage—a slippery substance that makes your mouth feel smooth. Once the shoots become a little older you may want to peel the fibrous outer skin off. Try pinching young leaves off and eating them like spinach. Larger stalks can be split and the inner pith scraped out and eaten as a sweet treat. This is also high in mucilage and can be used as a thickener for soups and other dishes. Flowers can be used as a garnish and also make a tasty pink jelly.

Medicine: Fireweed is a gentle yet effective anti-inflammatory. Tannins in fireweed act as an astringent, meaning they tighten puffy tissues. Fireweed leaf tea is tonic to the digestive system—creating a healthy environment where beneficial digestive bacteria can flourish, nutrients can flow into the body, and waste products can easily move out. It has antifungal properties and helps to normalize the flora of the gut. Research shows that our guts are an important part of immune function and other aspects of our health. If they are functioning poorly due to imbalanced flora, inflammation, improper food absorption, or food moving through at the wrong speed, many things can go awry. Think of fireweed as a soothing friend to the constant work of digestion. Try using it for imbalances due to a change in diet, when recovering from food poisoning, irritable bowel syndrome, or chronic low-grade diarrhea or

constipation. Fireweed is great at bringing things back to a state of balance, but it is not antibacterial or anti-protozoal. If you have giardia or some other type of gut infection, make sure to treat it, and then use fireweed to help bring things back to a state of balance.

Native People from Alaska all the way down the West Coast use fireweed for food and medicine. Skokomish Elder Bruce Miller recommended fireweed tea for sore throats and lung congestion. Fireweed has antispasmodic properties, making it useful for asthma, coughs, and intestinal spasms. The roots can be dug and mashed to make an anti-inflammatory poultice.

Fireweed Tea

Harvest fireweed leaves for tea around the time the plant flowers. Hold the stem just below the flowers with one hand, with the other, pinch the stem between your thumb and pointer finger, and push down the length of the stem, gathering the leaves that are green and vibrant looking. This way insects can enjoy the flower nectar and the plant can reseed itself. Dry the leaves in baskets or paper bags. Store in glass jars or bags and keep in a cool, dark place. They will remain potent for about a year. Use one small handful of leaves per cup of boiled water and steep for about 15 minutes. Drink 1–3 cups a day. The tea has a pleasant, mild taste and can be mixed with other herbs for flavor.

Traditional Technologies: Seeds can be used as a fire-starter and as a cotton-like stuffing. They are so abundant on stalks that you can easily harvest a large amount from a stand of plants. Salish People wove fireweed fluff with mountain goat wool for making blankets. The fiber from the tall stems is used to make cordage.

Learning from Fireweed – Restore

When land is damaged, it is fireweed that brings the first promise of recovery. It reminds us that nature has her healing cycle, one initiated by this lush, fiery medicine springing up in abundance. Fireweed is not a plant medicine you take just once for positive effects—it is used over the long-term. Often, long-standing imbalances do not show up overnight, but develop over time, and our body takes time to recover. Fireweed represents the promise that beauty and balance will return after bodily illness or environmental destruction.

Think about your own healing journey. Are there things you can do to nurture yourself, both in the present, and with long-term commitments? Perhaps writing in a journal, taking a daily walk, finding time for prayer or personal reflection, preparing food for yourself or others, or making tea on a regular basis will support you.

- *What actions can I take right now to restore my physical and emotional health?*
- *Is there something I can do to repair the harm I have caused others?*
- *What plants, places, and people can help me heal my wounds and support my growth?*

Hawthorn – *Courage*

Hawthorn is a tree with many gifts. Flowers provide sweet nectar to pollinators and animals eat the nutritious berries. Large thorns protect the tree from grazing animals and offer a safe haven for small birds and other creatures to nest and hide. People value hawthorn as medicine for strengthening the heart and blood vessels. It eases pressure on the heart and can be protective in times of physical and emotional stress.

Hawthorn is a medium-sized tree that grows around the world. Branches are armored with large thorns. Leaves are toothed and medium to dark-green colored. Flowers are small and pinkish-white, and bloom in thick clusters. They smell a little fishy and attract pollinators including bees and flies. Berries have large seeds like cherries. Native black river hawthorn has deep green leaves and blue-black berries. European hawthorn has small, deeply lobed leaves and red berries. There are over 100 species of native and cultivated hawthorns in North America, but not all of them are medicinal. You will find black hawthorn growing along rivers and forest edges, while European hawthorn is found in fields, forest areas, and city landscapes.

Food: Hawthorn leaf buds and young leaves are called “pepper and salt” in England and are traditionally eaten in salads. The berries taste sweet but they contain a large seed that is not edible (it contains cyanic acid like cherry pits and apple seeds). You can eat the outer flesh and spit out the seed. Cyanic acid dissipates once the berries are cooked or dried. Hawthorn powder from the berries is added to flour in Northwestern Africa and is high in the trace minerals selenium, which is important for immune function, and chromium, which enhances the function of insulin—a hormone that regulates blood sugar levels. Hawthorn berries are also used to make jelly and are high in a thickening agent called pectin; so only half the generally recommended pectin is required to get a jelly consistency. Pectin content is highest in the early fall and decreases once the berries become very ripe. Crabapples, rosehips, and hawthorn make a delicious jelly.

Medicine: Hawthorn supports our heart and blood vessels. It is used both as a daily tonic for promoting general wellness and as a medicine for treating a wide range of cardiovascular disorders. Antioxidants in hawthorn strengthen blood vessels, help heal damaged vessel walls, and make arteries more pliable. If used regularly, hawthorn can help balance both high and low blood pressure through increasing the heart’s ability to contract, while gently relaxing outer

blood vessels so the heart has less resistance to pump against. It also relaxes smooth muscles of the coronary artery walls and allows more blood to flow into the cells of the heart. Hawthorn may be helpful for those with cardiovascular disease, varicose veins, Alzheimer's disease, cataracts, glaucoma, and the side effects of diabetes, including diabetic retinopathy, kidney damage, and vascular degeneration. Hawthorn is also astringent and helps tighten inflamed tissue. Native hawthorn is traditionally used for sore throats, diarrhea, and upset stomach.

CAUTION: Hawthorn should not be used with cardio-active pharmaceuticals like digoxin or beta-blockers. If you are on heart medicine, consult a doctor before using hawthorn.

Hawthorn Tea

Harvest leaves, flowers, and berries by cutting healthy-looking branches with clippers. You can take a "pruning" approach and improve the shape of the tree. Be careful to avoid the thorns! Dry branches whole in baskets or paper bags, or bundle them with rubber bands and hang them. You can also pick leaves, flowers, or berries off the branches when they are fresh and dry them. A food dehydrator works well at about 100 degrees. Flowers may smell slightly fishy when drying, but this will soon disappear.

Once completely dry, the leaves, flowers, or berries can be carefully removed from the branches. Store in glass jars or paper bags in a dark, dry area. Dried hawthorn will last about a year. To make tea, steep a tablespoon of leaves, flowers, and berries in a cup of boiled water for 15–30 minutes. The berries can also be boiled for ten minutes. Drink 1–3 cups a day.

Learning from Hawthorn – Courage

"Courage is a heart word. The root word of courage is cor—the Latin word for heart. In one of its earliest forms, the word courage meant 'To speak one's mind by telling all one's heart.' Speaking from our hearts is what I think of as ordinary courage." –Brenè Brown

Sitting quietly, you might close your eyes, put a hand on your chest, and sense your heart. Can you feel it beating? Is it relaxed and rhythmic, fast and jumpy, or something else? Can you feel your heartbeat in any other part of your body? Reflect on the medicine of Hawthorn's flowers, leaves, and berries, which strengthen our heart and blood vessels, and also remind us of the compassionate power of our heart. Hawthorn medicine can soothe, strengthen, and bring courage when we most need help. It reminds us to tend and listen to our hearts, particularly in times of distress when we might feel afraid to take another step, or to show up as we really are, not as others would like us to be. Hawthorn reminds us we are not alone, and that we can listen to the kind wisdom of the heart.

- *How can I commit to showing up and facing what I fear?*
- *When I feel isolated, what will nourish my heart and help me feel connected?*
- *How can I love and give attention to the parts of myself that feel shame, guilt, and fear?*

Hemlock – *Humility*

Hemlock trees often begin their life growing on nurse logs and stumps in complete shade. Over time, these tiny saplings mature into tall, resilient trees that can live over a thousand years old.

Hemlock (Tsuga heterophylla) is an evergreen tree with a distinctive drooping top, a narrow crown, and feathery, drooping branches. Needle-like leaves are green above, have two fine white lines below, and are blunt at the tip. They are different lengths and protrude out of the sides of twigs—giving them a flat appearance. Twigs are hairy and yellowish-green with peg-like bases where needles have fallen. Hemlock bark is silvery brown and furrowed, but not as deeply furrowed as Douglas fir. Pollen cones are yellow and are only 2–3 centimeters long. Seed cones are egg-shaped and ½ to 1 inch long with rounded scales. Seeds have a wing that can fly half a mile on the wind. Many people mistakenly think the hemlock tree is poisonous because it is confused with "poison hemlock," an entirely different plant in the carrot family.

Hemlock is known as a "climax tree" in the Pacific Northwest because it can grow in full shade and outlives other trees that are dependent on sunlight. If untouched by humans or natural disaster, Northwest forests would be dark woodlands of giant hemlock. It has the densest canopy of any tree species in the west, and few understory plants can grow beneath it. Hemlock has the highest growth rate ever recorded and can reach 180 feet tall. It is the state tree in Washington, and is the most common forest tree in Alaska and on the north coast of British Columbia.

Food: The limey-green spring tips of hemlock are edible and have a refreshing tart flavor. High in vitamin C and electrolytes, they make a good snack, delicious tea, and/or infused water for warding off hunger or thirst. Native Americans have harvested the inner bark of hemlock in springtime and prepared it as a food called "bark bread." The inner bark is rich in sugars, starches, and compounds with immune stimulating properties.

Medicine: Hemlock is an important traditional medicine for Northwest Coastal Native Peoples. The boiled leaves and bark have long been used for treating tuberculosis, rheumatic fever, and hemorrhage. The pitch has antimicrobial and immune stimulating properties and can be used as a poultice on wounds and insect bites. It is also used as a salve for treating chest colds and to prevent sunburn. Hemlock bark tea is astringent and has been used to stop bleeding.



Forest Medicine Tea

This tasty tea smells like the forest and is perfect for building resilience during fall and winter. Evergreen tree needles are antimicrobial and immune stimulating. Rosehips and elderberries strengthen immunity and support heart health.

3 parts evergreen tree needles including hemlock, Douglas fir, and/or spruce
1 part blue or black elderberry
1 part rosehips

You can harvest evergreen tree needles including hemlock, Douglas fir, and spruce any time of year, but they are strongest in late spring to early fall. Bundle branches with rubber bands and hang to dry in a warm place with good air circulation or dry in baskets or a dehydrator on a low setting. Once completely dry, needles will easily come off the branches. Rosehips and elderberries are ripe in early fall. Pinch the brown sepals off rosehips and remove elderberry stems. Dry in baskets or in a dehydrator. You can purchase dried rosehips and elderberries at natural grocers, herb shores, or online. Use 1 tablespoon of tea per cup of boiled water and steep 15-20 minutes.

Traditional Technologies: Coast Salish People use hemlock bark to create a reddish-brown dye for coloring wool and for making fishnets invisible to fish. The branches are traditionally lowered into the ocean near rivers for herring to lay their eggs on them. Later, they can be lifted from the water and the herring eggs collected. Hemlock wood is heavy, durable, and easy to carve.

Learning from Hemlock – Humility

This common Coast Salish story is often adapted based on what behaviors are causing challenges like not paying attention, bullying, or being pushy.

A long time ago, the Creator was giving the first cones to all the evergreen conifer trees with needles. The pines, true firs, hemlocks, and Douglas fir were all there, and they were told to line up. Western hemlock was not paying attention—he was playing by himself. By the time he realized it was time to line up, he was last, and he got the smallest cones of all the trees that were there. See the bent top? He still hangs his head with humility.

Having humility means that we are always learning and growing. Rather than defending ourselves or needing to be "right", we can acknowledge that we make mistakes and are willing to learn new perspectives and skills. We can say, "I don't know" when we don't. Everyone—from children, to powerful leaders, to elders, is always learning. Through being humble, we can grow wiser and build healthy relationships with others.

- *What is a situation when I was able to practice humility?*
- *When have I seen others practice humility? What did that look like?*
- *How can humility help me to learn and grow in my life right now?*

Licorice Fern – *Find Your Voice*

Licorice fern grows on moss-covered tree trunks and branches in shady forests. If you reach beneath the layers of moss, you will find a network of rhizomes growing on the surface of the tree. Scrape off the moss and dirt, and taste the licorice flavor of the rhizomes. These are used to soothe sore throats and give people a strong, clear voice.

Licorice fern (*Polypodium glycyrrhiza*) is a small fern that grows on trees including bigleaf maple and alder, nurse logs, old stumps, and rocks. Each fern frond is about eight to 12 inches long with a fairly long stem. Leaflets are longest about a quarter way to the tip and become shorter toward the base. The entire length of each leaflet is attached to the stem. Leaves appear shiny green on top and have spores on the underside. They are lush in fall through spring but die back in summer during the dry, warm season. The brown rhizomes are long, thin, and knobby with tiny black roots. The inner flesh is whitish-green. Licorice fern grows in coastal rainforests from Northern California up into Alaska.

Medicine: The rhizomes of licorice fern are valued for their ability to soothe sore throats, lung irritation, coughs, and allergies. Some Salish singers suck on small pieces of the rhizome to soothe their throat. In the book *Medicinal Plants of the Pacific West*, herbalist Michael Moore recommends licorice fern when people are experiencing inflammation and hypersensitivity. This might be from something in the environment like a bee sting, touching something you are allergic to, or eating a food that causes you to be reactive. Your skin might be swollen or irritated, you might have diarrhea, or it may cause throat or lung irritability. If the response lingers once you have removed the environmental or food irritant, consider using licorice fern. It will gently calm the over-excited inflammatory response. You can suck on a small piece of fresh rhizome or dry it and make tea. Fresh rhizomes may cause mild nausea in some people whereas dried ones will not. The best time to harvest is late summer to mid-fall, but you can gather it any time of year. Licorice fern can also be added to other medicine as a sweetener.

To harvest, run your fingers under moss and gently remove the rhizomes. Rub moss and dirt off the rhizomes, and pull off the thin black roots. Rinse the roots with water and dry them off with a towel. Dry in a dehydrator on a low setting or in baskets in a warm place with good ventilation. You can chop the rhizomes when they are fresh or once they have dried.

CAUTION: Do not use licorice rhizomes if you have aspirin allergies or if you are on anticoagulant drugs.

Licorice Fern Tea

This licorice-tasting tea can be drunk straight or you can add other herbs like orange peel, ginger, and cinnamon. Use about 1 teaspoon of finely chopped rhizome per cup of cool water. Place in a pan and gently bring to a boil. Turn down heat and simmer for about 10–15 minutes. Strain and enjoy! Drink ½ to 1 cup to 3 times a day.

Licorice Fern Honey

To make licorice fern honey, finely chop the fresh rhizomes and place them in a double boiler. Pour honey over the plant material so it is just covered. Heat gently, turning the stove on and off, for several days. Make sure the honey does not get hot enough to boil. You can also gently heat the honey in a dehydrator for several days to a week. Stir once a day. Strain the honey through muslin cloth and store in a glass jar for up to 2 years. Use a teaspoon straight in in tea to ease coughs and sore throats.

Learning from Licorice Fern – Find Your Voice

A Coast Salish story as told by Lower Elwha Klallam storyteller Roger Fernandes:

A long time ago, the People had small voices. They could barely hear each other when they talked. When the People spoke to each other, they couldn't hear one another. Their voices were so quiet and so small that they couldn't always understand one another.

One day, a woman from the village was walking through the woods. As she was walking, she heard a voice that said, "Come here" and the woman asked, "Who is that?" "Over here," the voice said. The woman went towards the voice and there before her was licorice fern.

Licorice fern said "Chop up my roots and taste them." So the woman did as licorice fern instructed, she chopped up licorice fern's roots and tasted them and (in a big voice) said, "Oh, that tastes really good!"

The woman now had a big voice. She returned back to the village and (in a big voice) said, "Hello!" Everyone in the village was amazed and asked where she got this big voice. The woman told the People about the licorice fern and instructed that everyone go to the forest. So the People all went to the forest, they gathered licorice fern, chopped up the roots, and tasted them. And that is how the People got big voices. And that is all.

Licorice fern reminds us of the power of clear communication. When we find our own voice and develop skills in effectively communicating with others, we can move toward achieving our goals while building healthy relationships.

- *Sharing my story is medicine for myself and others.*
- *How can I deliver my message with confidence, clarity, and flexibility?*
- *How can I find positive common ground when communicating with others?*

Mint – *Clarity and Focus*

Peppermint has a cooling, refreshing scent that clears the head and sharpens the mind. As a medicine, mint is used to reduce inflammation and to clear sinus and lung congestion. It can be both invigorating when we are drowsy, and grounding when we feel anxious. Mint reminds us to strive for clarity and focus so we can effectively achieve our goals.

Wild mint grows in wet fields and along streams and ponds. It has square stems, opposite leaves, and tiny pink to purple flowers that are clustered around the stem. Plants spread by underground rhizomes and grow about a foot tall. The easiest way to identify mint is to crush a leaf and smell it.

There are hundreds of varieties of mint that you can purchase in nurseries, including orange mint, spearmint, chocolate mint, pineapple mint, and chewing gum mint. Mint is easy to grow and prefers partial sun and frequent watering. It spreads quickly and can be hard to contain! Gardeners often grow it in a big pot or a bed with borders.

Food: Mint is a versatile herb that can be chopped fresh and added to soups, baked vegetables, dips, and desserts. Chocolate mint cookies and ice cream are favorite treats. Mint is high in many nutrients including vitamins A, C, and K, and minerals iron, calcium, and manganese. Many popular kitchen spices, including basil, lavender, oregano, rosemary, sage, and thyme are in the mint family. All are rich in aromatic oils.

Medicine: Mint is one of the most commonly used medicines in the world. It has anti-inflammatory, antispasmodic, cooling, and invigorating properties. Like other plants in the mint family, it is rich in volatile oils that are antimicrobial and encourage circulation and sweating. Mint is used as an appetite stimulant and a digestive aid to ease upset stomach, nausea, intestinal pain, and gas. It also helps to relieve congestion in sinuses and lungs.

The best time to harvest mint for drying is in spring through early summer when it is fully-grown and the leaves are vibrant green. Aromatic oils are strongest before it flowers. Cut or pinch off above-ground parts and dry them in baskets, or bundle them and hang them to dry. Once dried, strip the leaves off the stems, place them in a glass jar or bag, and store them in a cool, dark place. They will last about a year.

Aromatherapy: Mint is a versatile essential oil that is added to many of our everyday products including gum, mouthwash, toothpaste, shampoo, soap, deodorant, and cleaning products. It is also a popular flavoring for candy. Mint essential oil is an excellent addition to painful heated conditions like sore muscles, sprains, strains, and arthritis because it feels cool to the skin and is anti-inflammatory and antispasmodic. A dilution of the essential oil or the tea can help soothe itchy skin including bug bites, hives, and chickenpox. You can also add a drop or two of mint essential oil to a respiratory steam or add it to chest rub or sinus and

headache oil to clear sinus and lung congestion. It takes about 300 pounds of mint to yield a pound of essential oil. Too much mint in a bath can make your teeth chatter!

Mindful Mint Spray

When you are feeling tired or overwhelmed, use this spritzer to bring you back to the moment. Mint wakes up your senses and promotes focus.

- Fill a 1 or 2 oz spray bottle with distilled water.
- Add 10–15 drops of essential oil per ounce. Use just mint, or blend with another oil of your choice like sweet orange, lavender, or clary sage.
- Label the bottle and make sure to keep it away from young children.
- Spray in a room or over your body as needed. Avoid spraying near your eyes.

You can also use a roll-on perfume bottle and add 10–15 drops of essential oil per ⅓ ounce of carrier oil like sunflower or grapeseed. If you don't have a bottle, filling a little muslin bag with dried mint and smelling it or drinking a cup of mint tea can be helpful!

Learning from Mint – Clarity and Focus

Mint can be supportive for practicing mindfulness. Mindfulness means staying focused on your current activity or the task at hand. If you are trying to accomplish something, multitasking is not as effective, as it can promote a feeling of overwhelm and stress. Mint helps us to focus on what is called for in the moment. When we are mindful, we can let go of assumptions or judgments about how things should have been in the past or what will happen in the future, and can show up right here, fully in this moment.

Use mint when you feel overwhelmed, stressed, or distracted to help you stay present with clarity and focus. You can mindfully drink a cup of mint tea—opening all your senses and noticing how you feel in the moment. Let distracting thoughts blow away like clouds in the sky or like leaves falling from a tree in autumn. Keep a mindful mint spray, a roll-on mint perfume, or even a small bottle of essential oil nearby to help you.

- *Can I focus on one thing at a time as I move toward my goal?*
- *With a clear mind, can I see without judgment?*
- *Can I focus on what skills or tools will serve me best in this situation?*

Nettle – *Build Inner Strength*

Nettles are the first edible greens to emerge in spring. They provide nutrients that help us to feel strong and energetic. Harvesting nettles or walking through a nettle patch requires mindfulness. The sting wakes us up and helps us to be fully present in the moment.

You can find nettles in fields, streambeds, and disturbed areas with rich wet soil from the coast into the mountains. They grow three to nine feet tall and have opposite deep-green leaves with serrated edges, tiny greenish flowers, and square stems. The stalk and underside of the leaves are covered with stinging hairs that rise from a gland containing formic acid and other compounds. Gloves and scissors are used to harvest nettles.

Food: Nettles are often called a "superfood" and are one of the highest plant sources of chlorophyll, vitamins, amino acids, and minerals including calcium, magnesium, and iron. Gather nettles to eat fresh *before* they flower in April to May. Do not gather nettles in agricultural or industrial areas because they may absorb inorganic nitrites and heavy metals. Ways to prepare nettles for food include boiling, steaming, and sautéing them. They only need to be boiled for a few minutes, as the "sting" will quickly evaporate with heat. Nettles will cook down like spinach and can be used in soups, dips, quiches, casseroles, egg scrambles, etc.

Nettles can be dried, canned, or blanched and frozen. Rinse in a colander, then submerge in boiling water for two to three minutes. Use tongs or a slotted spoon to remove them and dunk them in cold water for a few minutes to stop the cooking process. Drain, place in freezer bags, and label. The water used for cooking nettles makes delicious tea or broth.

Nettle seeds are high in protein, omega 3 fatty acids, and amino acids. Harvest them in summer and add them to dishes or dry them and use them in soups and baked foods.

Nettle Pesto

Toss this flavorful sauce with pasta, potatoes, or cooked vegetables, or spread on crackers or fresh vegetables.

1 small bag (about 6 cups) of young fresh nettles, rinsed
1 bunch basil, stems removed, washed, and drained
½ cup Parmesan or Romano cheese, grated
⅓ cup walnuts or pine nuts
⅓ cup of extra virgin olive oil
I–3 cloves garlic, chopped
1 teaspoon lemon juice
Salt and pepper to taste

Rinse nettles in a strainer, then boil them in water (blanch) for one minute to remove the sting. Drain well, let cool, and roughly chop. Place all ingredients in a food processor or blender. Blend until smooth. Add salt and pepper to taste. Place the pesto in a clean jar and pour a little extra olive oil over the top. Cover with a lid. This will keep for 2-3 weeks in the refrigerator.

Medicine: Nettles can help bring the body back to a state of balance. If someone is feeling debilitated or generally worn down, nettles are a good remedy. They are tonic to the liver, blood, and kidneys. Nettles balance blood pH and assist our kidneys in filtering waste from the body and removing excess fluid retention. They can be especially useful for arthritis, gout, eczema, and skin rashes. Nettles reduce inflammation—helping to alleviate the symptoms of allergies including hay fever. Drink two cups of nettle tea a day starting early in the spring and continuing into the allergy season. Nettles are also used to stop bleeding. A strong decoction is traditionally used to treat wounds and hemorrhage. They can also help rebuild blood after menstruation, birth, or other blood loss. Nettle roots are anti-inflammatory—especially for the prostate.

To dry nettle leaves for tea, harvest in spring before they flower. Bundle stems and hang them upside down in a dark, dry place, or place them in a paper bag and rotate them every day. Once they are dried use gloves to strip the leaves from stems. Use 1 tablespoon of leaves per cup of boiled water. Steep 15 minutes to several hours. Drink 1–3 cups a day.

Nettle tea can be used as a hair rinse to make the hair glossy and stimulate growth. Make a pot of tea, strain it, and pour it over your head in a bath or large sink. Catch the tea in a bowl, and pour it over your head several more times. Wring out hair and let it dry.

People around the world have stung themselves with nettles to cure arthritic joints and to stay awake and alert during battle or hunting. Compounds in nettle, including histamine, acetylcholine, and formic acid are injected into our skin, causing an awakening of cellular responses, nerve stimulation, and blood and lymph flow.

Traditional Technologies: Nettles are used as a dye with shades ranging from yellow to deep green. The fiber makes strong cordage and was used for making fishing lines and fishnets.

Learning from Nettle – Build Inner Strength

Nettles assist us in building inner strength not only through providing powerful nutrients, but also through helping us to be more mindful. Being stung by nettles enlivens your skin and promotes circulation. The sting may hold your attention on physical sensations and assist you in being fully present in your body. We can balance rational thoughts and emotions, as well as physical strength and intuition. Being in a state of mindfulness helps us to build inner strength.

- *What feelings am I having now and where do I feel them?*
- *How are my thoughts and feelings helping me?*
- *What are they teaching me?*

Oak – *Patience*

Oak trees are slow-growing. Unlike other trees that sprint toward the sunlight, oaks take the long view—steadily creating deep roots, thick bark, hard wood, tough leaves, and nutritious nuts. These efforts help oak to thrive in many habitats, to survive harsh conditions, to live for many hundreds of years, and to support a diverse community of plants and animals.

Oaks are the most common type of tree in the northern hemisphere, with some 600 species in all. Garry oak (*Quercus garryana*), or Oregon white oak, is a heavy-limbed deciduous tree with branches that are often twisted and gnarled. Bark is light gray with thick furrows and ridges. Oval-shaped leaves have deep lobes and grow alternately on stems. They are shiny green on top and paler green and hairy beneath. Male and female flowers grow on the same tree, and the tiny female flowers develop into acorns, which are nuts 2–3 cm long protected by a hard cup with a warty cap. It grows up to 75 feet tall and can be found in sunny locations from southern British Columbia to central California. When growing in dry, rocky slopes and coastal shores, it takes on a stunted and gnarled form. When in wetter areas like the Willamette Valley, it grows into a stately tall tree with a rounded top and a large trunk. Garry oaks often live 200 to 500 years.

Garry oak woodlands provide habitat to over 200 vertebrates in Washington. Camas and many other important native foods thrive in these open woodlands, which were more widespread thousands of years ago due to drier climate conditions. Cooler, wetter weather trends diminished oak woodlands, but Native People maintained them through burning and weeding out unwanted species. In the last 150 years, fire suppression, development, and logging has reduced Garry oak prairie habitats to less than 3% of their historic presence. Scientists speculate that warming temperatures will cause oak woodlands to expand, and they will become a lifeline for many common species to live in.

Food: Acorns are loaded with carbohydrates, fat, protein, and minerals—everything a tiny oak seed needs to start life. Many animals, including squirrels, raccoons, deer, chipmunks, bears, mice, all sorts of birds, and farm animals, including cows and pigs, feast on acorns. Animals aid in the reproduction of oak trees by dispersing acorns and burying them. Blue jays have been known to carry acorns three miles from the parent tree. Acorns are such an important food source that their abundance determines animal populations. In order to ensure that all their seeds will not be eaten, oaks "mast," or create an abundance of acorns, every 2–5 years. This ensures that there will be enough seeds left to create new oak trees.

Acorns have long been an important traditional food for Native People. Once the nut meat is removed from the shell, it must be further processed to remove tannins, which are bitter-tasting and astringent. This is done by soaking the nut meat in water or running water through it for an extended period of time. The Chinook People of the lower Columbia River buried whole acorns in artesian springs and left them to leach out the tannins for an entire winter. Others buried them in baskets beneath mud and left them through winter before eating them in the spring. Many tribes still grind acorns as flour and roast the nuts to make a beverage.

Harvesting Acorns

Healthy acorns typically fall from late September to early November. Earlier acorns may be infested with weavils. Gather with a basket or bucket and place the acorns in a single layer on a baking sheet, flat basket, or dehydrating rack and dry in a warm place next to a fire, heater, or in a dehydrator. This can take a few weeks. Drying acorns with too much heat will result in them turning black. Shell acorns with a nutcracker or hammer and soak them in water to remove tannins. The nuts can be added to soup or baked goods.

Medicine: Oak bark and leaf are high in tannins that tighten inflamed tissues. Oak bark is made into a poultice or a tea and applied to wounds, sores, burns, swollen eyes, hemorrhoids, and ulcers. Oak tea is used for sore throats, gut inflammation, diarrhea, and lung inflammation. Drinking tannin-rich herbs on a regular basis can cause upset stomach in some people, so it is used more short-term for acute conditions.

Traditional Technologies: Oak's fine grain and strong wood is excellent for furniture, flooring, and ship construction. Massive oaks in the Willamette Valley were logged for lumber in the 1800s through the early 1900s. Few of these majestic trees remain.

Oak galls are round balls that may appear on the stems or underside of trees. They are formed when gall wasps lay their eggs and the tree responds to the irritation by separating the tissue and creating a "gall" that the larvae develops in. The galls are extremely high in tannins and can be made into ink. This practice has been used throughout the world since Medieval times. Oak gall ink was a favorite ink of the famous Italian artist, Leonardo da Vinci, and the famous composer and musician, Johann Sebastian Bach.

Learning from Oak – Patience

Oak trees are strong and steady. You might compare them with the story of the Tortoise and the Hare. Hare makes fun of Tortoise for being so slow, and quickly jumps into a race—following the whim of his momentary thoughts and emotions without thinking about the big picture. He is so sure he is going to win that he takes a nap along the way. Through being thoughtful and steadfast, Tortoise wins the race. Oaks may grow slowly, but this pays off in the long run. They patiently develop qualities that help them to adapt to many different habitats, survive traumatic events like fire and drought, support many species of plants and animals, and live a long life.

Patience is a skill that helps us to endure difficult situations and to make decisions that will help us achieve long-term goals. When we get frustrated, angry, or annoyed, instead of immediately reacting with strong emotions, we can slow down and practice patience.

- *Can I remember a time when someone was patient with me? How did that make me feel?*
- *When have I had to have patience with a person or a task? How did this affect the relationship or outcome?*
- *When I am feeling impatient and frustrated, can I: STOP for a moment, take a few deep breaths, think about my long-term goals, and act mindfully from a place of calm?*

Plantain – *Self-Soothe*

Plantain is also called frog leaf and Indian Band-Aid plant. The leaves have long been used as a first-aid remedy for sealing wounds and drawing out infections. Plantain is easy to find in yards, fields, and walkways—a reminder that soothing medicine is often close by.

Plantain (*Plantago* species) is an adaptable plant that can thrive in heavily trodden areas including driveways, trails, and lawns. Many leaves flare out from the root. Leaf veins are parallel with strong white fibers. Stems are pink or whitish at the base. Flower heads grow in a saucer or crown shape with creamy-white flowers arranged like a tutu. Flower stalks are leafless.

There are about ten species of plantain in North America, some native and some non-native. Common plantain (*P. major)* has stout, thick, hairless leaves that resemble a frog's back. Narrowleaf plantain or ribwort (*P. lanceolata)* has slightly hairy, narrow, long leaves. These two European species are common weeds in the Pacific Northwest and are often used in herbal medicine. Seaside plantain or goose tongue plantain *(P. maritima)* is a native plant with narrow, thick leaves.

Food: The young leaves of plantain can be eaten in a variety of ways including chopped in salads, sautéed, steamed, and boiled. Plantain is high in vitamins C, A, and K. Leaves can be used as a food wrapping similar to nori sheets or cabbage leaf by boiling them for a minute to soften them, pulling out the fibrous veins from the leaf base, and then wrapping them around meat or grains. Seaside plantain can be found on beaches. It is delicious and can be eaten straight or added to salads. Try it steamed and topped with butter and grated cheese.

Medicine: Plantain leaf is one of our most useful and accessible first aid remedies, hence the name "Indian Band-Aid." It cools and tightens inflamed tissue, acts as an antimicrobial, and promotes healing. There are several methods for making a plantain poultice. You can simply chew the fresh leaves to break down the cell walls of the plant and release the medicine before placing directly on a wound. You can also steam the leaves for a few minutes or dip them in boiling water for about 10 seconds, let them cool to a warm temperature, and place them on a wound. Mixing dried, powdered plantain with warm water and making a paste will work too.

Use plantain poultices for bites, stings, ulcers, burns, boils, hemorrhoids, and irritations. They are also used as a drawing agent to pull splinters, infections, pus, and dirt out of wounds. Johnson Charles, an Elder from the Lower Elwha Klallam Tribe, remembered when his brother Gordon had a nasty boil that would not heal, with a red line moving up his leg. Their parents took him to the hospital and the doctor wanted to amputate. His father said he would take care of it and started using a plantain poultice on the sore. The boil drained and quickly healed without leaving a scar.

Eating plantain or drinking the leaf tea is soothing and detoxifying, especially to the lower bowel. It is astringent and generates tissue healing, making it excellent for restoring gut health. The leaves and seeds contain mucilage, which acts as a gentle laxative and helps eliminate stagnant material. Plantain leaves also act as a disinfectant and a gentle expectorant that soothes irritated lungs. To make tea, use about a tablespoon of dried leaves per cup of boiled water. Steep 15 minutes. Drink several cups a day.

Plantain Oil and Salve

If you want to keep plantain medicine with you all the time, you can prepare an infused oil and turn it into a salve.

- Gather the leaves on a dry day and let them wilt for 12 to 24 hours.
- Coarsely chop the leaves and place them in a blender.
- Add just enough olive oil to cover the leaves and blend to a fine chop.
- Pour into a double boiler or a Pyrex container placed in a pot with a little water. Gently heat for a minimum of six hours or up to several days, turning it on and off as needed so it does not get too hot and boil.
- Press out the oil through muslin cloth and pour in a glass jar with a tight-fitting lid. Store in a cool, dark place. The oil will last about a year.

To Make Salve: Add 1 part beeswax by weight on a scale to 5 parts plantain oil by volume in a measuring cup. Gently heat until the beeswax is melted, then store in glass or tin jars. You can add a few drops of healing essential oil, like lavender, to each ounce of salve.

Learning from Plantain – Self-Soothe

Plantain reminds us that soothing medicine is all around us and within us. What are some tools, skills, and teachings in your toolbox you can use when you are feeling distressed? Strategies might include:

- *Engage your five senses by finding comforting things to look at, listen to, smell, taste, or touch.*
- *Notice physical sensations like your breathing, feeling wind or sun on your face, or the ground beneath your feet.*
- *Pick a plantain leaf and feel its smooth texture. Keep it in your pocket as a reminder to soothe yourself.*
- *How can you be your own Band-Aid?*

Salal – *Endurance*

Salal is a common understory plant in Northwest forests. Its shiny, deep-green leaves remain beautiful throughout the year and are a valued addition to floral arrangements. Salal berries are loaded with energizing nutrients including vitamins, minerals, antioxidants, and even good quality fats that give us endurance.

Salal is an evergreen shrub that grows in lush thickets in shady conifer forests, and in sunny areas with moisture and good drainage. Plants grow to about five feet tall. Leaves are thick, egg-shaped, dark green on top, and waxy. Spring flowers look like little white bells and are slightly sticky and hairy. Berries are a dull blue-black color when ripe and are also slightly hairy. They have a five-pointed star shape on the underside.

Food: Salal is one of our most common and overlooked berries. The flavor varies from delicious to bland and boring, depending on soil and sun conditions. Gather when they are deep blue, plump, and tasty—usually between July and August. Taste the berries before you gather them, and if they do not suit you, try traveling to a different bush a little ways away. The easiest way to harvest is to pull the entire pink stem of berries off, place them in a bag or basket, and process them all at once. Pop the berries off by pinching them at the base with your thumb and pointer finger instead of trying to pull them off. If the berries are dusty, gently rinse in a colander. Berries can be eaten fresh or added to smoothies, pies, jam, fruit leather, and sauces.

Salal berries are highly prized among Coast Salish People as a staple food that can be dried and enjoyed in the winter months. The berries are traditionally cooked, poured into wooden frames on cedar boards or skunk cabbage leaves to make "berry cakes," are dried near a fire, and then stored in boxes for later use. According to Erna Gunther in *Ethnobotany of Western Washington*, the Lower Chinook People's salal loaves weighed as much as 10–15 pounds! Many people preferred to rehydrate the cakes in water or dip them into seal, whale, or eulachon oil. Salal is still a beloved berry among many Native families and is made into jam, fruit leather, and desserts.

Humans are not the only ones to enjoy salal berries. Many berry pickers say that they are accustomed to sharing the harvest with other creatures. You may be on one side of the patch, while the bears are on the other.

Medicine: Salal berries are loaded with vitamins and antioxidants that help us to live a long and sustaining life. Salal is full of tiny seeds that contain Omega-3 fatty acids and protein so you feel satiated when you eat them.

Salal leaves are also useful medicine for wounds, coughs, colds, and digestive problems. Cowichan herbalist and chef Jared Williams harvests the young branches when the leaves are sticky to make an infused oil for healing wounds. The leaves can also be made into a poultice to stop bleeding and tighten inflamed skin. Dried salal leaf tea can ease sore throats, coughs, and digestive inflammation, including diarrhea. To dry the leaves, cut the stems and bundle them with rubber bands. Hang in a dry, warm place out of sunlight. When the leaves are crackly when crushed, strip them off the branches and store them for later use. Before making tea, crush or cut the leaves. Use a heaping tablespoon per cup of hot water and let sit for 20 minutes.

Berry Fruit Leather

Dried salal in the form of cakes or fruit leather is an important native food that Salish People have long-valued for demanding physical activities like traveling and hunting. Children equate this to fruit roll-ups, and will likely enjoy it as a tasty and energizing snack. Adding as little as 25% salal to mixed berry fruit leather will increase the shelf life.

You Will Need: Berries, a blender, a cookie sheet, parchment paper, lemon juice, honey.

Mix about ⅓ to ½ salal berries to other types of tasty berries such as thimbleberry, strawberry, blackberry, huckleberry, or blueberry. Place berries in a blender and blend until smooth. Squeeze a little fresh lemon juice to bring out the berry flavors and add honey to sweeten if desired. Fit parchment paper over a cookie sheet with sides. Pour blended berries onto the sheet and use a spatula to smooth them out to an even consistency of about a quarter inch. Place berries in a food dehydrator on the lowest setting or in an oven on the lowest temperature (usually about 170 degrees). If you are using an oven, leave the oven cracked with a wooden spoon so water can evaporate off the berries. It will take 6–10 hours for the berries to dry. Flip the whole thing over when it is mostly dry. Carefully peel off the parchment paper and continue drying until it reaches a dry, yet pliable, consistency. Store in plastic bags or parchment paper in a cool, dry place.

Learning from Salal – Endurance

Salal demonstrates endurance, which is the capacity of something to last or to withstand wear and tear. Salal is built for our Northwest climate and can survive intense weather including hot sun, driving rain, and harsh wind. It has thick, waxy evergreen leaves. Salal sprigs are commonly used in floral arrangements because they last a long time. Plants grow in tight communities, with each plant supporting the others.

Eating salal berries gives us physical endurance. Nutrients including vitamins, minerals, protein, good quality fats, and natural sugars give us both short-term energy and promote long-term resilience.

- *What foods and beverages give me strength and long-term health?*
- *What activities build my endurance? (Examples might include exercise, outdoor time, rest, creative projects)*
- *What skills help me to endure through emotional challenges?*

Salmonberry – *Interconnectedness*

Salmonberry teaches us about seasonal changes and relationships in nature. Bright pink flowers tell us spring is here, and ripe berries announce the beginning of berry season. When there are many salmonberries, salmon will likely run in abundance. Paying attention to these signs connects us to the seasons, the land, and cultural traditions.

Salmonberry (*Rubus spectabilis*) forms dense thickets in wet forested areas, especially along streams and rivers. Plants grow as high as nine feet tall with brown stems covered in thorns and leaves resembling the raspberry plant. Deep pink flowers have five petals and many stamens. Leaves are sharply toothed, pointed at the tip, and grow in threes on stems. Salmonberries are the first berry to ripen in the Pacific northwest—usually in April through June. They can be orange to ruby-colored and are the same shape as raspberries and blackberries. Salmonberry is in the rose family.

Salmonberry provides important food for many species. Hummingbirds, butterflies, and insects, including bees, drink the flower nectar. Insects carry pollen from bush to bush and assist in pollinating flowers and creating more berries. Salmonberries are eaten by many types of birds, squirrels, chipmunks, and larger mammals like coyotes, bear, deer, and elk. Salmonberry patches provide shelter for birds and small mammals.

Many Native communities in the Pacific Northwest associate salmonberry with Swainson's thrush, which is also called salmonberry bird. Salmonberry flowers are often in bloom when this bird returns from its winter grounds. Saanich Elders on south Vancouver Island teach that Swainson's thrush's song translates as, *"Come on, all you dark ones! Come on, all you light-colored ones! Come on, all you red-colored ones! Come on, all you golden ones! Ripen, ripen, ripen, ripen!"*

Some Salish Elders teach that salmonberry is an environmental indicator for salmon runs. Salmonberries often grow along waterways including rivers and streams. If there is enough rain and the waters are healthy and flowing well, salmonberry flowers will be abundant, and salmon will be able to easily spawn up rivers and streams to renew their species.

Food: The tender spring shoots of salmonberry are also called bear candy because bears relish this spring treat. Watch closely in spring or you will miss them! Sprouts are only available for a few weeks unless you travel to colder regions or higher elevations. As soon as it gets warm, new shoots grow rapidly. During this time, they are tender and juicy and can easily be pinched off, either from where they emerge on previous years' stems or from the ground. The outer

skin is easy to peel, leaving a crunchy vegetable that is tart and sweet. Sprouts become more bitter toward the tip of the shoot. As they mature, they become hard and fibrous. If you can't easily pinch them off with your fingers, don't bother.

Skokomish Elder Bruce Miller taught that sprouts are an important spring food to wake up our bodies after wintertime. They are loaded with minerals and vitamin C—nutrients we need to enter a new season with strength and vigor. You can preserve sprouts for a day or two in the fridge in a plastic bag. Add them to salads or serve them on a vegetable tray with dipping sauce. They are traditionally dipped in eulachon, bear, or seal oil. Some people like to cook them like asparagus, lightly sautéing them in a little butter or olive oil.

Salmonberry flowers are edible and have a sweet taste due to the nectar and pollen. They can be used to garnish salads and desserts. The berries can vary in color from yellow to orange to red to a deep purple on the same bush. The taste does vary according to where they grow: perform taste-tests to find the most delicious bushes. Some Coast Salish families maintain salmonberry patches like berry gardens and have celebrated the first salmonberries with a feast. Salmonberries are especially juicy and do not dry or preserve well. They remind us to embrace the season when it is here; otherwise, we will have to wait until next year.

Medicine: Salmonberry sprouts and leaves are astringent and tighten inflamed tissue including wounds, burns, swollen gums, stomach problems, and gut inflammation. You can make a mineral-rich and astringent tea from the leaves of salmonberry and other rose family plants including strawberry, blackberry, and thimbleberry. Completely dry the leaves before making tea. Use 1 tablespoon per cup and steep 10–15 minutes.

Learning from Salmonberry – Interconnectedness

Salmonberry is part of an interconnected web of relationships. Its pink flowers are the first splash of color after winter and call hummingbird home to drink the sweet nectar. And with the hummingbird, the Swainson's thrush arrives—her song singing the berries into ripeness and helping to call the salmon back to their ancestral waters. Emerging shoots announce a change of season to our bodies. Eating them prepares us for the activity of late spring and summer. When salmonberries are pruned by deer, elk, or humans, it helps the plants produce more fruit, which in turn helps all the species that depend on salmonberry.

We can also notice the interconnectedness of our emotional responses. The way we act is a result of a chain of feelings, thoughts, and reactions leading to a behavior. When we know what this chain is, we can choose what behaviors we want to support in ourselves, and also what precedes the behaviors we want to change.

- *What seasonal changes and relationships do I notice in nature right now?*
- *What is my interconnected web of relationships?*
- *What thoughts and feelings influence my behaviors—both those I want to strengthen and those I want to diminish? How can this self-awareness guide me in making mindful choices?*

Usnea – *Practice "Both/And" Thinking*

Usnea is a lichen that grows on many types of trees in cool, damp forests throughout the Northern hemisphere. It is made of two different life forms: algae and fungi. These are able to work together while maintaining their own unique qualities.

Usnea (*Usnea* species) is whitish-yellow to gray-green lichen growing on pine, oak, alder, maple, Douglas fir, and fruit trees. The outer part is called the sheath or thallus, and when wet and pulled apart, exposes an elastic white cortex that stretches like a rubber band. There are about 600 species of usnea growing across North America, Europe, Asia, and Africa. The longer-growing and shorter tuft-like usneas in the Pacific Northwest can be used as medicine. *Usnea longissima* is hair like—hence the name Old Man's Beard. It is endangered in some areas because of a decline in old growth forests where it thrives.

Usnea will not grow in heavily polluted areas. Scientists monitor its population to check air quality in California. Usneas may help trees to fight off infection and have been called "the lung of the tree." Squirrels, chipmunks, mice, bats, and about 45 species of birds eat lichens or use them for building nests. Many insects eat lichens and live or hide in them. When snow buries plant foods in winter, lichens become important survival food for deer and elk.

Medicine: Usnea and other species of lichens have been used throughout the ages for medicine. Native American people have traditionally used usnea for many things including dressing wounds, bandages, fiber in mattresses and pillows, menstrual pads, and as a yellow dye. Lichen was found with juniper berries in an Egyptian vase dating back to 1600 B.C. The Chinese and ancient Greeks used lichens to stimulate expectoration, heal wounds, and treat uterine complaints.

Usnea is a strong antimicrobial. Usnic acid and other compounds in the plant have been researched for their potent antibacterial effects against *streptococcus, staphylococcus, pneumococcus, mycobacterium, trichomonas,* and TB. Usnea is effective against many antibiotic-resistant strains of bacteria, and in some cases is more effective than penicillin. It is used internally for bacterial infections of the respiratory, urinary, and gastrointestinal systems.

Usnea is used topically for bacterial skin infections and as a wash for conjunctivitis. It is also active against some viruses including herpes and Epstein-Barr. In addition, usnea is active against a number of cancer cell lines including lung and breast, malignant mesothelioma cells, and vulvar carcinoma cells.

Usnea is an effective anti-fungal and can be beneficial for *candida* overgrowth in the gastrointestinal tract, vaginal yeast infections, ringworm, and athlete's foot. Fungal infections often need to be treated internally and topically with a wash or douche because they are so persistent. Like Echinacea, astragalus, and reishi—usnea contains polysaccharides that stimulate immune function. These compounds are best extracted with heat and water.

Usnea can be slightly drying and is often used with soothing, hydrating herbs like licorice or marshmallow. In traditional Chinese medicine, it is used to clear heat, especially cough due to hot phlegm. It is also used for infections including mastitis during lactation.

Harvest Usnea

As you walk through the forest, watch for bunches of usnea that have fallen from trees or are growing on fallen branches. Harvest away from roads or industrial areas as heavy metals can accumulate in these slow-growing and long-lived lichens. Check for the indicative white elastic cord that stretches when the lichen is damp, as there are a few other lichens that look similar. Usnea can be a bit tricky to prepare as medicine. Immune-stimulating polysaccharides in the inner white cortex need to be boiled to be effectively extracted, while many of the antimicrobial compounds in the outer sheaf are best extracted in alcohol.

Make Tea: Use a small handful or 1 heaping tablespoon of finely chopped lichen per cup of water. Place in a pot. Gently bring to a boil, turn down heat, and simmer for 10-15 minutes. Strain. Drink about ½ cup to 3 times a day or use the tea for topical application.

Make Tincture: You can use fresh or dried usnea for tincture. Rinse if necessary and remove any leaves or other debris. Chop finely with scissors. You will measure your herb with a scale and your liquid with a measuring cup. If you have fresh usnea, use 1 part herb to 2 parts liquid. If you have dried usnea, use 1 part herb to 5 parts liquid. The liquid is called "menstruum" in herbal medicine and is a mixture of alcohol and water. Use between 40-70% alcohol for usnea tincture. Place the herb and menstruum in a glass jar. Use a fork to press the herb under the liquid and cover with a lid. Let the jar sit for 2 weeks, pressing the herb under the liquid every few days. Strain the liquid through muslin cloth. Place the remaining herb in a small pot and just cover it with water. Bring to a boil, turn down, and simmer for about 20 minutes until the decoction is very concentrated. Add this to the pressed tincture. Make sure the decoction is less than half of the volume of your pressed tincture (you need at least 20% alcohol to preserve the tincture). Take 30-90 drops up to 4 times a day. A topical wash for skin infections can be made by adding 1 part tincture to 1 part water.

Learning from Usnea – Practice "Both/And" Thinking

Usnea defies our assumptions of how nature works. It seems to grow like a parasite on trees and yet scientists think it helps trees to be stronger. Usnea is made of two distinct life forms—algae and fungi. Rather than fighting each other for dominance, these work together to create something new. Usnea reminds us that seemingly opposing things—including thoughts, beliefs, and emotions—can coexist. Accepting this can lead to a greater understanding of the whole and provide a way for our differences to exist together as a source of strength.

- *How can I allow my opposing thoughts or emotions to be true/valid?*
- *Can I be open to understanding others' perspectives, while also being true to my own?*
- *What wisdom can I gain from practicing both/and thinking?*

Wild Rose – *Love and Protection*

Wild rose is a universal medicine. Cultures around the world value it for its fragrance, beauty, nutrient content, and medicinal qualities. Rose is also a part of many spiritual traditions and is associated with protection, love, and grace.

Wild roses have fragrant pink flowers with five petals and many stamens. Bees delight in the flowers, which develop into orange or red colored fruits called hips. Rose leaves have five to nine toothed leaflets. The stems are covered in thorns. You will find wild rose in a variety of habitats including wooded, open, dry and moist locations from low to middle elevations. There are several species of rose in our region and they vary slightly in color and size, but all are edible and medicinal. Rugosa rose and fragrant roses grown in gardens can also be used as long as they are not treated with herbicides or pesticides.

Food: Rose petals add delicious flavor to salads, sauces, and desserts. They can be eaten fresh, or dried and infused in liquids. Rosehips are so loaded with vitamins and minerals they are sometimes considered a superfood. The outer fleshy part is edible, but the seeds must be removed—they are covered in fine hairs that can irritate the gut. You can remove them yourself, or buy deseeded, dried rosehips at health food stores or herbal shops.

Medicine: Many people around the world believe that rose opens the heart and offers protection. Rose tea, water, and essential oil are used to bring grace and healing to those who are in transition including when someone is dying or when someone has lost a loved one.

Rose is used topically and internally to tighten and tone inflamed tissue. People drink the flower, leaf, or stem tea to heal mouth sores, ease sore throats, combat non-infectious diarrhea, and promote gut healing. Rose may also help heal burns and soothe irritated skin and sore eyes. The flowers are infused in honey, oil, or vinegar for medicine. Rose is balancing and moisturizing to the skin, making it a popular addition to toners, body oils, and creams.

Rosehips are most commonly used to prevent and treat colds and flu. Wild varieties have the highest concentration of Vitamin C, with some estimates reporting 30-50 times the Vitamin C of oranges. They are particularly high in antioxidants and help strengthen our heart and blood vessels. Like tomatoes, rosehips are high in lycopene, which has been linked with cancer prevention. Natural pectin found in rosehips is beneficial for gut health.

Easy Rosehip Jam

This is one of the easiest and most nutritious recipes. You can purchase dried rosehips in herb stores, food co-ops, and online from herb distributors like Mountain Rose Herbs.

- Spread dried rosehips out onto a plate and remove any remaining seeds or stems.
- Grind rosehips into a fine powder in a coffee grinder.

- Add apple cider or apple juice to the powder until it forms a jam consistency. Let sit for 5 minutes and add more fluid if needed.
- Serve and enjoy! Keep the jam refrigerated for up to two weeks.

Use as a spread on fruit, bread, cakes, or cookies. Rosehip jam is a tasty way to deliver Vitamin C to your family during the cold season. You can modify the recipe by adding cinnamon powder, vanilla, orange peel, and other spices.

Learning from Wild Rose – Love and Protection

This Coast Salish story is told by Johnny Moses, Tulalip storyteller and oral historian:

In the olden days, our Old People would say that the greatest love is a mother's love. There was, at one time, a beautiful family, and the father and mother had their first child. After the birth, the mother began to cry because the baby's breath left its body—the child was only going to live a very short time. The mother and father cried and cried, for they had never experienced anything like this before. The spirit of the baby began to leave. The father was mad and was blaming himself. As the feelings entered the baby, it said "why me?"

The mother's tears were so strong that they pulled the baby's spirit back into its body. Where those tears fell, a wild rose grew. Wild rose has beautiful, fragrant flowers, and also thorns for protection. Someday that baby might smell the wild rose and equate it to someone who loves them. Rose reminds us of the love of the mother and the protection of the father. The Old People believe that wild rose can help you to remember and regain yourself.

Rose is a universal medicine, and in many cultures, it is associated with protection, love, and grace. It can be used during challenging times when we need support. The sadness and pain of life cannot be avoided. Suffering happens when we are unable to accept pain or when we resist what is truly happening. Radical acceptance is a skill that helps us acknowledge reality. It means letting go of fighting that which we cannot change, which in turn opens us up to new possibilities. When we experience the moment as it is, it will eventually bring about peace, and with repeated practice, some level of contentment.

Letting ourselves experience emotions may feel scary or overwhelming, but often, we will feel as if a burden has been lifted. Rose is a powerful ally to remind us that, even in the midst of suffering, we are held and protected by something greater than ourselves. You may want to keep a rosewater spray bottle near you and use it when you feel distressed. Try adding rose petals and rosehips to your tea or use rose essential oil in creams and other body care products to remind you of its medicine.

- *Can I accept a challenging person or situation, while also establishing strong boundaries to protect myself?*
- *How can I act with grace (love and goodwill) when I am in an unstable situation?*
- *How can I be both compassionate and fierce?*

Wild Strawberry – *Embrace the Moment*

Wild strawberries might be tiny, but they pack ten times the flavor of store-bought strawberries. Their sweet fruits ripen in fields and forests during the height of summer and bring joy to those who taste them. They will not continue to ripen once picked and must be enjoyed when they are ready—a powerful reminder that joy can be found by looking for gifts that are present in the moment.

Wild strawberries are creeping perennials that grow in mats in woodlands, open fields, and on grassy beaches. Flowers are white with five petals and many stamens. Leaves are toothed and are grouped in threes. Fruit is orange-to-red colored and about ½ inch across. Local varieties include woodland strawberry (*Fragaria vesca*) and Coastal strawberry (*Fragaria chiloensis*). You can grow these in a garden. Each plant will send out "runners" that root into new plants and quickly form a strawberry patch.

Food: Wild strawberries are a lot of work to gather but the results are always worth it. One little berry the size of the tip of your pinky finger has more flavor than the huge hybridized commercial ones. These little gems remind us that some of the most sensational flavors can be found in the wild. Many people simply eat strawberries fresh in the field because they are difficult to transport (and hard to pass up once picked). Because of their high water content, they do not dry very well. Makah women and children traditionally went out to the berry fields and had a picnic—eating them right where they sat.

<u>Strawberry Sauce for the Love of Summer</u>

This sauce captures the sweetness and warmth of summer, and can be enjoyed in countless ways. Try adding it to drinks like lemonade, mixing it into salad dressing, pouring it over pancakes, and of course, for making the classic summer dessert—strawberry shortcake.

3 cups wild strawberries
1 tablespoon lemon juice
½ cup honey, brown rice syrup, or sugar
*Optional – 2 teaspoons rosewater, ¼ teaspoon vanilla

Place strawberries and lemon juice in a small pot and gently heat, mashing the berries with a spoon until they are soft. Add honey and blend thoroughly. Use immediately or pour into a glass jar and store in the refrigerator for 1–2 weeks.

Medicine: Strawberry leaves can be dried and made into a mineral-rich tea. They have a pleasantly mild flavor and will act as an astringent to gently tighten inflamed tissue including swollen gums, sore throats, upset stomach, sore eyes, burns, and diarrhea. The whole plant is

cooling, strengthening, and healing. The leaf contains vitamin C, which helps heal and strengthen tissue; methyl salicylate, an anti-inflammatory; and quercetin, which stabilizes inflammation. Strawberry also contains ellagic acid, which has antioxidant, anti-mutagen, and anti-carcinogenic properties. Strawberry is valued as a women's tonic to strengthen blood (it contains iron and other minerals), prevent miscarriage, and ease morning sickness. Strawberry leaf is nourishing to the skin and the berries have been used for whitening teeth and promoting gum health in both Europe and America.

You could smell ripe strawberries before you saw them, the fragrance mingling with the smell of sun on damp ground. It was the smell of June, the last day of school, when we were set free… Even now, after more than fifty Strawberry Moons, finding a patch of wild strawberries still touches me with a sensation of surprise, a feeling of unworthiness and gratitude for the generosity and kindness that comes with an unexpected gift all wrapped in red and green.

–Robin Wall Kimmerer, *Braiding Sweetgrass*

Wild Berry Tea

This antioxidant-rich tea is a delicious beverage for strengthening our heart and blood vessels. Huckleberry leaf also helps balance blood sugar. Rosehips, hibiscus, and orange peel are high in vitamin C, which supports immune function.

- *1 part each strawberry leaf, huckleberry leaf, hawthorn leaf and flower, hawthorn berry, rosehips*
- *½ part each hibiscus and orange peel*

Use 1 tablespoon of tea per cup of boiling water and steep for 15 minutes. Drink 1-3 cups daily as a tonic.

Learning from Wild Strawberry – Embrace the Moment

In a popular Thai story, a man is walking through a forest and is chased by a tiger. He runs to the edge of a cliff and climbs down a vine to escape. But as he looks down, he sees another waiting tiger at the bottom of the cliff. A mouse begins to gnaw on the vine. Right in front of him is a red, ripe, wild strawberry. He plucks the delicious fruit and eats it.

Life is full of difficulty. Hardship is in our past and it will surely be in our future, but we can improve our moments and gather positive experiences through accepting and appreciating the gifts placed before us—while they are ripe.

- *When I am in a difficult situation, there may also be a gift. I can let it feed my spirit and give me joy.*
- *What helps me to feel better when I am distressed? Examples might include breathing, visualizing a favorite place, music, or focusing on something joyful.*
- *How can I encourage myself right now?*

Willow – *Flexibility*

Willow is both flexible and strong. Branches bend but do not break and are made into many things including baskets, woven fences, and sweat lodges. Willow grows along rivers, beaches, and wetlands—landscapes that are constantly moving and changing. It adapts to these changes, and also has a stabilizing effect on the land.

Willow trees are bushy with many stems, and a few are larger, multi-trunked trees. They are easy to miss until very early spring when new growth paints bright green, yellow, and reddish hues on the winter landscape. Spring shoots tend to be straight and flexible. Buds hug the stem and grow alternate to each other. Willow leaves are simple shaped with smooth or finely toothed edges. Flowers have an upright catkin shape. Female flowers may look like pussy willow buds and mature into fuzzy seeds that are carried on the wind. Willow shoots contain a rooting hormone, allowing them to readily take root in wet soil.

Willows are important in water ecosystems because they stabilize stream banks and provide shade, keeping the water cool and clear for salmon and other species to thrive. Deer, elk, and moose enthusiastically graze on willow as a food source, and beavers use it for building material. Willow flowers produce pollen and nectar that bees and other insects eat.

Food: All willows are edible, but some are not palatable. The leaves are high in vitamin C—seven to 10 times higher than oranges! The inner bark is high in calcium, magnesium, zinc, and other trace elements. It was traditionally eaten by many Native Peoples, but the processing is very labor intensive and few continue the practice today.

Medicine: Willow has been valued as an anti-inflammatory, pain reliever, fever reducer, and bitter tonic for thousands of years. Its use was documented in 4,000-year-old tablets from ancient Sumeria, and was perhaps the most important of 700 medicines mentioned in the Ebers Papyrus from Egypt in 1534 BCE. It has maintained mythic status in China, Europe, and the Americas for countless generations.

In the early 1800s chemists extracted willow's most active substance, *Salicin*, for use in medicine. By the mid 1800s, a synthetic method of creating salicylic acid was found, making pain-relievers and fever-reducers cheap and easy to produce. In the 1890s, the Bayer Company released the drug Aspirin, which has become the most utilized medicine in the world.

Willow contains plant compounds including populin and methyl salicylates. Populin is also found in cottonwood and contributes to both trees' anti-inflammatory and fever reducing medicine. Methyl salicylates have a minty or wintergreen smell, and can be found in varying concentrations in different willows. Willow can help ease headaches, arthritis, muscular pain, cramps, swelling, flu-like symptoms, fever, and irritability of the urethra and bladder. Like Aspirin, willow helps to prevent blood coagulation and assists in keeping blood flowing smoothly throughout the body.

Willow is a useful first aid remedy that is often available in neighborhoods, parks, and wilderness areas. It contains vitamin C, which helps to heal tissue, and tannins, which have astringent properties that reduce swelling and bleeding. It also acts as an antimicrobial and a pain reliever. Try willow for treating stings, painful swellings, cuts, burns, and other injuries. You can make a poultice or strong tea from the bark or leaves and apply it topically.

While all willows are medicinal, the medicine's strength can vary depending on species and where the plants grow. The most medicinal willows smell like wintergreen and taste bitter like an aspirin tablet with a tart vitamin C aftertaste. Willow bark and the small branches are the most potent part of the plant, and spring or fall are the best time to harvest. If you harvest from a large willow tree, cut newer branches and peel the bark with a knife. Small twigs can be easily cut into pieces with garden scissors or clippers. Pick willow leaves off branches and dry in baskets or paper bags.

Willow is prepared in several ways. For tea, the bark is generally boiled or the leaves are steeped for 10-15 minutes; use one tablespoon herb per cup of water. It tastes so bitter that many people prefer taking a glycerite or tincture. The tea can also be used for baths and foot soaks. The fresh bark can be finely chopped and gently heated in olive oil to make topical massage oil or a salve.

CAUTION: Those taking anticoagulant drugs should not use willow internally. While it is better tolerated than Aspirin by people with stomach aches and ulcers, it should not be used if you have a salicylic acid allergy.

Traditional Technologies: Native People throughout the Pacific Northwest have made cordage from the inner bark of willow. It is gathered in spring, pulled apart, and then twisted to make rope for fishing lines, nets, and trump lines. It is strong and flexible, and does not rot when submerged in water. Willow poles were used as fishing weirs because they root where they are planted. Willow stems are still fashioned into baskets.

Learning from Willow – Flexibility

Willow is good medicine when we are feeling stuck. It is used both internally and topically to move immobile joints and ease sore muscles. Willow reminds us that we can be flexible during difficult times when we are resisting change or are feeling willful. We can open ourselves to new perspectives without getting stuck in our emotions or our rational thoughts. Just as willow branches bend but do not break, we can be open to new perspectives or experiences and also remain true to ourselves.

- *Why is change hard?*
- *What does it mean for me to be less rigid and more flexible?*
- *How can I bring together my thinking mind and my feeling mind to find my wisdom and intuition?*
- *How can I balance being action-oriented with taking time for inner reflection?*

Yarrow – *Boundaries*

Yarrow is a medicine chest in itself. If you know how to use this one plant, you can help ease many health complaints, including stopping bleeding, fighting infection, reducing fevers, cooling inflammation, promoting better circulation, and more! Yarrow helps us to establish boundaries that maintain our physical and emotional health.

Yarrow has feathery leaves that give it the common name "squirrel tail." Flowering heads are flat-shaped with many small, white, five-petaled flowers clustered on top a single stalk. The whole plant is aromatic and is reminiscent of chamomile and pine. It forms deep green, soft mats with strong interconnected roots. Yarrow is found all over the globe in fields, yards, and sandy soils. It grows from rocky beaches to alpine meadows. Yarrow growing on windswept cliffs and mountain sides tends to have the strongest medicine. All parts of the plant are medicinal. The flowers have the most aromatic compounds and are harvested in late spring through summer.

Medicine: Yarrow is called "Warrior Medicine" throughout the world because it has been used to stop bleeding, cool inflammation, and combat infection. Greek women ritually bathed their infants in yarrow tea to protect them from battle wounds. When the Greek hero Achilles was born, his mother held him by the heel and dipped him in a vat of yarrow tea to protect him from harm. Throughout the Trojan wars, Achilles used yarrow to staunch soldiers' bleeding wounds. He eventually died by a wound on the ankle, the only place that yarrow had not touched. This is how yarrow got its Latin name, *Achillea.*

Native Peoples across North America commonly use yarrow for treating wounds. It can be prepared in many ways - as a fresh plant poultice, by sprinkling the dried powder on or applying a strong tea to a wound, or by making yarrow flower-infused oil. The tea or infused oil can be used topically for painful joints and varicose veins.

Yarrow is a favorite cold and flu remedy because it fights infection, stimulates sweating, and lowers fever. The aromatics in yarrow open the lungs and sinuses and cool inflamed tissue. Through thinning the blood and increasing circulation, it also helps congested people to breathe better. A classic cold and flu tea includes equal parts yarrow, peppermint, and elderflower.

Yarrow is a bitter herb that stimulates digestion. The flower tea can be helpful when someone has poor appetite due to low digestive secretions and general inflammation.

Native Americans have long used dried yarrow and yarrow tea to repel flies and mosquitoes. You may find the essential oil in natural insect repellents. Skokomish Elder Bruce Miller said the plant was boiled to purify places where there are sick people.

CAUTION: Yarrow should not be used during pregnancy, for people who have coagulation disorders, or for people who are taking blood thinners.

Make a Yarrow Poultice

Fresh yarrow flower is most commonly used for a poultice, but the leaf and root will also work. If fresh plant is not available, you can use the dried, powdered herb. For wounds, chew or mash up fresh yarrow or moisten dried yarrow powder with hot water to make a paste. Once it cools, spread over the injured area, and secure it with a leaf or piece or wax paper. To stop bleeding, clean the wound and simply apply the fresh poultice or sprinkle the powder on it. Apply pressure and cover with a bandage. If it needs to be left on for a long period of time, change the poultice a couple of times a day.

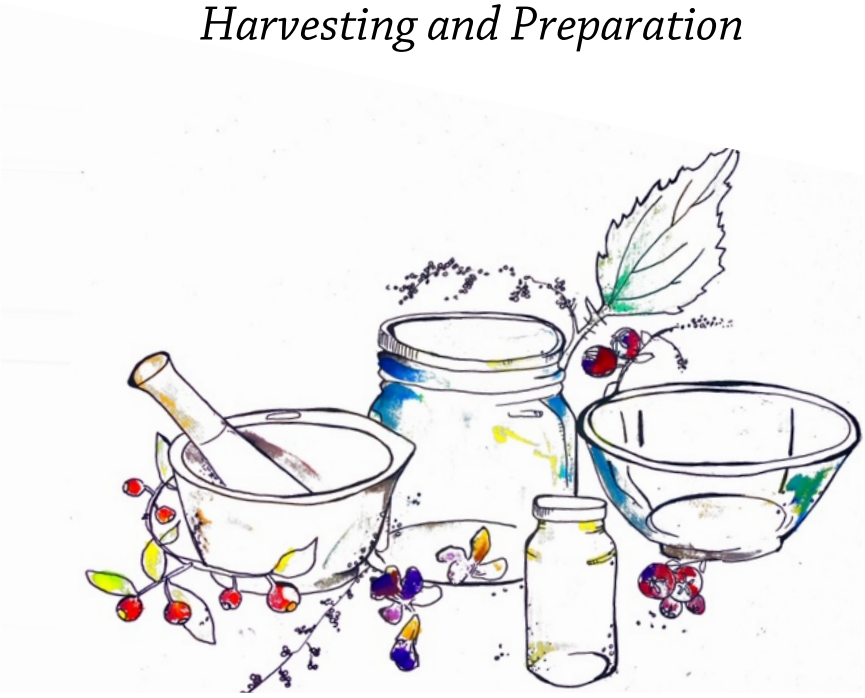
Learning from Yarrow – Boundaries

Yarrow is a teacher of healthy boundaries. Known as "Warrior Plant," it helps to fight off infection, reduce inflammation, and stop bleeding. When our protective barrier (skin) has been compromised or broken, yarrow helps it to heal. When drunk as a hot tea, it will break a fever by bringing blood to the surface and opening our skin so we can sweat. This cools us down and also releases waste products—thereby helping to reestablish internal balance. Yarrow flower essence is also used for protecting us when we feel vulnerable to physical, emotional, or spiritual threats.

When we are establishing boundaries, we must first be mindful of what we need. Do we need to connect with others, or do we need time alone to regenerate? Do we need more information or activity, or would we benefit from some time just resting and being? When we care for ourselves, we are more able to care for others. For example, saying NO may not be selfish—it may be a powerful step towards resourcing yourself enough to be fully present with another. If you want additional support establishing boundaries, consider sitting with yarrow, taking a yarrow bath, or making a yarrow spritzer.

- *How can I communicate my needs clearly, directly, and truthfully?*
- *How can I stay true to my values with no apologies?*
- *How can I maintain healthy boundaries and protect myself in relationships?*

Part 2
Wild Foods & Medicines
Harvesting and Preparation



Artwork by Tamar Krames

Wild foods and Medicines

Useful plants thrive all around us in yards, forests, fields, and back alleys. Developing a relationship with them can be a joyful adventure as we wake up our senses and notice seasonal changes and species connections. Here are a few things to consider as you harvest, prepare food, and make medicine:

Practice Reciprocity

Many people say that harvesting plants and making medicine feels like coming home. We enter into a relationship with the community of living things around us. Some plants that we might think of as "wild" have been cultivated by Native People for thousands of years, for example; burning prairies to promote camas and other edible species, pruning berry bushes, and building clam gardens on saltwater beaches to increase habitat for edible beach foods. This practice of stewardship is inherent to Northwest Native culture, and is crucial for maintaining the health of the land. When harvesting, you might research the history and traditional cultivation techniques of plants and places, and learn what protocols to follow so you are respectful and are receiving the gifts of the land as well as giving back.

Hold Good Intention

Salish Elders and traditional healers teach that the best medicine is produced with careful procedure and also with good intention. Many Native cooks are careful to hold positive thoughts when they prepare food. They do not express anger or other negative emotions because they believe this will become part of what they are serving. When you make medicine, consider doing it with a focused, creative mind, and a generous heart.

Go for Top Quality

The best quality plants you can get are likely the ones you grow and harvest yourself. You will know exactly where they come from *and* you will get the opportunity to connect with the plants, the land, and seasons in the process. If you are purchasing herbs, make sure that they look and smell like the fresh plant. Dried herbs lose strength as they get old and are exposed to heat and direct sunlight. If possible, buy organically grown or sustainably-harvested plants.

Be Cautious

If you are trying a plant for the first time, start with a small amount to make sure you react well. Occasionally, people have allergies to herbs, essential oils, and body care ingredients. Likewise, every person has a different level of tolerance for plants. Start with a small amount and work your way up to a level that is appropriate for you. Many prescription drugs and medicinal herbs can have negative interactions. Check with your health care practitioner to make sure the plants you are taking are safe with your medication.

Document Your Adventures

Consider keeping a journal including times and places you harvested plants, along with recipes and lessons learned. This will be valuable information in years to come. Over several years you will begin to notice changing weather patterns and plant communities.

Harvesting, Processing & Drying Plants

Few things are more rewarding than gathering your own food and medicine. As we pick berries, dig roots, and gather herbs, our senses may become engrossed in the beauty of the land—the song of a swollen creek, the mountain meadow teaming with flowers, the animals gathering food for winter. Later, when plants are brought into the home to be processed, their fragrance and colors grace the house with memories and medicine. Even plants from a yard or local abandoned lot is rewarding. In a time when plants are grown, harvested, and processed all over the world in unknown conditions, it is reassuring to know where your plants come from and who handled them. What better way than to do it yourself?

If you have never gathered plants, it may feel a little daunting at first. When possible, find a knowledgeable person who can show you how and where to do it safely. This section highlights a few pointers to harvesting and processing herbs. Above all, enjoy the experience. This is part of the medicine.

The Honorable Harvest

Plants are living things that have family, neighbors, and friends. They communicate with and care for each other. When we are in their space and are gathering them for food and medicine, how can we be respectful? How do we make sure we leave enough for the plant community to thrive? Here are some things to consider when harvesting:

- Proper identification: Make sure you have the right plant! Cross check with knowledgeable plant people, books, and identification apps.
- Find Safe Places: Avoid harvesting from roadsides or railroads, in agricultural areas, or other places that may be contaminated or sprayed with herbicides or pesticides. These chemicals can make us sick.
- Ask Permission: Acknowledge whose land you are on. Do you have permission to harvest there?
- Slow Down and Look Around: How many plants are there? Are they healthy? How many can you harvest while still leaving a strong community? Leave enough for other animals that rely on the plants for food.
- Leave No Trace: Clean up so that you don't make a visible impact. Fill in holes, etc.
- What Can You Give Back? Some people leave a gift, a song, or a prayer as thanks for the gift they have received. Others may pick up garbage or remove invasive plant species.
- Anticipate Processing Time and How Much You Need: Sometimes the bulk of the work comes when you get home and process the plants. Will you have time? How much will you be able to actually use?

Harvesting throughout the Seasons

Knowing *when* to harvest a plant can be confusing. Your senses will tell you a lot. As you watch plants through the seasons, look for where the vitality is present. Harvest whatever part of the plant you need when it is at its prime. A general guideline is:

- Leaves: spring and summer
- Flowers: spring and summer
- Fruit and seeds: summer and fall
- Bark: fall and early spring
- Roots: fall and early spring

Nettles are a great example. Tender shoots emerge from the cold, damp ground in very early spring. When they reach three to eight inches, they are a delicious cooked green. As they grow tall, the leaves become tough and the stems are too fibrous to eat. This is a perfect time to harvest and dry the deep green and fully developed leaves for tea. In late spring to early summer the vitality in the plant moves into the flowers, which quickly go to seed. These nutrient-rich seeds can now be harvested, dried, and added to food. Nettles reach their full height in late summer through fall, when their fibrous stalks may be harvested, processed, and twisted to make strong cordage. Leaves are now thin and turning brown, but the vitality has moved down into the yellow roots, which are at their peak in potency and can be harvested for medicine. Nettles offer different gifts of food, medicine, and fiber in spring, summer, and fall.

Time of Day

The best time to gather plants is in the morning after the dew has dried. This is usually when their medicine is most potent. During the heat of the day, they may wilt a little, and aromatic compounds decrease a bit. Do not harvest on a rainy day if you are drying plants. Chances are they will mold. Roots can be washed and dried with a towel to remove excess moisture.

Processing Plants

Once you have harvested your plants, process them as soon as possible. You can get away with putting nettles or other plants in the refrigerator for a day or two, but they will not be quite as vibrant as when you process them right way. Remove unwanted parts including stems or leaves that have turned brown. If you are transforming fresh herbs into medicine, first make sure they are clean. Next, process according to recommendations for the type of plant or plant part you are working with. Thicker plants, stems, roots, and barks should be cut or chopped fine. The more you break open and expose the cells inside the plants, the more medicine you will be extracting. Large baskets or bowls are nice for stripping leaves and sorting plant parts.

If you are drying your plants, processing may be easier to do after plants have dried. Try doing it with friends or family as you visit and swap stories. Your finished plant material should look and smell similar to the plant did when it was fresh. If it has turned brown and lost its scent, it has lost nutritional and medicinal value as well.

Drying Plants

To dry plants, place them in a warm place with good ventilation and out of direct sunlight. If you are drying flowers, fruits, or seeds, lay them on flat baskets or paper bags. Spread them out so they are only one layer thick and turn them every day so they will dry evenly. Plant stalks or leaves can be dried this way or bundled with rubber bands and hung from the ceiling on a beam with nails or a hanging rack. A dehydrator works well as long as it does not get over 100 degrees F.

Make sure to cut up large roots, and peel or cut off bark before the plant material dries. While fresh bark usually peels off easily, dried bark may adhere to the heartwood and be nearly impossible to remove. Small roots can be left whole for the drying process. Succulent roots like dandelion can be dried in a dehydrator to help them dry fully.

Once herbs are completely dried and crackly, store them in glass jars or paper or plastic bags out of direct sunlight and heat. If you live in a wet environment, avoid paper bags. At this point, a cool dark place will best preserve them. For highest quality, keep aromatic leaves and flowers whole and then crumble them up just before use. Dried herbs generally last about a year. Some plants lose their scent and color quickly while others may remain viable for many years.

Instead of composting old herbs that you did not use from last year, try blending any aromatic and skin supportive plants into herb baths. Place them in giant tea bags made from muslin or another porous fabric and give them away as gifts.

Wild Foods

Food is a gift. Salish Elders remind us that true wealth is having access to native foods along with the knowledge of how to gather, prepare, and serve them. Our values and food traditions are a living legacy that links us to past, present, and future generations. Several times a day, we encounter opportunities to reflect on what we eat and how our choices change our world. When we harvest native foods and incorporate them into our modern lifestyle, we strengthen our cultural identity, our relationship to the land, and tribal sovereignty. It will take all of us to feed the next seven generations.

-Valerie Segrest, Muckleshoot Tribe

For thousands of years, Native Peoples have stewarded the lands and waters in the Pacific Northwest, practicing management techniques, including burning and weeding camas prairies and mountain huckleberry meadows, building clam gardens on saltwater beaches, enhancing wetlands habitats, and hunting, fishing, and gathering sustainably so that plant and animal communities can continue to thrive. These practices create an abundance and diversity of foods, medicines, and other culturally significant plants.

European colonization and modern agricultural practices have greatly diminished native plant communities, and many tribal communities are leading the way in land preservation and restoration. Part of building a just and sustainable food system includes working to protect, preserve, and revitalize native plants and foods. When gathering native plants, consider harvest ethics and how you might uphold the health of plant and animal communities. You might join local land conservation and restoration efforts to help give back. Many native plants can be grown in backyards, community gardens, and public spaces. You can embrace non-native "weeds" like dandelion and chickweed, which are abundant and provide nutritious food and powerful medicine. There are many ways to add wild plants to your diet including:

- Seasoning: You might be familiar with a wild berry dessert or Italian herbs in pizza sauce, but how about rosehip powder in chili, nettle in clam chowder, or Douglas fir spring tips in baked goods? The possibilities are deliciously endless.
- Pesto: Move over basil! Try nettle, chickweed, or spring dandelion green pesto spiked with tasty herbs like rosemary or mint.
- Smoothies: Eating herbs and nutritious greens can be much more palatable in smoothies. Most people like about ½ cup of greens and about ½ teaspoon of powdered herbs like cinnamon per two-cup smoothie.
- Snack Bars: Try adding nutritive, energy boosting, or immune stimulating herbs to what many people call "power balls." The basic idea is mixing 1–part nut butter with 2–parts combined chopped oats, seeds, nuts, and dried fruit with some powdered herbs.
- Popsicles: Kids love herbal popsicles in the summertime. Try hawthorn, rosehip, and organic orange peel tea blended with strawberries. Mint, lemon balm, honey, and lemon juice is another favorite. See online recipes or cookbooks for creative ideas.

See more recipes including bigleaf maple flower fritters, camas soup, nettle pesto, salal fruit leather, and easy rosehip jam in the *Plant Teachings* chapter.

Dandelion Flower Drop Biscuits

This recipe is quick, easy, and delicious. You can use gluten-free flour mix with good results.

2 cups all-purpose flour (or 1 cup white flour and 1 cup whole wheat flour)
2-½ teaspoons baking powder
½ teaspoon salt
1 teaspoon dried herbs such as rosemary, marjoram, thyme, basil, or chives
½ cup dandelion flowers – pulled off the base without sepals
5 tablespoons cold unsalted butter, cut into small pieces
1 cup milk

Preheat oven to 450°. Mix dry ingredients, herbs, and dandelion, then add butter. Work mixture until the batter is the size of coarse breadcrumbs. Stir in milk. Do not overwork. Batter should be moist and sticky but not smooth. Use a spoon to form about ¼ cup scoops. Place on a cookie sheet 1–2 inches apart. Bake until the bottom is browned and the edges are starting to brown, about 12 minutes.

Douglas Fir Gummy Treats

These little snacks are perfect when you feel depleted. They provide vitamin C which promotes immune function. Gelatin is rich in protein and supports gut health. You can cut simple squares or use silicone molds that come in an endless assortment of shapes like stars, flowers, bears and other animals.

1 cup citrus juice (lemon, orange or grapefruit)
½ cup water
¼ cup natural beef gelatin
2–3 tablespoons honey or maple syrup
½ cup Douglas fir tips, finely chopped

Place citrus juice, water, beef gelatin, and honey into a small saucepan. Heat gently, whisking in the gelatin so it dissolves. When the mixture is hot but not boiling, remove it from the heat, stir in the tree tips and pour it into a 9 x 9 glass pan or silicone molds. Place in the refrigerator. Once cooled, cut in 1 inch by 1-inch squares or remove from molds.

Nettle Soup

This simple soup is a perfect energizing food for springtime. It is easy to make and has a nice, smooth texture when blended.

1 bag of fresh nettles (plastic grocery sized)
3 tablespoons olive oil or butter
2 large onions, diced
2 cloves of garlic, chopped
8–10 cups water or broth
4 potatoes, peeled and diced
(continued next page)

2 cups corn
Juice of 1 lemon
Salt and pepper to taste

Wash nettles in a colander, chop with scissors, and set aside. In a large soup pot, sauté onions and garlic until tender. Add corn, potatoes, nettles, and water or broth then bring to a boil and simmer for 15 minutes. Blend all ingredients in a blender or a food processor. Add lemon juice, salt, and pepper to taste. You can add other vegetables like celery, carrots, and squash.

Strawberry Sauce, for the Love of Summer

This delectable sauce captures the sweetness and warmth of summer. It can be enjoyed in countless ways including adding it to drinks like lemonade, mixing it into salad dressing, pouring it over pancakes, and of course, making the classic summer dessert—strawberry shortcake. Freeze or can the sauce, and you have the perfect remedy for easing the winter blues.

3 cups wild strawberries
1 tablespoon lemon juice
½ cup honey, brown rice syrup or sugar
**Optional*: 2 teaspoons rosewater or ¼ teaspoon vanilla

Place strawberries and lemon juice in a pot and gently heat, mashing the berries with a spoon until they are soft. Add honey and blend thoroughly. Serve immediately or pour into a glass jar and store in the refrigerator for 1–2 weeks.

Salish Pemmican

Pemmican is well-known for its high concentration of nutrients and its long shelf life. This combination of fat, protein, and carbohydrates has been said to keep a person going for a whole day. Traditionally dried meat like venison, elk, buffalo, or salmon are combined with fat and dried berries. Pemmican makes an excellent snack for long-term endurance.

1 cup dried venison, elk, or beef jerky
1 cup dried berries (salal, blueberry, huckleberry, cranberry, or other dried berry)
1 cup raw hazelnuts, walnuts, sunflower seeds or almonds (can combine)
1/3 cup nut butter (hazelnut, almond, cashew, or peanut butter)

With a knife, chop meat into very small pieces. Place dried berries, nuts, and nut butter in a food processor and finely chop. Add the dried meat and pulse again. The pemmican should stick together like dough. Roll into balls. You can coat the pemmican with sesame seeds or coconut flakes. Store in plastic bags or containers in a refrigerator or in a dark, cool place. This will keep for several months. Recipe from Lummi tribal member, Vanessa Cooper.

Plant Medicines

Plant medicine has always been a medicine of the People. Since time immemorial, knowledge about how to harvest, prepare, and preserve wild foods and healing remedies has been passed from Elder to youth, family to family, and community to community.

Plants and plant-based medicines are incredibly complex, yet we have the ability to understand them as never before in human history. We can learn from experienced Elders and community members, books, internet sources, and personal experience. We can connect with people from around the world who are constantly sharing stories, creating new plant medicine techniques, and documenting results. These different ways of understanding plants do not exclude one another, but instead strengthen our knowledge of and connection to plants.

The recipes that follow are basic and can be changed as you become comfortable with techniques and ingredients. Making medicine can feel awkward in the beginning—like riding a bike for the first time. You will make mistakes, and this is how we all learn. Seek a local plant specialist, take a class, or explore medicine making with a friend. Keep trying, and you will quickly build confidence. Consider these guidelines as you get started:

Building an Herbal Apothecary: Tools for the Trade

An apothecary once referred to a trained professional who created, dispensed, and gave recommendations on herbal medicines and other types of natural remedies. The profession dates back at least 4,000 years. Our modern pharmacist has taken over this role in general society, but many herbalists and herb stores refer to their medicine collection as an "apothecary." You do not need fancy tools to make high-quality herbal medicines—common kitchen tools will work. In addition to good quality herbs and solvents, you may also need:

- Harvesting tools including clippers, scissors, a shovel, a knife, and bags or baskets
- Stainless steel, glass, or enamel pots (avoid aluminum and iron)
- A scale that measures in ounces (a two pound scale is generally a good size)
- Muslin cloth or clean, fine cloth for pressing out medicines
- Wide-mouth glass jars for making medicine and storing herbs
- Double boiler or two pots with one fitting into the other
- Blender
- Coffee grinder
- Glass measuring cups that read in ounces
- Glass bottles of various sizes for storing medicine

Most medicine making ingredients can be found at herb stores, body care shops, or online.

There are many ways to use plants for medicine. Finding the best approach means considering the most convenient way to take herbs (so that you will actually use them) with the best solvent to extract and deliver the medicine. This knowledge comes with time and practice. Some medicines taste so bad that you may want to take them in capsule or tincture form, while others can be sipped as delicious teas.

Herbal Teas

Making tea is a potential moment to be in the center of your own universe… body, mind and spirit. It is a moment to remember that we are related to Nature, we are the same, and all of our actions count. When you make tea, a really good cup of tea, it lights the world. It is a moment of grace that has no boundary. A good cup of tea tends the spirit and warms the soul.

-Joyce Netishen, Herbalist

Tea making is both an art and a science. It is the most common way to extract plant medicine throughout the world and is a legacy that has been documented for at least five thousand years. You do not need fancy equipment to make great tea—just quality herbs, a non-aluminum pot with a lid, and a strainer will do. The tea plants you harvest yourself will likely be better quality than teas you can buy at a store.

Dried herbs are commonly used for making tea. During the drying process, plant cell walls break open and dehydrate. When hot water is poured over plant material, it easily rehydrates and extracts the taste, scent, nutrients, and medicinal properties. Fresh herbs are fine for making tea if you want a light and aromatic brew, but they are not as strong tasting and medicinal as dried herbal teas unless the herbs are chopped very fine. A larger amount (about double) of herb is needed for fresh plant teas to have the same medicinal dosage as dried teas. If you just want the aromatic compounds from plants, fine chopping is not necessary.

Good quality herbs are essential for making flavorful and medicinal tea. Purchase organic and fair-trade teas when they are available and affordable. They may be a little more expensive but they do not contain pesticides, and you are supporting sustainable plant growers. Loose-leaf tea that has not been ground into a fine powder (these teas are not in bags) is often more flavorful. The more ground up the herb, the more they lose their medicinal value over time. Well-dried herbs should still have color and scent. Loose-leaf teas can be placed directly into a teapot or pan with a lid. Do not use aluminum or copper pans as they can react with antioxidants and tannins in plants. You can also buy a strainer that fits right in your teacup to catch the herbs.

Proper Proportions of Herb & Water

When preparing teas, feel free to experiment and choose the proportion of herb-to-water that suits your taste. If you are using the tea as a medicine, the ratio of herb-to-water should be enough to produce a fairly strong and medicinally active tea. The ratio should also be consistent so that you can measure an appropriate dose of the tea each time you prepare a new batch. A general ratio for dry plant infusions is:

- 1 teaspoon to 1 tablespoon per cup of water (less for dense herbs like roots, and more for lightweight herbs like leaves and petals)
- 1 ounce of dried herb per 1 quart of water

If you are using fresh herbs for your infusion, use about 1–2 tablespoons per cup of water or two ounces of herb per quart of water.

Infusions

Above ground parts of plants including leaves, flowers, fruits, and fragrant seeds and roots are usually made into an infusion, which means they are soaked in hot or room temperature water. Gently crush the dried herb between your fingers if it is not already coarsely ground. Fresh plant parts are usually chopped before infusing to open up the plant cell walls and promote extraction, but you may want to leave some flowers whole so that you can enjoy their beauty as the tea is steeping.

Hot Infusions: Place the proper amount of herb in a container (a teapot, quart canning jar, or pot) and cover with boiling water. You may want to preheat a teapot with hot water so it does not cool the water down quickly. Place a tight fitting lid on the container to retain aromatic compounds. Let steep for 10 to 20 minutes, and then pour through a strainer. Tannin-rich herbs such as black and green tea should steep for less time because they will turn bitter if steeped too long. Mineral-rich herbs including horsetail, nettle, oat straw, and red clover are best when steeped several hours to overnight. Squeeze the liquid out of the herbs if they are in a tea bag or strainer. Enjoy!

Cold Infusions: Plants may also be infused in water without using any heat at all. Heat helps pull out some plant compounds but plants containing mucilage (a slimy substance that is found in plants including marshmallow and slippery elm root) and volatile oils (aromatic compounds as can be found in peppermint) are best extracted in room temperature water. To prepare a cold infusion, measure the herb in the same proportions as you would use for a hot infusion, and place in a small muslin bag or bundle in cheesecloth. Fill a jar with room temperature water and suspend the bag at the top by catching the string with the lid rather than letting it sit at the bottom of the jar. This promotes a circular movement in the water and better extraction. Tea pots work fine too as long as the herbs are suspended toward the top of the pot. Allow the herbs to steep for 6–12 hours. Squeeze tea out of the muslin bag and enjoy.

Fresh plant infusions or flavored waters are thirst-quenching and delicious. Plants contain vitamins, minerals, antioxidants, and other medicinal compounds that rival any commercially produced “vitamin water.” Spring Douglas fir or spruce tips, lavender, rose petals, mint, rosemary, and lemon balm are favorite sun teas. Try combining thinly sliced fruits and vegetables to enhance your infusions. A cucumber, mint, and strawberry infusion is energizing on a hot summer day. A Douglas fir and lemon infusion is a favorite for athletes because it is so rejuvenating. Place fresh or dried herbs in a tightly covered clear glass jar and let sit for several hours. You can also place sprigs of fresh herbs in your water bottle.

CAUTION: Tap water and herbs can contain bacteria that will grow if left too long in warm water. If you have a risk of bacteria in your water, bring it to a full boil and then let it cool. Let your herbs sit for 2–3 hours, but no longer. Once they are infused, keep your tea in the refrigerator and use it within a day or two. Cold and solar infusions should not be used by people who are immunocompromised (for example, undergoing chemotherapy).

Decoctions

Roots, bark, tough fruits, and seeds are dense and require more energy for extraction. They are usually decocted, or gently simmered in water. The plant material should be coarsely chopped. This can be achieved either by buying "cut and sifted" herb, by chopping the herb with some clippers or a large knife, or by grinding the herb in a coffee grinder or blender. In the United States and Europe, the usual time for simmering a decoction is 15 to 20 minutes. In China and many other countries, herbs are often simmered for several hours and *very* strong medicinal decoctions are consumed. Roots that are high in volatile oils (like valerian) are best infused with cold water instead of decocted so that aromatic compounds do not evaporate during boiling.

Making a Decoction: Measure herbs and water. A general proportion is one teaspoon of herb per cup of water or one ounce of herb per quart of water. Place herbs in a pot, cover with room temperature water, and if possible let sit for a few minutes so that the plant material can become rehydrated. This prevents compounds in the plants from swelling when placed directly in hot water, which hinders extraction. Gently bring to a boil then reduce heat, cover the pot with a lid, and let the tea simmer about 15 minutes before straining. When decoctions cool, some of the plant compounds may precipitate, which means to form solids, and might make the tea look cloudy. This may not look pleasing, but it is totally safe.

If you are combining aerial parts of aromatic herbs that should be infused with root, bark, or seeds that should be decocted, you can try a couple different approaches. One is to prepare the herbs that should be decocted first, turn the heat off and add the herbs that should be infused. If the herbs are already combined, you can let the tea sit in cold water for 20 minutes, bring it to a boil, turn it off and cover it, and then steep for another 20 minutes before straining.

Storing Teas: Teas are best consumed fresh, but you can prepare larger batches and store them in the refrigerator in a tightly closed container for a maximum of three days.

Tea Recipes

Blending your own teas is a rewarding adventure! Try herbs individually so you get to know their taste and how they make you feel, then choose tea blends based on medicinal value and flavor. The following are favorite recipes from GRuB's Wild Foods and Medicines Program and Northwest Indian Treatment Center. Generally use a tablespoon of dried herb per cup of boiled water.

Cold and Flu Tea

Equal parts: elder flower, elderberry, peppermint, yarrow.

This traditional tea helps fight infection, is cooling and anti-inflammatory, and helps to ease discomfort from colds and flu. Steep 15 minutes. Drink hot to help break a fever.

Forest Medicine Tea

3 parts: evergreen tree needles including hemlock, Douglas fir, and/or spruce
1 part each: elderberry, rosehips

This tasty tea smells like the forest on a warm day and is perfect for building resilience during fall and winter. Evergreen tree needles are antimicrobial and immune stimulating. Rosehips and elderberries strengthen immunity and support cardiovascular health. Steep 15–20 minutes.

Happy Heart Tea

2 parts each: hawthorn leaf and flower, hawthorn berry, lemon balm
1 part each: rose petals, rosehips, rosemary, hibiscus, lavender

Blend all dry ingredients. Use 1 Tablespoon of tea per cup of boiled water and steep 15 minutes to several hours. Drink 1–3 cups a day.

Heal the Gut Tea

Equal Parts: calendula, chamomile, fireweed, marshmallow root, plantain, peppermint

Drink this tea on a regular basis to promote the healing of intestinal tissue. This remedy is especially useful for leaky gut, inflammatory bowel disease, or after antibiotic use. Steep 15 minutes. Drink 2–3 cups per day.

Mineral-Rich Tea

Equal parts: horsetail, nettle, peppermint, red clover

These herbs are high in minerals and help build strong connective tissue. This tea also supports the liver and builds healthy blood. Steep 20 minutes to several hours.

Nettle Mint Tea

Equal parts: nettle and peppermint

Nettles are high in minerals including calcium and may help boost energy. They are also detoxifying and can ease seasonal allergies. Steep 20 minutes to several hours.

Relaxing Tea

Two-parts each: chamomile, lemon balm, skullcap
One-part each: lavender, rose petal

This delicious tasting tea is soothing to the nervous system. Use for mild anxiety and irritability. It may also help ease indigestion and wintertime blues. Steep 5 minutes.

Rose Mint Tea

Equal parts: peppermint, rose petals, rose hips, spearmint

Rose hips are high in Vitamin C. Mint is invigorating and can help with indigestion and congestion. Steep 10–20 minutes.

Wild Berry Tea

Two-parts each: Strawberry leaf, huckleberry leaf, hawthorn leaf and flower (you can use raspberry leaf as a substitute for any of these)
One-part each: hibiscus, orange peel, rosehips

These herbs are high in vitamin C and antioxidants that help strengthen the heart, kidneys, and blood vessels. This tea is excellent for boosting immunity and for those with diabetes. Steep 15 minutes.

Infused Herbal Vinegars

Vinegar is usually made from apples or grapes but can also be made from rice, coconut, and other types of food. Yeast ferments (chemically breaks down) the natural sugars in the food and turns them into alcohol, then bacteria converts the alcohol into vinegar, which is mostly water with acetic acid. You can detect a flavor slightly similar to the original food along with an acidic-vinegary taste. Most vinegar has about 5% acetic acid, which acts as a preservative and gives it a long shelf life.

Vinegar is a common household item with amazing benefits. Raw apple cider vinegar is rich in fruit minerals. Good quality vinegar (*not* white vinegar, which is used for cleaning) is used topically (on the skin) as a facial cleanser, a hair tonic, and to soothe hot, irritated, or itchy skin. Vinegar helps regulate the acid base balance in the body, is tonic for the digestive system, and promotes the secretion of respiratory mucous membranes. Painful encounters with poison oak and jellyfish stings can be alleviated by placing vinegar on the skin.

Herbal vinegars are among the most ancient of herbal preparations. Many herbs, spices, and fruits extract well in vinegar. A famous remedy throughout the ages has been Four Thieves Vinegar. During the bubonic plague, four robbers stole from homes of wealthy sick people. Miraculously, they survived for years without getting sick. When they were finally caught for their crimes, their lives were spared only because they shared the secret of their health—a medicinal vinegar made with herbs including rosemary, sage, angelica, wormwood, garlic, clove, and others. The remedy was sold all over Europe and became part of the official national pharmacies for many countries.

Old-style infused vinegars called “shrubs” are regaining popularity. Berries or herbs are infused with vinegar and then a sweetener like sugar or honey is added to make “drinking vinegar.” Sometimes shrubs are gently heated and reduced to a thick syrup. These are added to carbonated water and other beverages. Vinegar best extracts plants that are high in acid. Spring greens, flowers, digestive herbs like dandelion and burdock, and fruits or berries make excellent vinegars. They can be taken straight, used as salad dressing, and added to many types of food and beverages.

What kind of vinegar should I use?

Unpasteurized apple cider vinegar is the most nutritious type. You may see a white substance that eventually grows in the vinegar called “the mother.” This is actually chains of connected proteins that congeal from the microorganism *mycoderma aceti*. When you press out your vinegar, discard the mother. Other vinegars like rice wine, brown rice, red wine, or white wine vinegar will also work.

Making Fresh Plant Vinegars

1. If necessary, clean your herbs with pure water and pat dry with a cloth. Remove any brown leaves or dead parts. Chop herbs with pruning shears, scissors, or a sharp knife. The finer you chop the herb, the more its medicinal components will be extracted.
2. Place the herbs in a jar and cover with vinegar so there is half an inch of liquid covering the herb. This prevents molding. To quicken extraction, warm your vinegar before pouring it over the chopped herbs.
3. Cover with a tight fitting lid (preferably plastic, or cover your metal lid with plastic wrap so the vinegar will not react with metal and cause corrosion). Place in a warm, dark place and shake or stir daily, making sure the herb is still submerged below the vinegar.
4. After at least two weeks, filter the vinegar from the herb with muslin or coarse cloth. Squeeze out as much as possible as those last drops are the strongest.
5. Pour the extract into a clean jar and let the sediment fall to the bottom. This takes anywhere from a few hours to overnight. If you are using herbs that contain inulin (dandelion and burdock), your vinegar will look milky. This is part of the medicine and you should shake the vinegar before using it.
6. Pour off the liquid without the sediment and place in a glass jar. Label, date, and store in a cool dark place.

*Because fresh plants can have a lot of water in them, use 100% vinegar that has at least 5% acetic acid.

Dry Plant Vinegars

Dry plant vinegars are a little trickier because the herb needs to absorb water before the medicine can be extracted. A simple approach can be taken by placing the dry herb in a jar and covering it with vinegar so several inches of liquid are over the top of the herb. As the herb swells, keep adding vinegar to cover the herb. Another approach is to use 1 part herb by weight to 5 parts vinegar by volume.

The steeping process is the same as for fresh herbs. After you have filtered your vinegar, store it in clean glass jars in a cool, dark place. This will increase the shelf life. Vinegars will generally keep for one to two years. When they have passed their usefulness, the vinegar will get cloudy and smell off.

<u>Great Herbs for Vinegar Include</u>: Dandelion leaf and root, burdock, culinary herbs including rosemary, sage, thyme, oregano, garlic, and ginger, and high mineral herbs including nettle, hawthorn, rose hips, chamomile, and red clover. You can also use berries including strawberry, raspberry, thimbleberry, salal, huckleberry, and blueberry. Fire Cider is a favorite remedy among herbalists for heating the body up in the cold of winter and warding off colds and flu. Ingredients usually include garlic, onions, rosemary, horseradish, hot peppers, ginger, yarrow, and elderberry. Vinegars are a great way to eat your medicines; incorporating them in salad dressings, sweetened (shrubs) or unsweetened refreshing drinks, in cooking, etc.

Herbal Honeys

Bees perform an act of alchemy. Honey is nothing less than concentrated nectar; and a pot of good honey is the essence of its surroundings, a sweet, fragrant river from a million tributaries, carried across the air and flowering gold into the pot through the transforming power of the bee.

-Hattie Ellis, *Sweetness and Light*

Honey is a miraculous substance. For millennia, raw honey has been revered for its nutritive, immune stimulating, and antimicrobial qualities. In fact, 2,000-year-old honey was found in tombs in the Egyptian pyramids—a treasure thought to be carried to the next life. Honey contains over 75 different compounds including vitamins, minerals, protein, and hydrogen peroxide. In the book *Herbal Antibiotics*, author Stephen Harrod Buhner tells of recent scientific studies that prove how effective honey can be for treating antibiotic-resistant bacteria, wounds, burns, diabetic ulcers, coughs, and strengthening your immune system—just to name a few. He claims that honey is *the* best wound healer on the planet.

The type of honey you buy is important. Try finding raw wildflower honey from a local farmers market or natural health food store. It can be slightly cloudy due to pollen content. The large-scale agricultural honeys that you find in many grocery stores including clover and alfalfa may contain pesticides and are not as medicinal or nutritious. Some honey even contains corn syrup, or bees may be fed sugar water. Avoid these sad substitutes.

Honey will extract medicine out of plants. The key is not to dilute the honey with water from the herbs or it will begin to ferment. Your end product should be close to the original thickness of the honey. This is why it is best to wilt fresh herbs and gently cook roots and watery herbs in honey. Dried herbs do not generally extract well—they remain crunchy and do not give up their medicine easily.

Herbal honeys can be taken straight, added to tea, or added to food. Some herbal honeys are used topically for burns, skin irritations, and beauty products. Herbal honeys will last several years. If they become crystallized, you can reheat them to make them fluid again. Do not give honey to infants under one year old.

Fresh Flower and Leaf Honeys

Gather flowers or leaves and wilt for 8–24 hours so they are at least half dried. Loosely pack them into a glass jar and cover with warm, but not boiling, honey. Cover the jar with a lid and place it in a sunny spot in the garden, a sunny windowsill, or by a heating vent. To remove excess water from the honey, take the lid off every day and wipe off the condensation. After at least two weeks, re-warm the honey enough to strain it with muslin cloth. Bottle and label. Do not throw out the pressed herbs! They still contain some flavor and scent, so use them to make a tea or an herb bath. Rose petal, chamomile, lavender, hawthorn, yarrow, mint, and fir, spruce, and hemlock tree tip also make a nice infused honey.

Fresh Root Honeys

Clean roots and chop or cut finely, place them in a double boiler pot, and then drizzle enough honey over them so they are just covered. Slowly and carefully heat the honey, stirring it on occasion and allowing water to evaporate off. Do not let the honey boil because it will degrade medicinal properties. If you have a thermometer, try to keep the honey around 110 degrees F. Turn it on and off as needed. If you need to leave, put a lid over the pot and allow the honey to cool. Take a clean towel and mop up the water that evaporates onto the lid when you return. The idea is to return the honey to the thickness you started with by evaporating off all the water that was in the plants. Repeat the heating and cooling process for up to several days until the original thickness of the honey is attained. Strain out the roots and bottle the honey. Label and store in a cool place. Another option is to place your honey in a bowl or pot and put it in a food dehydrator. Stir as recommended above. Possible fresh root honeys include echinacea, elecampane, osha, turmeric, and ginger. Once you separate the roots from the infused honey, use them to make tea or chew on them as lozenges.

Dry Plant Honeys

It is preferable to use fresh plants when making infused honey, but you can still make strong medicine from dried plants. Weigh your plants, and for every 1 ounce of herb, use 6 ounces of honey. Make sure the plants are cut in small pieces and moisten them with a tiny bit of water, just enough to make them feel like they would when they are half dry. Heat the herb and honey in a double boiler, turning the heat on and off, for a day to several days. Be careful not to boil the honey. Strain with muslin cloth. You can make a combined herb honey by including both fresh and dried plants. Soft parts like leaves, flowers, and soft roots work best. The possibilities are endless!

What if My Honey Boils? This will not ruin your medicine, it just means that some of the medicinal qualities of the honey are lost and the aromatic compounds in plants are more likely to evaporate. You will still have good medicine. Crock-pots are likely to get too hot unless they have a thermometer or a very low setting.

How do Bees Make Honey and Beeswax?

Humans have been fascinated with bees for thousands of years. In fact, the bee is the second most studied organism in the world (humans being the first). This is because bees provide us with two extremely valuable substances: honey and beeswax. Honey is used as a sweetener, a nutritive tonic, and a first-aid medicine. The taste and color of honey varies depending on the type of flower from which bees gather nectar. Red clover honey is light and fragrant, while tropical flower honeys taste almost fermented, and buckwheat honey has a deep brown color and tastes like molasses. Beeswax is used to thicken body care products including salve, lip balm, lotion, and body butter. It is ideal for making candles and is still used as a sealant for beading and plumbing. At one time, beeswax was popular as a furniture polish.

To make honey, bees fly into flowers to gather nectar, which they store in a pouch on their belly. They carry this back to the hive where the nectar is reduced to a thick substance by fanning it with thousands of wings. The heat and airflow causes water to evaporate. When the honeycomb is filled with this golden honey, it is sealed up with beeswax so it can be stored and eaten in the winter months. Honey is food for the Queen and all the other bees.

Bees make beeswax by eating honey and then secrete beeswax in the form of tiny beads from their backs. Other bees gather it to mold into honeycomb. Bees need to eat about six pounds of honey to produce one pound of beeswax!

When bees gather nectar, pollen is caught in their millions of tiny hairs. They brush it down onto their back legs to store it in pouches. As bees fly, they carry and collect pollen from flowers, fertilizing each flower they visit with pollen from other flowers. Tiny pollen grains from the bee touch the female part of the flower called the pistil. They swim down into the ovaries and the flower becomes pregnant, so seeds and fruit might develop. Honeybees are not native to North America, but so many of our native pollinators have become extinct or endangered that many of our local plant fruits and seeds are dependent on honeybees for pollination. It is estimated that every third bite we consume in our diet is dependent on honeybees to pollinate that food. We are deeply indebted to these tiny hard-working insects, and when bees suffer, we all suffer.

Unfortunately, 30–70% of honeybees have died in recent years due to a phenomena called colony collapse syndrome. Bees become disoriented or fatigued and do not return to their hive. Experts believe that pesticides and herbicides, disease, mites, or even cellular phone towers may be the cause. Likely, it is a combination of several of these factors.

Glycerites

Glycerin is a sweet, clear, odorless liquid that is made from plant oils or animal fats. It is a good solvent for extracting medicine from plants without the use of alcohol. These extracts are safe for people in recovery and children. Glycerin is also safe for diabetics; it does not raise blood glucose levels. However, it does contain carbohydrates. Glycerin has anti-fermentative properties that are efficient for preservation for 14–24 months. You can find organic vegetable glycerin (usually made from coconut or palm) in most pharmacies, health food stores, and herb shops. To prepare a glycerite for fresh plant material you can use 75–100% glycerin (less for low-water content plants and more for plants that have more water content). For dried plant material use 60–75% glycerin and 25% distilled water.

Make sure to finely chop your herb when preparing glycerites. You can use a blender or food processor to mix the herb and glycerin/water mixture. Once blended, place your glycerite in a glass jar, cover with a lid, and let it sit for at least two weeks. Strain, bottle, and label, then store in a cool dark place. Glycerites will last up to two years. You can increase their shelf life by keeping them in the refrigerator.

Possible glycerites include: alder bark and bud, dandelion root, hawthorn leaf and flower, licorice fern, mint, wild rose petal, willow bark, and yarrow flower.

Poultices

Whether you are in the city, the woods, or even your own kitchen, nature's first aid kit is usually close at hand. Poultices are used when you need to draw an infection, poisonous substances, or foreign objects from tissue. They can also increase circulation, reduce inflammation, stop bleeding, and activate the immune response of tissues they come in contact with. Wounds, boils, cysts, acne and eczema, irritated skin, poor circulation, broken bones, sore muscles, and impaired breathing can be remedied with the use of poultices.

Making a poultice is easy. The simplest way is to chew up plant material and place it over the afflicted area. If you are making a poultice for someone else, you should probably have them chew the plant or mash it up to be more sanitary. If teeth do not seem like a good option, a knife and cutting board, or even two flat rocks will work for breaking up the plant material. You can also chop the herb in a blender or food processor. Sometimes, whole fresh leaves are used to make a poultice. To release the medicine, drop them in boiling water for a minute, heat them over a hot surface, or bruise them with your hands. In order to keep the herb in place, cover it with a band-aid, a clean cloth, or gauze and tape. You can also make a green band-aid by tying a large leaf like plantain or yellow dock around the poultice.

Heating a poultice helps increase absorption of the herbs into the skin and also promotes circulation and healing. You can add hot water to your chopped herb, or place a hot water bottle or heating pad over the poultice. If the area is red, inflamed, and throbbing, you may want to place a cold pack over the poultice.

Dried, powdered herbs can also be used for making poultices. Moisten the herb with hot water to make a paste. Spread on the injured area or on a cloth and then place the cloth directly over site of injury. To retain heat and control dripping liquids, place a piece of plastic or wax paper over the poultice, then cover the area with a clean cloth or hand towel. Change the poultice a couple of times a day if you are leaving it on the skin for a long period of time.

Possible Herbal Poultices

Heal wounds: calendula, comfrey, evergreen tree sap, lavender, raw honey, plantain, rose petals or leaves, yarrow
Reduce inflammation: arnica (not on open wounds), cottonwood bud, leaf, or bark, plantain, rose, salal leaf, willow leaf or bark, yarrow
Fight infection: alder bark, cedar leaf, garlic bulb, honey, evergreen tree sap, Oregon grape bark or root, usnea lichen
Draw out foreign and infectious substances: chickweed, plantain, yarrow

Herb Baths

After a hard day, the perfect place to unwind can be in a bath. Free of the demands of work and family, it can be a place to soak up peaceful solitude. The healing powers of water, mineral salts, and plants can help us to renew. If you want to make a therapeutic bath, you will need a large quantity of herbs. Imagine that you use 1–3 teaspoons of herb per cup of tea, and then envision the number of cups in your bath! One to three cups of dried herb per bath is a nice amount. Prepare a large pot of tea and strain it into a bath or place the herbs in a large tea bag, drop it in a bath that contains only hot water, allow it to steep for 5–10 minutes, and then add enough cool water to make the bath comfortable.

Babies in the Bath

While herbal baths can help adults to relax their muscles and inhale scents that can help clear respiratory infections, they do not generally absorb enough of the herb to have internal effects. This is different with babies. They respond more dramatically because of their tender skin and small size. One example we learned about was of a baby who had such terrible colic that he was doubled over and wailing. The parents were exhausted and tried an herb bath made from catnip, chamomile, and fennel. The baby visibly relaxed and the effects of the herbs stayed with him for several hours. Very young babies are too sensitive to take herbs internally, but it is safe to give them herbs topically. Skin conditions including diaper rash and eczema may be improved with repetitive herbal baths of calendula, chamomile, comfrey, plantain, and other gentle herbs. Do not use essential oils in baths for babies as they are too strong.

Foot Soaks

If you do not have a bathtub or if you are short on time, try an herbal foot soak. Our feet are a relaxation portal for our whole body. Find a big bowl, a deep baking pan, or a pot that your feet will fit in. Place a towel on the floor in front of a comfortable chair. Fill the bowl with hot water and tea, or bath salts and fresh aromatic herbs. You can also add a drop or two of essential oil. Place the bowl on the towel and ease your feet in. Soak for 5–10 minutes. You might keep a kettle of boiled water next to you to add warmth as you need it.

Hydrotherapy

Hydrotherapy is the use of alternating hot and cold water. Hot water draws blood to the surface of the body, bringing nutrients and immune cells along with it. Cold water directs blood into the internal organs like lungs and the digestive system. This alternating hot and cold exercises the tissue and promotes healing. Consider trying a quick yet refreshing cold shower after a hot bath or pouring cool water over your feet after a hot foot soak.

Basic Bath Salts

Salt was historically precious beyond measure. It has fueled the growth of nations and the migration of people and animals across vast regions of land. Artisan salts have regained their popularity in the last few years and you can find pink Hawaiian salts, Tibetan black salts, and

Dead Sea salts—often at a very high price. Naturally occurring salts are rich in minerals and have detoxifying and muscle relaxing qualities.

When making bath salts, bulk sea salts from the Pacific Ocean are affordable. Epsom salts (magnesium sulfate) are especially helpful for soothing sore muscles and injuries and can be found at any pharmacy or grocery store. Salt crystals are generally square shaped. If you only use one size of salt it will settle together like bricks and be impossible to break apart. Choose at least two sizes of salt to avoid this. While there are many creative recipes for bath salts, a simple approach is to blend:

8 parts salt (sea salt and/or Epsom salt)
1 part baking soda
10–15 drops essential oil per 1 cup of mixture

Mix all ingredients thoroughly with the flat bottom of a spoon so the essential oil is completely blended into the salts. Place in a decorative jar or tight sealing plastic bag. Use about ½–1 cup of salts per bath.

Soothing Soak for Sore Muscles

This simple recipe can have dramatic results for sore muscles and arthritic joints.

1 cup sea salt
1 cup Epsom salt
⅛ cup (2 tablespoons) baking soda
1 tablespoon powdered ginger
Add up to 20 drops of a blend of any of following pure essential oils: peppermint, rosemary, eucalyptus, or lavender.

Blend ingredients together. Store in a covered container. Use ½ to 1 cup per bath.

Optional Ingredients: Adding 1–2 teaspoons of oil (grape seed, apricot, sunflower, or herbal infused oil like cottonwood or willow) per cup of salts will help prevent the salts from clumping up and add additional skin moisturizing qualities. Wipe out the tub afterward to avoid slipping. Try adding 1–2 tablespoons of aromatic dried herbs like cedar, rose petal, calendula flower, or lavender flower to each cup of salts. The flowers will rehydrate and float in the tub. If you do not like floating bits in your tub, place the herb and salts in a muslin or organza bag. The salts will diffuse and the herbs will be contained in the bag.

Bath Herbs
Skin healing: calendula, chamomile, comfrey, lemon balm, plantain, rose, rosemary, yarrow
Open respiratory passages: eucalyptus, mint, rosemary
Fight skin infection: cedar, calendula, lavender, plantain, Oregon grape, yarrow
Ease pain and inflammation: cottonwood leaf and bark, ginger, willow leaf and bark
Soothe itching: oats, peppermint, ½ –1 cup of vinegar (can be infused with herbs)

Infused Herbal Oils

Herbal oils are an excellent way to get medicine to the skin, muscles, tendons, and ligaments. They can be used for massage, poultices, baths, and other topical applications.

Plant parts that are delicate or that contain oil-like compounds infuse best in oil. Many roots, seeds, and barks are not oil soluble. Fresh plants are preferable because they extract in oil better, but if you only have access to dried plants, there are many that will work. Herbal oils generally last one to two years and they can be made on the stovetop, near a heat source, or by putting them in the sun (solar infusion).

Olive oil is a good base because it is inexpensive, accessible, has a long shelf life and heats well. Extra virgin cold pressed oil is more nutritive and has a longer shelf life. Jojoba is a wax that looks like oil at room temperature. Of all vegetable oils, it is most easily absorbed and is molecularly similar to human skin oil. You pay the price for quality, as jojoba is about $9.00 for four ounces! It has a long shelf life and withstands medium heat. Other oils including almond, apricot kernel, grapeseed, hazelnut, sesame, and sunflower can be used as well but you may want to add a preservative like vitamin E or rosemary extract because these oils have a short shelf life and go rancid more quickly. If you are turning the infused oil into a salve or lip balm, beeswax acts as a stabilizer and will increase the shelf life of these oils.

Fresh Solar Infusion Method: This low-heat method is preferable when using delicate plants. High heat extraction causes aromatic oils in plants to evaporate and fragile constituents to break down. Arnica, calendula, chamomile, elderflower, lavender, rose, and St. John's wort oils are best prepared by solar infusion.

1. Gather the plant material, preferably in the morning when the energy and volatile oils are at their peak. Allow plants with high-water content to wilt for about a day. This lessens the likelihood of mold growth in your oil.
2. Place the herb in a glass wide-mouth jar and completely cover with oil. If your oil will be outside in a sunny spot, cover it with a lid. Stir the oil every few days and wipe condensation away from the underside of the lid. If you are keeping your oil inside near a wood stove, on a sunny windowsill, or near a warm vent, you can place a clean cloth over the top and secure it with a rubber band. This will allow the water in the oil to evaporate off. Let the oil steep for one to three weeks.
3. Strain with muslin cloth, squeeze out the remaining oil, then allow the oil to settle for several hours to overnight. The sediment and water will fall to the bottom.
4. Pour the clear oil into a glass jar, leaving behind the water and sediment. Don't forget to label your oil including the date. Store in a cool dark place.

The tricky part about making fresh infused oils is that they can mold easily. To prevent this, use a jar that you can fill to the top to minimize air exposure to plant material. If herbs are sticking out of the oil find a clean rock to hold them down. Once your oil is pressed you can add preservatives like vitamin E (1 teaspoon per cup) or essential oils including benzoin or rosemary.

Stovetop Method: This method is best for plants that have a high water content, or that need more heat to release their medicine. Chop wilted fresh herb, and place it in a double boiler. Cover the herb with oil so it is completely covered. Very gently heat the oil from 1–7 days, stirring it and turning it on and off so that it stays at a warm temperature, but does not get too hot. You can also place your oil near a wood stove or in a food dehydrator. Strain through muslin cloth. Discard pressed herb and place the infused oil in glass jars in a cool, dark place.

Making Infused Oils with Dried Herbs: While it is generally best to use fresh herbs for making oils, dried plants that are aromatic, delicate, or contain oily constituents can work. Examples include calendula, cottonwood bud, lavender, rose petal, and yarrow. Use good quality dried herbs and powder them (not cottonwood bud) before covering them with oil. Weigh out about 1 ounce of herb to 6 ounces of oil. Gently heat near a wood stove or in a double boiler for several days to several weeks before straining.

Favorite Herbal Oils

Arnica – This first aid remedy is used for bruises, sprains, strains, rheumatic pain, and physical trauma. It is best used just after an injury to abort damage to the tissue. Arnica should not be used on broken skin because it can increase bleeding. The whole above ground plant is used to make infused oil and can be gathered in May through July in mountain meadows (or grown in your garden). Process the flowers as soon as possible as they have the uncanny power to turn to seed within hours. Wilt the leaves for half a day to decrease water content before making a solar infusion.

Calendula – This beautiful yellow-to-orange flower is easy to grow. The flower-infused oil is helpful for soothing irritated skin, for promoting wound healing, and for treating diaper rash and fungal skin infections. It is the most popular plant in children's herbal skin preparations because it is very healing and gentle for sensitive skin.

Cayenne – This heating and pain-relieving oil is prepared by the stovetop method and will extract well in just 4–6 hours because cayenne is extremely oil soluble. You can purchase powdered cayenne in bulk and use about 6 ounces of oil by volume per ounce of cayenne by weight. Cayenne works wonders on cold, creaky, painful joints, sore muscles, and inflamed tissue that feels cold and is lacking circulation. Be especially careful NOT to touch your eyes or any sensitive skin after using it—this fiery medicine can burn if applied in the wrong places.

Cottonwood – Cottonwood buds are gathered in late winter through early spring when drops of resin emit euphoric smells of honey and propolis. The sticky buds are placed in olive oil and can be heated in a double boiler or solar infused in a warm place for several weeks to several months. If you are not using the stovetop method, be sure to cover the oil with cloth or crack the jar lid to allow moisture to escape. The oil is anti-inflammatory, pain relieving, and anti-spasmodic. It is an excellent rub for swollen joints, sore muscles, and inflamed injuries. Cottonwood oil is also high in antioxidants and can be used to heal burns or damaged skin.

Cedar – You can use cedar-infused oil as a hydrating skin oil, in salves, lip balm, or lotion. You can also use it in an oil-burning candle. Cedar is antimicrobial and is a good addition to healing salves, chest rubs, and antifungal medicines. Chop leaves very fine and heat the oil in her double boiler, turning it on and off for 5–7 days, until the oil is very dark and aromatic.

Dandelion flower – Dandelion flowers are very nutritious and balancing to the skin. They also ease inflammation, including joint pain that is aggravated by heat. Pull the petals off the base of the dandelion flower, wilt until they are about half dry, and infuse by the solar method.

Douglas fir, Hemlock, True Fir, and Spruce Needles – Evergreen tree needles are generally antimicrobial, immune stimulating, and healing to skin. They smell like the forest and are a great addition to body oils, creams, healing salves, chest rubs, and lip balms.

Lavender – Lavender flowers make a beautiful smelling oil that can be used straight as a massage or body oil, or as an ingredient in lotions and lip balms. Lavender is healing to the skin, antibacterial, and, of course, promotes relaxation for anxiety, irritability, and sleeplessness.

Plantain – Also called “frog leaf” and “Indian band-aid”, plantain is an invaluable remedy for drawing out infection and healing wounds. The leaves are often used as a poultice, but the oil can also be used as a topical healing remedy. It is best prepared with freshly wilted and finely chopped leaves by the stovetop method.

Rose – Rose-infused oil has a light floral scent. It is excellent for strengthening fragile, delicate skin including acne rosacea. Rose is astringent and soothing. Use the solar infusion method, but make sure to wilt the rose petals so they are at least half dried and wipe condensation off the jar every couple days if you are covering the jar. The oil will usually last one year and it will lose its scent if heated too much. Rose extracts well in jojoba oil, which has a lighter scent than olive oil. Rose-infused oil is a favorite addition to face cream.

St. John’s Wort – This red flower oil is used for surface nerve pain, bruises, and mild burns. It is also helpful for tendonitis and varicose veins. Gather the fresh buds and flowers in June through July, let them wilt for a day, crush with a mortar and pestle, and cover with olive oil. Place the jar in the full sun and watch the magnificent red color of the buds infuse into the oil over several days.

Willow – Willow bark oil is anti-inflammatory and pain relieving and is an excellent addition to oils, creams, and salves for sore muscles and arthritis. It is also useful for healing wounds including cuts, burns, and sports injuries. Willow bark is best harvested in spring or fall, but will be effective any time of year. Many types of willow can be used. The strongest medicine will have a minty smell and taste like vitamin C and aspirin. Gently heat by the double boiler method for several days.

Yarrow – Yarrow leaf and flower are very proficient at stopping bleeding, cooling down inflammation, and combating infection. It is best gathered when the flowers are in full bloom and can be infused in the sun or gently heated on the stovetop.

Salves

Salves are a combination of infused oil and melted beeswax that creates a medicine that is soft but solid at room temperature. Salves help herbs stay on the skin longer and beeswax stabilizes the oils so they have a shelf life of three or more years. Harder salves, including lip balm, utilize 1 part beeswax (by weight) to 4 parts oil (by volume), while softer salves like a chest rub can use as little as 1 part beeswax to 7 parts oil.

Preparing Herbal Salve

1. Measure the volume of your infused oil (or combined oils) in a measuring cup.
2. For every 5 ounces of oil, use 1 ounce of beeswax by weight. Cut or grate the measured beeswax so it melts more quickly.
3. Combine oil and beeswax in a double boiler. Heat slowly. Try not to overheat as it will damage the plant medicine and cause aromatic oils to evaporate.
4. As soon as the beeswax has melted, test the firmness of the salve by taking a spoonful and placing it in the refrigerator to expedite setting. The consistency should not be so soft that it will melt in the sun or so hard that it is difficult to apply. Adjust the hardness if necessary by adding more oil or beeswax.
5. Pour the mixture into salve containers and add a few drops of essential oil if desired. Essential oils* are added at the last possible minute because they are so volatile and will evaporate quickly. Stir in 1–4 drops per ounce with a chopstick.
6. Cover salves with lids immediately. Let cool and then label.

Possible additions: Essential oils add additional medicine and scent to salves. Vitamin E is a preservative that is helpful for skin regeneration. Use 1 teaspoon per cup of oil.

Salve containers can be purchased online or at local herb stores. Tins or brown glass jars work best as they protect the salve from the sun. Make sure to get a jar with a secure lid. A salve that has melted in the sun and leaked in a backpack or elsewhere is a mess to clean up!

Healing Salve

Use equal parts of any of these infused oils: *Calendula, cedar, chamomile, chickweed, comfrey, cottonwood bud, dandelion, plantain, rose, St. John's wort, yarrow.*

1 part beeswax by weight
5 parts total combined oils by volume
2–3 drops lavender essential oil per ounce of salve

Use for cuts, scrapes, dry or chapped skin, bruises, diaper rash, and eczema. Other essential oil possibilities include cedarwood, chamomile, helichrysum, and spruce.

Tree Medicine Chest Rub

Use any of these types of tree infused oils: *Cedar, cottonwood bud, Douglas fir, grand fir, hemlock, spruce.*

1 ounce beeswax
7 ounces total combined oils
40 drops *Eucalyptus radiata* or *Eucalyptus globulus*
20 drops peppermint
20 drops lavender
20 drops rosemary
10 drops lemon
10 drops spruce

You can use just one type of base infused oil, or combine several together. You can also add a few ounces of castor oil to help relax muscles. To make, heat beeswax and infused oil in a double boiler. Once melted, remove from the burner and allow to cool for a few minutes. Add essential oils, stir, and immediately pour into jars. Cover with a lid and label. Use chest rub on your chest, above your eyebrows, and on sore muscles in the back and neck several times a day as needed.

Willow Flexibility Balm

Use equal parts any of these oils: *willow bark, arnica, cayenne, cedar, cottonwood, dandelion, St. John's wort.*

Do not use more than 25% cayenne. Add about 2 drops each of essential oils of rosemary and peppermint per ounce of salve. Apply several times a day to soothe arthritis, sore muscles, tendonitis, injuries, bruises, and sprains. Be careful not to get this around the eyes or on sensitive skin, or to use on open wounds. You might also call this salve "trauma balm" or "sore muscle salvation."

Lip Balm

Lip balms are one of the easiest and most rewarding home medicine-making adventures. You can make a large quantity in a short period of time and they cost very little to make. Youth can easily make them, and are thereafter empowered to create their own body care products. Who does not love a good lip balm?

To make lip balm, you will need oil as a base and beeswax to harden the balm. Base oils including grape seed, avocado, almond, apricot kernel, and jojoba work well. Choose one, or blend several together. We often add infused herbal oils including calendula, dandelion, comfrey, cottonwood, fir, lavender, plantain, and rose. Shea butter offers some sun protection and extra hydration. Coconut oil smells delicious and helps with healing irritated skin. Adding cocoa butter gives a chocolate scent and extra hydration to the product. Including thicker butters will harden the balm slightly so you can add a little less beeswax.

Making Lip Balm

1. The basic proportion for lip balm is 1 part beeswax by weight to 4 parts oil by volume. If you don't have a scale, this is about 4 tablespoons of grated beeswax per ½ cup of oil.
2. Heat oils and beeswax on low until just melted and blended. Test hardness by placing a few drops on a spoon. Add more beeswax or oil if necessary to reach the right hardness.
3. Remove from heat and let cool for a few minutes. Place into a container that pours easily (a glass Pyrex measuring cup works well).
4. Add optional ingredients (see below) including essential oils, honey, and vitamin E oil.
5. Stir again, then pour into containers. Re-melt the balm that hardens on the sides of your pouring container by putting it back in the double boiler.
6. Cap, cool, and label. Lip balms will last several years.

Optional Ingredients

Honey – Try including 1 teaspoon of honey per ½ cup of lip balm for a sweet treat. To keep the honey suspended, whisk it in at the end once the lip balm starts to thicken.

Essential Oil – Add 20–30 drops of essential oil per ½ cup of lip balm. Lavender, mint, rose geranium, black spruce, grapefruit, and sweet orange are a few favorites. Add them just before you pour the balm to prevent them from evaporating off.

Vitamin E – Add 4 vitamin E oil caps or ½ –1 teaspoon liquid vitamin E. Vitamin E helps heal scars, burns, and chapped lips. Add at the last possible moment because heat damages vitamin E. You can also add rosehip seed oil, which contains vitamin E and other healing oils.

Containers and Pouring Assistance

You can purchase lip balm tubes, tins, or small glass ointment jars in a variety of sizes at many herb and natural products stores. The most common size is .15-ounce tubes that twist from the bottom. 4 ounces of oil and 1 ounce of beeswax will make about 25 of these tubes and they are inexpensive to buy in a quantity of 100. If you are making a large amount, consider buying a filling tray.

Lotions and Creams

There is something a little magical and deeply satisfying about transforming the incompatible liquids of oil and water into an entirely new substance – a beautifully blended white cream. With a little assistance from beeswax, which is an emulsifier, the oil molecules become perfectly suspended in the water molecules. It has the power to restore dry, scaly, and puffy skin. You do not need to pay fifty dollars for wrinkle cream – you can make your own!

Lotions and creams can be used for easing topical pain, reducing inflammation, healing injury, and promoting skin health. There are many recipes out there but this is the easiest to make. It is modified from *The Family Herbal,* by Rosemary Gladstar. The ingredients are pure, easy to obtain, inexpensive, and much better for your skin than commercial lotions. You can make it thicker for a face cream or thinner for body lotion. You will need ingredients including oil, beeswax, rosewater or distilled water, aloe vera gel, and essential oil. For tools you will need two measuring cups, a double boiler to melt oil ingredients, a blender, food processor, or hand blender, a spatula, and jars.

Group I – Oil Ingredients

1 cup oil (you can use a single oil like grape seed, or a combination of base and herbal infused oils)
⅓ cup coconut oil (you can also use shea or mango butter)
¾-1 ounce grated beeswax
Optional ingredients*

Group II – Water Ingredients

⅔ cup rose water, lavender water, or plain distilled water
⅓ cup pure aloe vera gel

***Optional Ingredients** (To be added to Group I oils once they have cooled)

Rosehip seed oil, sea buckthorn oil, raspberry seed oil or vitamin E (1–2 teaspoons)
4–8 drops of essential oil—nice options include rose, lavender, chamomile, sweet orange (see aromatherapy section for more ideas)

***Please note before blending Group I and Group II*:**

Be sure to use distilled water or distilled floral waters so that bacteria will not be introduced and cause molding. Do not use fresh aloe vera gel from your houseplants because this may introduce bacteria into the cream.

If you want your cream to be thicker, add less of the Group II waters. If you want it to be a pourable lotion, add more water until it is the consistency you want. The cream will be a little thinner when you first make it, so expect that it will thicken as it settles in the first 24 hours.

There is a lot of flexibility and room for creative input in this recipe. The basic formula can be embellished with any number of ingredients. Just be sure to experiment in small

batches. You don't want to waste expensive ingredients on a less-than-perfect batch. The *proportions* and the *temperature* are essential to the success of this cream recipe. The proportions of solid versus liquid oils and waters must be similar to the above recipe, and the oils and water ingredients should be at room temperature when the cream is made.

To Make Lotion

1. Blend Group II ingredients and set aside.
2. Combine, then melt Group I ingredients over low heat in a double boiler. Do not overheat!
3. Pour melted mixture into a glass measuring cup and let it cool to room temperature. This usually takes several hours. Oils should become thick, semisolid, and cream-colored. This cooling process can be hastened in the refrigerator but keep an eye on it so it doesn't get too hard. When it is room temperature, you are ready for step 4.
4. Place Group I oil ingredients in the blender along with any additional ingredients including essential oils and vitamin E. Turn the blender on to a low or medium setting. In a *slow, thin* drizzle pour the Group II water mixture into the center vortex of the blender. When most of the water mixture has been added to the oil mixture*, listen* to the blender and *watch* the cream. When the blender "coughs and chokes" and the cream looks as thick and white as buttercream frosting, turn the blender off. If there is still liquid not mixed in, hand beat for a minute then blend again until it is completely mixed. Don't be afraid to blend the cream for several minutes. You should have a beautiful, rich, thick cream.
5. Pour the cream into jars, label and store in a cool place. This cream will not go bad stored at room temperature. However, if you make more than you can use in six months, it will keep longer if the excess is stored in the refrigerator.

Please note, if you are not successful the first time:
Followed as above, the cream recipe should work for you. If it doesn't, and the water mixture and oils separate, it is most likely because of improper temperatures. Another possible explanation is that the blender speed may have been set too low. If the water and oil separate, let them separate entirely and begin the process over again.

Aromatherapy – The Art of Essential Oils

Have you ever walked through a forest on a hot day and noticed the strong scent of evergreen trees like fir and cedar? Have you crushed rose petals with your fingers to release their fragrance? Plants make potent aromatic compounds called essential oils and store them in tiny sacks or globules either inside or on the surface of their cellular tissues. When plants are broken apart or heated, the sacks open and release their fragrant contents. You might wonder why plants make essential oils. They help plants to survive in many ways, including inhibiting or killing microbes, warding off insects, attracting species such as pollinators, communicating with other plants and animals, and providing protection from harsh weather conditions like cold, dampness, or extreme sun exposure.

Humans have valued aromatic plants for medicine, incense, insecticide, and perfume since ancient times, and have developed ingenious ways to use them. For example, many cultures burn plants to clear microbes in the air, as incense or air freshener, and for spiritual purposes. Essential oils extract well in fat and have been made into topical ointments or perfumes throughout the world. Steaming plants on hot rocks or in hot water in a sauna or sweat lodge also releases essential oils.

The word “essential” comes from essence, and many people refer to essential oils as the soul of the plant. Each plant has a unique fragrance and no two are alike. But how do we capture just the essence or the pure essential oil of a plant? This question has captivated people for thousands of years. It is not an easy process and requires special equipment. A large amount of plant material is needed to make a tiny amount of essential oil.

Historians believe that people have used steam distillation for nearly 5,000 years, and it is still the most common method used today. Steam is passed through plant material in a closed system, which causes plant cell walls to break open and essential oils to be released. This oil-infused steam is captured and then cooled so it condenses. The water separates from the oil. The essential oil usually floats on the top because it is oily in nature, and the watery part is drained off. The water is called a hydrosol and is valued for cosmetic purposes. While essential oils usually last many years, hydrosols need to be refrigerated and have a shorter shelf life.

Another method of essential oil extraction is cold pressing. Citrus peels, including lemon, lime, orange, and grapefruit, are cold pressed or expressed. Once the citrus is pulverized and pressed, the juice separates from the essential oil. Other ways to make essential oils include using chemical solvents and high pressure.

Some plants contain a large amount of essential oils and give it up easily, while others only yield a tiny amount of essential oil. For example, to create 1 pound of essential oil it takes 50–100 pounds of eucalyptus, 150–250 pounds of lavender, 250 pounds of mint, 1,000–1,500 pounds of chamomile, and 2,000 pounds of rose. It is easy to understand why rose essential oil is much more expensive than eucalyptus! Essential oil quality and price also varies based on where a plant was grown, weather conditions, soil quality, harvesting techniques, and distillation methods.

How Essential Oils Work: Essential oils can affect our health in many ways. When we smell fragrance molecules, they enter our nose and reach millions of olfactory receptor cells. These cells send messages to olfactory nerves, which reach the limbic system—the oldest part of our brain that is associated with emotional memory. When we smell a plant, we may experience a memory, like smelling apple pie and being transported back to your grandmother's kitchen when you were a child. Essential oils affect many other parts of the brain and can cause changes in circulation, heart rate, temperature, relaxation and wakefulness, drinking, eating, and chemical balances.

When used topically, essential oils can fight infection, stimulate immune function, promote cell division, calm inflammation, and promote circulation. They can also pass through the skin, entering lymphatic vessels, arteries, and veins, and then traveling throughout the body, affecting organs and tissues.

After we ingest plants with essential oils, we release or excrete the oils through our lungs, skin, and urine. As we breathe out essential oils through our lungs, they may act as antimicrobials, promote circulation, and thin mucous. You may have experienced this with eating garlic and then having "garlic breath" soon afterward.

Essential oils can be purchased in most natural markets and herb stores. They are stored in glass jars and will last longer when protected from heat and sunlight. Be sure to purchase pure essential oils from a company you can trust. Poor quality oils may be diluted or adulterated with pesticides and herbicides. Avoid fragrance oils, which like many perfumes, are produced from chemicals and do not have the medicinal benefits of plant-derived essential oils. Fragrance oils may cause allergic reactions.

Essential oils are very potent and are always used in small amounts. They are usually diluted in carrier oil for external use. A few oils like lavender can be used directly on the skin. Some oils are stronger than others. With experimentation and experience you will find amounts and combinations of essential oils that you like. Everyone has their own scent preferences, so let your nose guide you.

CAUTION: Essential oils are sometimes used internally, but only by a qualified health care professional. We recommend them for external use only because they can be toxic when ingested. Please keep essential oils out of reach of children, and make sure older children know that they are very potent and should be used with care.

Methods for Administering Essential Oils

There are many ways to use essential oils for therapeutic purposes. Always use caution when using an essential oil for the first time. Some people are very sensitive and will have a strong reaction while others may have a high tolerance. Young children are more sensitive to essential oils and a very low amount should be used.

Aromatherapy Baths and Foot Soaks – Place 4–8 drops in a bath and swirl the oil with your hands to spread it across the surface of the water. Use 3–5 drops of oil in a foot soak. Only use oils that are non-irritating to the skin. Citrus oils and some of the kitchen oils like oregano, thyme, and savory can cause skin irritation.

Diffusers – There are several types of aromatherapy diffusers. The simplest is placing several drops of oil in a small bowl to slowly evaporate. Candle diffusers use heat and water to diffuse the oil. Plug-in diffusers and vaporizers use electricity to turn the oil into a vapor.

Direct Inhalation – The most direct way to use essential oil is to place a drop or two on your hands, rub your hands together and then open them like a book and take several deep inhalations. You can also use spritzers, aromatherapy perfumes, and concentrated salves for continued inhalation.

External Use – There are many ways to use oils on the skin. Check to see if your oil is safe to use undiluted before applying it. Most oils are diluted in a base like lotion or carrier (base) oil. Essential oils can have a profound effect on the immune system, circulation, and other body functions when absorbed through the skin.

Internal Use – As stated above, essential oils are very potent. We do not recommend using them internally unless you are under the guidance of a naturopath or experienced aromatherapist.

Face Steam – Two to four drops of oil can be added to face steams to open the lungs, thin mucus, stimulate circulation, and/or promote skin health.

Essential Oil Dosages

Application	Number of Drops	Amount of Carrier
Bath	7–10	tub of water
Compress	10	4 oz. water
Facial Mask	2–3	mixed with honey or clay
Facial Steam	2–3	bowl of steaming water
Foot Bath	3–6	bowl of water
Massage oil or lotion	3–5	1 oz.
Perfume	2–15	½ oz. carrier oil
Salve	3–6	1 oz.

Common Essential Oils

You can use single essential oils or develop your own blends. We recommend starting by getting to know 5 to10 different essential oils. Here are some of our favorites:

Cedarwood: The common cedar essential oil is made from Atlas cedar (*Cedrus atlantica)*. It is native to Morocco and Algeria and has been used since biblical times. Cedar is used as a

strengthening oil to counter fatigue and poor circulation. It is also decongesting, anti-infectious, and immune stimulating. It can be useful for acne, dandruff, and skin infections.

Douglas Fir: This oil has a lemony, uplifting fragrance that combines well with other oils. It opens respiratory passages, stimulates immunity, and promotes circulation. It is useful for colds, coughs, muscle aches, stress, and depression. Douglas fir is a nice addition to lip balm, body butter, and creams. We do not add it to bath salts because it is too expensive.

Eucalyptus: There are over 600 species of Eucalyptus! Two species of eucalyptus are commonly used to produce essential oil. Both are used to fight infection, ease pain and inflammation, and open respiratory passages. *E. globulus* is excellent at breaking up thick mucus. It relieves congestion through opening up the lungs and stimulating them to expectorate mucus. *E. radiata* has stronger antiviral properties and is gentler for Elders and children.

Lavender: Native to the Mediterranean, lavender prefers sunny locations with well-drained soil. It is easy to grow and can be purchased at most plant nurseries. Lavender is perhaps the safest and most useful of all essential oils. Aromatherapist Jody Berry says that lavender can "help harmonize the nervous system, calm the mind, alleviate fears and at the same time uplift the spirit, revive the soul, and support the heart." People often use lavender for insomnia, irritability, and nervous tension. Try using it to calm hyperactive kids. Lavender is anti-inflammatory, antimicrobial, and is healing to the skin. It is a good choice for bronchitis, colds, flu, and headaches.

Lemon, Grapefruit, and Sweet Orange: All citrus oils are uplifting and have a reminiscent smell of summer sunshine. They are also disinfectant, which is why they are commonly used in cleaning products. Citrus is astringent and is often used as a skin toner to reduce puffiness and wrinkles. Lemon has strong antimicrobial properties and is used to combat colds and flu. It also stimulates lymph drainage and boosts white blood cell production. It may cause sun sensitivity and should not be used in face cream or lip balm. Grapefruit combines well with many other oils. Sweet orange is very safe and is a nice addition to lip balm, bath salts, and scrubs. Use organic citrus oil whenever possible.

Peppermint: This refreshing oil clears the head and sharpens the mind. It has antispasmodic and pain-relieving properties, making it useful for sore muscles, nerve pain, cramps, itchy skin, headaches, and sinus pain. Peppermint is a decongestant and is often used with other oils as a steam, chest rub, or inhalant to combat colds or the flu.

Rosemary: Rosemary is the most widely known and commonly used essential oil in the world. It is helpful for skin conditions including rejuvenating cells, reducing wrinkles, and promoting hair growth. Rosemary is a popular addition to food, medicine, and body care products because it has antimicrobial and antioxidant properties, and extends their shelf life. It is used to relieve aches and pains, cramps, headaches, and poor circulation. Rosemary oil has long been valued to energize, uplift, and help improve memory and thinking.

Spruce: Like other evergreen needle oils, spruce is uplifting and invigorating. The molecules in black spruce are similar to adrenal hormones so it is useful for combating exhaustion. Many people with long term stress or menopause have found that spruce helps to lift their energy and improve their spirits. 1–2 drops can be applied over the adrenals in the morning.

Contraindications and Safety Issues

Ketones: High doses of ketone-rich essential oils should be used with caution because they can have toxic effects on the nervous system and may cross over the blood-brain barrier. These include camphor, hyssop, mugwort, pennyroyal, sage, Western red cedar (*Thuja*), and wormwood. Children and pregnant or nursing women should not use them.

Phenols: Oregano and thyme are high in phenols, which are potent antimicrobials. They should be used short term for no more than four to seven days) to avoid liver toxicity.

Photosensitizing Oils: Some oils can cause the skin to be more sensitive to ultraviolet light and should not be used on skin that is heavily exposed to the sun. These include angelica, tarragon, lemon, mandarin, and bergamot.

Pregnancy: Pregnant women should avoid anise, angelica, cedarwood, clary sage, clove, hyssop, juniper, myrrh, rosemary, and all oils high in ketones (see above).

Skin Sensitivity: Clove, cinnamon, oregano, and thyme oils can be extremely irritating to the skin and should be used topically with caution. Always dilute them in a carrier oil.

Steams

When you are suffering from a cough, cold, or sinus infection, an herbal steam might be just the thing you need to clear your head and fight off the infection. Boil about 6–8 cups of water. Place about ½ cup of dried or fresh chopped herbs in a medium sized bowl. Get a towel that is large enough to cover your head and the bowl. Pour boiled water over the herbs until the bowl is about half full. Put your face over the steaming herbs at a comfortable distance and cover your head with a towel to trap the steam. Breath deep! Try to steam for at least 5 minutes. Pour more hot water in if necessary. You can add 1–2 drops of essential oil like eucalyptus to increase the therapeutic effect of the steam. For severe coughs or sinus congestion, steam several times a day.

Fresh, finely-chopped cedar works well for steams because it fights infection, stimulates circulation, and activates our immune cells. Try combining dried peppermint, rosemary, eucalyptus, and lavender to make a “breathe easy steam.” You can also do steams for facial skin health. Hot water vapor helps open pores and remove skin impurities. The addition of herbs with volatile oils like lavender, chamomile, mugwort, and rose can promote tissue healing, fight infection, tighten pores, and purify the skin.

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Contributors

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Sable Ka'ohulani Bruce is originally from the Hawaiian Islands, and primarily works as a mindfulness-based licensed mental health counselor on the Kitsap Peninsula and in Olympia, Washington. She has devoted significant time in the last year to deepening her understanding of traditional foods and medicine in the region. Sable believes that healing happens through re-connection to self, spirit, family, community, and the natural world. She sees clients on an individual basis, and supports mindfulness-based healing interventions for organizations.

Chenoa Egawa is Coast Salish of the Lummi and S'Klallam Nations of Washington State. She is a ceremonial leader, singer, speaker, environmental activist and artist dedicated to bringing healing to our Mother Earth, and to people of all cultures, backgrounds and origins through recognition of our shared experiences as human beings. Chenoa has long been active in local and international work for Indigenous peoples, children, and the environment.

June O'Brien, Nansemond Nation, is the Director of Northwest Indian Treatment Center, which is operated as a department of the Squaxin Island Tribe and serves tribes of the Northwest. Together with NWITC employees, she has developed a unique model of addiction treatment, blending culture, best practices, and trauma-informed methods. June is a poet and is the author of several books including the *Blue Child Series* and *Dream Talk*.

Nakia DeMiero is the Native Plant Specialist Supervisor at Northwest Indian Treatment Center. She helps patients to reconnect to the earth through learning about native foods and medicinal plants. Ms. DeMiero is currently enrolled in the Native Pathways program at Evergreen State College. Other studies have included lengthy apprenticeships with Elise Krohn and other well-known herbalists in the Pacific Northwest. In addition, she tends several food and medicine gardens. Ms. DeMiero has a deep love for her plants and is passionate about sharing their wealth and uplifting Native communities.

Ofiialii "Ofi" (Niuatoa) Tovia is of Samoan decent and has worked with Northwest Indian Treatment Center for over 17 years. She is currently the Assistant Director, Domestic Violence Coordinator, and the Recovery Support Supervisor. Ofi has been involved in domestic violence, substance abuse, and suicide prevention grants. She facilitates Dialectical Behavior Therapy and domestic violence classes; is a certified Recovery Coach Academy trainer through Connecticut Community for Addiction Recovery, and is a certified Applied Suicide Intervention Skills Training (ASIST) trainer through LivingWorks Education. Ofi believes that it is important to remember where we come from, remembering our ancestors before us and keeping in mind – the next generation and the generations to come.

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This book also includes collective plant knowledge from the *Tend, Gather and Grow Curriculum Development Team,* including Elizabeth Campbell (Spokane), Charlie Sittingbull, Annie Brulé, Tamar Krames, Dr. Joyce LeCompte, Mariana Harvey (Yakama), Aleta Poste (Squaxin Island), Charlene Koutchak, (Inupiaq/Scandinavian), Valerie Segrest (Muckleshoot), Brett Ramey (Ioway), Cinnamon Bear (Karuk), Dr. Rose James (Lummi), and Janna Lafferty. The *Tend* curriculum supports this book and includes more extensive plant descriptions, activities, and teacher lessons. For more information on the curriculum and GRuB's model for empowering leaders and land-based learning, visit goodgrub.org.

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Kerensa Mabwa leads GRuB's fundraising and community cultivation, equity team and multicultural training series. She loves the intersection of systems, circles, grassroots leadership, and the wisdom of the natural world. With Kerensa's international background and passion for inspiring cross-cultural learning, she facilitates human growth and wholeness through creativity, inclusivity, and the land.

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