



#### ELA Common Core Content Standards:

Reading Standards Informational Text 4, 5, 7, 8

Reading Standards: Foundational Skills 1, 2, 3

Writing Standards 2, 3, 8

Speaking and Listening Standards 2, 4

#### Estimated duration:

2 sessions, 2 hours each

**Goal:** Students will learn identification, healing qualities, harvest and preservation techniques, and naming conventions of Native herbal medicinal plants.

**Teacher Background:** Despite the fact that the Klamath Basin is one of the most ecologically diverse ecosystems in the western United States, our tribal communities are neither physically nor economically healthy. Once replete with an abundance of healthy traditional foods and medicines traded up and down the river, the Klamath Basin now home to a poverty-stricken population riddled with diet-related diseases such as diabetes and heart disease. Denied access to traditional foods and medicines, the arrival of commodity foods and prescription drugs, high unemployment, and limited availability and affordability of fresh, healthy foods have resulted in high rates of food insecurity, diabetes, obesity and depression.

There are manifold reasons to explain the current situation: our People's intimate and deep relationship to the landscape has been violently disrupted due to colonization and globalization. Land appropriation and forced assimilation into Western culture has driven many Native people from their traditional homelands, and the vast majority of Native peoples do not have access to traditional foods and medicines. Furthermore, the marginalization of Native cultures and the generations lost to the traditional forms of tribal education through the Indian Boarding School Era have led to what is widely known as intergenerational trauma.

Despite the growing health crisis in Indian country, the traditional ecological knowledge (TEK) of Native cultures is gaining wide recognition. The revitalization of Native plants and health systems with the help of traditional land management practices is a goal currently sought by federal, state, tribal and local governmental agencies, as well as non-profit and grass-roots organizations.

While much of our area is replete with medicinal plants and resources for the betterment of all creation, not everyone is familiar with the benefits or the dangers of Native plants and vegetation. There is a fine line separating poisonous from health-giving plants, and any one plant may switch categories depending on its location, season, time of blossom, part of plant used, and the preparation of plant materials. Learning about the medicinal properties of plants was – and still is – an important

responsibility for Native people. **Important to note:** This plant medicine represents the Intellectual Property of the Karuk People, and we trust you will honor this as well as the physical plants depicted. The doses recommended to treat medical conditions should not take the place of a doctor's – naturopathic or allopathic – advice. The material and content contained herein, regarding plant medicine, is for general health information only and is not intended to be a substitute for professional medical advice, diagnosis, or treatment of any individual and his/her particular health/ailment circumstance.

By balancing western-science based botany with Native-science based TEK, Native and non-Natives alike can help revitalize one of the most ecologically diverse ecosystems in the country.

<b>Theme/Big Idea:</b>	When we understand how to use plants, we honor these relations
<b>Big Questions:</b>	Which plants are good for us, where do they grow, how do we harvest them, how do we preserve them, and how do we use them?
<b>Vocabulary:</b>	steep, part (as in equal), laxative, insulin, diabetes, ailment, fertility, stable, interchangeable, poultice, incense, immune system, naturopath, allopath, assert, constipation

#### Materials:

**Gathering Ethics:** excerpt from *After the First Full Moon in April*, by Josephine Peters (included)

**Pírish: Medicinal Plants** Field Guide (included)

**Pírish:** PowerPoint (included)

Vocabulary Worksheet (included)

**The Sweating Doctor**,<sup>1</sup> translated text from Julia Starritt, a Karuk elder.

#### Preparation, **Session 1:**

If pepperwood trees grow near you pick a sprig to bring to class.

Print out Gathering Ethics for each student.

Have PowerPoint ready to show students.

Write on board or on poster:

**Simple Leaf** - one leaf on a stem

**Compound Leaf** - more than one leaf on a stem

Edges:

**Saw tooth** -jagged

**Smooth** -smooth edge

**Lobed** -forms several rounded projections

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<sup>1</sup> William Bright, *The Karok Language* (1957), pp. 294-295, Text 81, <http://linguistics.berkeley.edu/~karuk/> (retrieved on January 30, 2015)

**Discussion Circle:** Tell students that today we will continue learning about nature's gifts. Say, "Let's join together on a learning adventure to discover who we are and where we come from because it's important to the community that we learn this. "If you agree say *pírish*,"<sup>2</sup> (see footnote; repeat word to teach pronunciation or replace with "plants." Students will call out word).

Introduce reading exercise by asking students if they know what the term "ethics" means. You may have to explain that "ethics" is an area of study that deals with ideas about what is good and bad behavior. Write "What is good and bad behavior?" up on the board. Without spending too much time on this subject, you may lead the class to the understanding that a *code of ethics* is a set of rules agreed upon by a *particular group*. When someone speaks about ethics, they should be clear about whose code of ethics they are referencing. Lead questions could be:

- Who decides what is good and bad behavior at your house?
- Is that the same code of ethics that other families have?
- How about table manners? Does your family have a set of rules about eating at the table?
- Did you know that some people consider slurping at the table to be very good manners? In Japan, slurping food is a sign to the cook that the food is delicious!

**Read Aloud:** Tell students that you will read the "Gathering Ethics" excerpt from *After the First Full Moon in April* (included in this lesson). Ask them what they think this will be about. When you are finished reading, ask students if their predictions were true.

**Building Background:** Show students a sprig of pepperwood. Tell them that this is pepperwood, which can be used for medicine. Pass the pepperwood around the circle and let students smell it as they look closely at its leaves. Ask students if they've ever seen a pepperwood tree before, or know anyone who uses it for medicine. (Pepperwood is good for arthritis, colds, sore muscles, and minor sports injuries. You can make it into a tea or use it as a poultice)

Tell students that there are many names for this plant, reminding them that trees are also plants. The Karuk name for this plant is **pahiip**<sup>3</sup>. While many people in this region call this plant "pepperwood," others call it "Bay tree." Outside this region it is also known as Oregon Myrtle, California Bay Laurel, California Bay, California Laurel, Spicebush, Cinnamon Bush, Headache Tree, Mountain Laurel, and Balm of Heaven). Ask students if they think this could get confusing.

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<sup>2</sup> *pírish* is an important Karuk word that means many things, such as grass, leaf, bush, brush, plant (excluding trees). It is also used as a term for 'medicine,' i.e. which means it is used for spiritual purposes, and the medicine may not involve plant parts. *Pírish* is pronounced something like pier-ish, with a slight roll on the "r" sound. For sentence examples, including a sound file with the word used in a sentence, please see the Karuk online Dictionary, **Ararahih'urípih** <http://linguistics.berkeley.edu/~karuk/karuk-dictionary.php?text-examples=yes&lx=&ge=plant&sd=&pos=&audio=&index-position=101&lxGroup-id=4963&display-mode=&index-order=&include-derivatives=&display-derivatives=#>

<sup>3</sup> Pronounced PA-heep. Sound clip of spoken word found at <http://linguistics.berkeley.edu/~karuk/karuk-dictionary.php?exact-match=&lx=&ge=pepperwood&sd=&pos=&lxGroup-id=4479&audio=&index-position=&index-order=&include-derivatives=&display-derivatives=#>

Explain to students that the problem of understanding which plant or animal people are talking about has been prevalent all over the world for hundreds of years, since the names for these were different in each language and often varied even from one village to the next. In Karuk, there are two words for the one specific type of dogwood tree, closely related to the **uyáhaama** dogwood in this lesson: both **síip** and **furáxpuum** mean the same plant, but were used by people living in different areas of the Karuk Ancestral Territory.

For this reason, when people talk about plants, they often use what is known as botanical nomenclature. This is a naming system used in Western Science based on the Latin language, which was the universal scientific language (*lingua franca*) used in Europe since the mediaeval times. The Western scientific name for the pepperwood tree is *Umbellularia californica*. This is the only species in the genus *Umbellularia*, which is derived from the Latin word *umbella*, meaning “parasol.” Genus is another Latin word, and it can be translated into English with “kind” or “type” and means a group of closely related species. While there is only one species of *Umbellularia* (which is obviously found in California, looking at its name!), there are about 30-60 species of dogwood trees. Each one of these species has a botanical name beginning with the Latin word *Cornus*, which means “horn” in English.

Tell students that many people have made the science of plants their field of expertise. The indigenous people of this area, the Karuk, developed their knowledge (which is the English translation of the Latin word *scientia*, or “science”!) of the natural plant world through sharp observation, experimentation, and insights from the **ikxaréeyav** – the Spirit People. Plants formed the basis of their diet, as well as served to heal through the medicinal qualities of many species. It was therefore not only important for the Karuk to be able to identify the plants they needed, they also needed to learn how to harvest and use them. This is true for all cultures and for us today.

**Activity:** Begin PowerPoint observation and discussion of plant characteristics by telling students that botanists, scientists who know about plants, identify some plants by looking at the traits of their leaves, flowers, fruits, and bark. Some key vocabulary pertaining to leaf characteristics are written up on the board:

**Simple Leaf** - one leaf on a stem

**Compound Leaf** - more than one leaf on a stem

Edges:

**Saw tooth** –jagged, serrated

**Smooth** -smooth edge

**Lobed** -forms several lobes (rounded projections; think “earlobe”)

Project **Pírish** PowerPoint onto screen. Tell the students that they will see photographs of 11 Native plants that are prized by Native Karuk botanists and healers for their medicinal qualities. Students will try to describe the leaves of the plants, using the vocabulary written up on the board. Notes for the teacher are included in the PowerPoint.

Encourage students to take notes on the plants so that they can remember what they look like.

**Preparation, Session 2:**

Print out copies of the ***Pírish: Medicinal Plants Field Guide*** booklet for each student, as well as copies of all the photographs of plants. Fold the pages in half, and staple them on the fold to make a small “field guide” booklet for students. You may choose to cut photos of medicine plants out separately or simply copy the photo pages and have them cut them out (you may want to laminate them). Have glue/tape on hand.

Have PowerPoint ready to remind students how the plants look.

Print out Vocabulary Worksheet and **The Sweating Doctor** for each student.

**Discussion Circle:** Tell students that today we will continue learning about nature’s gifts. Say, “Let’s continue our discovery of the power of plants because it’s important that we honor these relations. “If you agree say *pírish* (plants).”

**Developing Vocabulary:** Tell students that before we read the text we need to learn the meaning of some words that will help us talk about and understand the power of plant medicine. Pass out the Vocabulary Worksheet and fill in the answers together, having the students take turns reading sentences aloud. The following are the correct answers and the vocabulary definitions:

1. **ailment** – n., a sickness or illness
2. **naturopath** – n., healer who uses herbs, diet, exercise, etc., without using standard drugs or surgery
3. **part** – n., an amount that is equal to another amount, as in “One part sugar to two parts water”
4. **insulin** – n., a substance that your body makes and uses to turn sugar into energy
5. **laxative** – n., a medicine or food that makes it easier for solid waste to pass through the body
6. **diabetes** – n., a serious disease in which the body cannot properly control the amount of sugar in your blood because it does not have enough insulin
7. **steep** – v., to put (something) in a liquid for a period of time
8. **fertility** – n., the state or condition of being able to produce young
9. **constipation** – n., the condition of being unable to easily release solid waste from your body : the condition of being unable to have a bowel movement easily
10. **poultice** – n., a soft, usually heated substance that is spread on cloth and then placed on the skin to heal a sore or reduce pain
11. **incense** – n., a substance that is used often in religious ceremonies to produce a strong and pleasant smell when it is burned
12. **stable** – n., in a good state or condition that is not easily changed or likely to change
13. **interchangeable** – v., two or more things capable of being used in place of each other
14. **immune system** – n., the system that protects your body from diseases and infections
15. **allopath** – n., a type of healer who combats disease and illnesses by using drugs and surgery

**Read Aloud:** Ask the students if they remember what an *ikxaréeyav*<sup>4</sup> is (spirit person, pronounced ik-ha-RAY-yav). Today they will read about a type of doctor who was likened to an *ikxaréeyav* by the narrator. This text is a translation and adaptation of the words of Julia Starritt, a Karuk elder, who talked to a man named William Bright about “The Sweating Doctor”<sup>5</sup> in 1957. Mr. Bright was a linguist, which is the name for a western scientist who studies languages.

**Text Discussion:** Use these prompts to help students discuss the text

- What is this text about?
- When does the doctor receive payment for his or her treatment? (only after patient is healed)
- What is the meaning of “medicine” in this text? (as spoken formula, herbal treatment, and as descriptive)
- What kinds of plants does the doctor use to make the medicine? (herbs and plant roots).
- What does the doctor do first to prepare the medicine? (doctor prays)
- What happens next? (doctor scatters the plants into water, boils the mixture, has patient inhale steam or drink it)
- What do they do with the medicine when they are finished? (they pour onto ground—sometimes patient drank some)
- Why would the Karuk People call this doctor a kind of *ikxaréeyav*?
- What are some different types of medical practitioners we have today?

**Building Background:** Tell students that there are many healing plants, and today we will learn more about some of the common plants discussed in the **Pírish** PowerPoint in **Session 1**. Some of these plants are herbs, some are trees, some are bushes, and one is known most commonly for its sweet fruit.

Warn students that they should NEVER pick, or eat any kind of plants without the supervision of an accomplished botanist or herbalist. Some of these plants have poisonous look-alikes. Tell them that today we will learn about plants that can be used as medicine, but remind them that the art of using plants for medicine is one that entails many years of training. The treatments they will read about are not to be used unless guided by an herbalist, a naturopath or an allopath.

**Activity:** Pass out the **Pírish: Medicinal Plants Field Guide** and a set of photos. Ask the students to work in groups, referring to the notes they took on the plants they saw in the PowerPoint to try to decipher which photos go with each plant description. Don't have them paste any of the photos into their guides until you all have a chance to review the **Pírish** PowerPoint. After you have gone around

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<sup>4</sup> pronounced something like “ik- ha-RAY-yav” with the “h” in the second syllable gargled like the Spanish “j” and the final “v” sounding something between the English pronunciation of “v” and “w.” Please refer to the Karuk Pronunciation Guide. Sound files are available at <http://karukstorytellers.org/Language.htm>.

<sup>5</sup> William Bright, *The Karok Language* (1957), pp. 294-295, Text 81, [http://linguistics.berkeley.edu/~karuk/karuk-texts.php?display-mode=p&text-id=WB\\_KL-81](http://linguistics.berkeley.edu/~karuk/karuk-texts.php?display-mode=p&text-id=WB_KL-81) (retrieved on January 30, 2015)

the room and made comments on the students' guesses, review the PowerPoint and have students glue their photos into the spaces provided.

**Discussion:** Ask students if they have ever seen any of the plants before watching the PowerPoint. Where did they see them? Were there a lot of them, or just a few?

**Group Work:** Divide the class into 11 groups and assign a different plant to each. Have the students prepare a presentation on their plant, using the information given them in the Field Guide. You may choose to have students simply read the text, do some background research on their plant, or prepare a role play as a form of presentation.

**Presentation:** Display slide corresponding to the plant for each group. Repeat procedure for each plant in the student field guide.

**Note:** Students will use this field guide to help them identify plants on a field trip for the lesson G5L5 TEK (Traditional Ecological Knowledge) and Western Science. It would be very helpful for a teacher to arrange for a botanist, Cultural Practitioner, herbalist, etc. to accompany students, and teacher may reference actual photographs (included).

**Optional Activity:** Invite a Karuk speaker and/or a Cultural Practitioner versed in medicinal plants to repeat the Sweating Doctor text in Karuk (included below), and/or talk about traditional plant medicine.

*pa'aneekyávaan uum pírish pa'óohruuvtih káru hâari pirish'éepuum.  
púyava xás u'uhyanakôoti papírish. púyava xás ásipak tumáhyaan.  
xás íshaha too yvaayramnih. xás kári aséemfir tutururáamnihva.  
púyava xás vaa too páramva. xás vaa payíkihar musúrukam too thríish.  
xás váas tá kunixôorariv.  
púyava patukôohaak púyava kári pa'ánav îim tá kunpiyvêesh.  
káru hâari tu'ísh káakum pa'ánav.  
púyava páy uum papirish'ánav kunkupeekyâahitih.  
xás pa'aneekyávaan vúra kúnish ikxaréeyav.*

#### References:

Peters, J., & Ortiz, B. (2010). After the First Full Moon in April. Walnut Creek, CA: Left Coast Press, Inc.

Schenck, S.M., & Gifford, E.W. (1952). Karok Ethnobotany. Berkeley, CA: University of California Press

Ferrara, J. (2004). ananakupheekxúnnikich: Karuk Ethnographic Notes. Happy Camp, CA. Karuk Tribe.

Harris, J.G., & Harris, M.W. (2001) Plant Identification Terminology: An Illustrated Glossary  
Plants of California: <http://www.plantsofcalifornia.com/>  
Pacific Northwest Flowers: <http://www.pnwflowers.com/>  
Calflora: <http://www.calflora.org/>

## Gathering Ethics

*Excerpt from "After the First Full Moon in April" by Josephine Peters & Beverly Ortiz*

### General Guidelines:

- Only gather what you will use.
- Take good care of what you do gather.
- Share with people who need it and can't get out to gather the plants themselves.
- Gather from areas that are more difficult to access so Elders can gather from places that are easier to get to.
- When gathering leaves or flowers, cut branches from several individual plants rather than pulling the plant up by the roots, which would kill the plant.
- Gather plants from large populations.
  - Take small amounts from several different places to minimize your impact on plant populations.....take a little bit from here, a little bit from there.
- Only gather common plants.
  - Be certain of plant identification before you harvest. Some common plants have rare relatives that resemble them closely.
- Avoid gathering frequently from the same place
  - Slow growing plants can easily be overharvested, especially if the root is the part used.
- Bring wild plants into your garden.
  - Gather seeds or cuttings to grow in your garden so that you don't have to keep finding new places to gather from in the wild.
- Gather only from healthy plants.

Name \_\_\_\_\_

**Vocabulary Worksheet**

steep	part	laxative	insulin	diabetes	ailment
fertility	stable	interchangeable	poultice	incense	
immune system	naturopath	allopath	constipation		

Choose a word from the vocabulary bank that best completes each sentence and write it on the line. Be careful: you may need to change the word number (singular or plural). These are more or less definitions the related vocabulary in your *Pírish: Medicinal Plants Field Guide*.

1. An illness is a type of \_\_\_\_\_.
2. A kind of healer who treats illnesses by with herbs, diet, exercises and support for mental and spiritual wellness is called a \_\_\_\_\_.
3. An amount that is equal to another amount is called a \_\_\_\_\_.
4. Your body makes \_\_\_\_\_ to turn sugar into energy.
5. A \_\_\_\_\_ is a type of medicine that helps to discharge waste from the large intestine.
6. \_\_\_\_\_ is a serious disease that happens when the body cannot control the amount of sugar in the blood.
7. To put something in a liquid for a period of time is to \_\_\_\_\_ it.
8. The ability to produce young is \_\_\_\_\_.
9. When you are having trouble releasing solid waste from your body, you are suffering from \_\_\_\_\_.
10. A \_\_\_\_\_ is a soft, thick and usually heated substance that can be spread and placed on the skin to heal a sore or reduce pain.
11. \_\_\_\_\_ is used often in ceremonies to produce a strong and pleasant smell when it is burned.
12. A condition that is not easily changed or likely to change is a \_\_\_\_\_ one.
13. Something capable of being used in place of something else is \_\_\_\_\_.
14. The \_\_\_\_\_ protects your body from diseases and infections.
15. An \_\_\_\_\_ is a type of healer who combats disease by use of surgery or prescription drugs.

## "The Sweating Doctor"

*Julia Starritt (1957)*

When Karuk people became ill, a medicine woman or a sweating doctor would come to cure them. If the patient were healed, the doctor would be paid. The sweating doctor used plants, like herbs, and sometimes plant roots for the medicine; and the doctor talked to the plants.

What do you think he or she said? They prayed and then they scattered the plant-parts into a bowl-basket. He or she poured in water, and put in hot stones to boil the concoction. Then they set the steaming medicine water down next to the sick person and covered them with a blanket. When he or she was finished, they poured the herbal medicine on the ground outdoors. Sometimes the patient drank some of the medicine. That's how they made plant medicine, and the doctor was kind of (like) an **Ikxaréeyav**.