

# PLANTAIN

*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. Whether you are in an urban area, a schoolyard, or your neighborhood, plantain is often close at hand.*



**Other Names:** *Plantago major* – common plantain, wide leaf plantain, frog leaf; *Plantago lanceolata* – narrow leaf plantain, ribwort; *Plantago maritima* – goose tongue, seaside plantain. All species are called “Indian band-aid.” Twana: dada’sH3d ti xW3lt3b

**Identifying Plantain:** Plantain leaves flare out from the root in a basal rosette. 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 that are 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. Narrow leaf 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 (*P. maritima*) has narrow, thick leaves.



**Where it Grows:** Plantain species are found around the world in a wide range of habitats including beaches, saltwater flats, and mountain meadows. These adaptable plants can thrive in heavily trodden areas including driveways, trails, and lawns. The seeds contain mucilage, and when they are wet they readily stick to the soles of shoes and wheels, an ingenious tactic for

spreading their range. One of the common names for common plantain is “white man’s footprint” because plantain quickly followed in the footsteps of settlers. Goose tongue (*A. maritime*) grows along beaches, streams, and alpine areas with well-drained soil.

**Season:** Harvest leaves in spring through early fall when they are green and vibrant looking.

**How to Harvest:** Harvest leaves away from roadsides, dog parks, or areas sprayed with pesticides. To dry plantain leaves, gather them on a dry day and lay them in a flat basket or paper bag. You can also bundle them with rubber bands and hang them to dry. Keep out of direct sunlight and dry in a well-ventilated area. Once dried, store the leaves in a cool, dry area in a glass jar or bag. The dried leaves will last about a year.

**Eating Plantain:** Plantain was probably introduced into the United States as a food crop. The young leaves 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. Goose tongue 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:** As early as the first century, plantain was documented in Europe for medicinal properties. The roots and leaves were chewed for toothache and to heal gums. Eighteenth-century European botanists recommended binding plantain leaves to aching feet to relieve pain and fatigue during long hikes, a remedy that is still used by contemporary herbalists.

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 bulk laxative and helps eliminate stagnant material. Plantain leaves also act as a disinfectant and a gentle expectorant that soothes inflamed lung tissue. To make tea, use about one tablespoon of dried leaves per cup of boiled water. Steep 15 minutes. Drink several cups a day. You can also use fresh leaves to make a tea, but should use about 1 tablespoon of very finely chopped herb per cup of hot water.

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 of tissue. 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 and place them 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, then place them on a wound. 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, remembers 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 Cushman 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.



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 in a pot with a little water. Gently heat for a minimum of 6 hours or up to several days, turning it on and off as needed so that it does not get too hot and boil. Press out the oil with 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 (scale) to 5 parts plantain oil by volume (measuring cup). Gently heat until the beeswax is melted, then store in glass or tin jars.

**Traditional Technologies:** Longer plantain leaf can be used as a band-aid. The larger leaves can also be used like cabbage to wrap food and steam it.

**Ecological Relationships:** Deer and rabbits graze on plantain leaves. Birds and small mammals relish the seeds. Toads eat plantain when bitten by spiders.

## References

Grieve, Margaret. *A Modern Herbal*. Dover Publications, 1971.

Hoffman, David. *Medical Herbalism*. Healing Arts Press, 2003.

Krohn, Elise. *Wild Rose and Western Red Cedar*. Chatwin Books, 2005.

Moore, Michael. *Medicinal Plants of the Mountain West*. Museum of New Mexico Press, 2003.

# PLANTAIN: THE USEFUL WEED



**Time:** 50 minutes to 1 hour  
**Season:** Spring through Fall  
**Age:** Grades K–12  
**Setting:** Indoor or Outdoor

**Overview:** In this activity students learn how to identify plantain and use it for medicine, including preparing a healing poultice. Through making a plantain poster, students document important features and uses for plantain.

**Student Wondering:** *What is plantain, and how can I use it?*

Learning Objectives	
<p><b>Understandings</b>  <i>Student will understand that...</i></p> <ul style="list-style-type: none"> <li>healing plants thrive in many environments.</li> <li>plantain is valued as a medicine around the world.</li> <li>poultices are a simple way to use plants for topical skin healing.</li> </ul>	<p><b>Knowledge and Skills</b>  <i>Student will be able to...</i></p> <ul style="list-style-type: none"> <li>identify and safely harvest plantain.</li> <li>prepare plantain as a poultice.</li> <li>share two medicinal uses of plantain.</li> </ul>

NGS Standards: Performance Expectations		
<ul style="list-style-type: none"> <li>1-LS1-1 Use materials to design a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs.</li> </ul>		
Scientific and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<ul style="list-style-type: none"> <li>Constructing Explanations and Designing Solutions</li> </ul>	<ul style="list-style-type: none"> <li>LS1.A: Structure and Function</li> <li>LS1.D: Information Processing</li> </ul>	<ul style="list-style-type: none"> <li>Structure and Function</li> </ul>

**Vocabulary:** genus, species, antimicrobial, poultice, inflammation

**Materials:**

- Samples of plantain leaves and flowering stalks for students to investigate and draw or make leaf rubbings
- Clean, fresh plantain leaves for demonstrating how to make a poultice
- Art supplies for making plantain posters, including drawing utensils, peeled crayons if students will make leaf rubbings, and paper

**Preparation:** Review the *Plantain Overview*. If you are doing this activity inside, harvest enough samples of plantain to give each pair or table-group of students samples to view and draw. If you are outside, students can gather their own plantain samples.

## LESSON: PLANTAIN – THE USEFUL WEED

INTRO

15-20 MINUTES

The Art of Noticing: Set out a sample of plantain for each student or each table-group. Begin class observations with a think, pair, share activity.

**Ask:** *What do you notice about plantain? Use all of your senses. Notice details about each part of the plant.*

Have students quietly observe the plant sample at their table for approximately 1 minute. Then ask students to share their observations with a partner or table group for a few minutes. Finish with an all-group discussion where partners or table groups share their observations. Write observations on the board. For example:

- Leaves are smooth, thick, and have parallel veins
- Veins have strong white fibers
- All leaves grow from the base of the plant (basal growth)
- Some plantain leaves have a pink or white base
- Small, creamy white flowers grow in a saucer or crown shape along the leafless flower stalk
- Flowers turn into tan-colored small seeds
- Older students: if you have samples of both common plantain and narrow leaf plantain, compare similarities and differences

**Ask:** *Where do you see plantain growing? Answers might include in yards, fields, wooded areas, and even driveways or walkways.*

**Share:** Plantain grows all over the world and is a very common plant. Some species are native to our region, while others are introduced from other parts of the world. Each plant has a scientific name including a **genus** and a **species**. This helps us to make sure that everyone is talking about the same plant, regardless of common names. The scientific name often tells us something about the plant. Common plantain has the scientific name of *Plantago*. *Plantago* means “sole of the foot” referring to the foot-shaped leaves, which lie close to the ground as though they have been stepped on. This type of plantain is also called “white man’s footprint” among Native Americans because it grew in the footsteps of settlers shoes and wagon wheels.

**Ask:** *How do you think plantain spreads? Have students discuss possibilities with their partner or table group. After a couple of minutes, ask groups for their predictions. Share that plantain seeds get sticky when they are wet. They stick to wheels and the bottom of shoes, and grow where people transport them. Birds also eat plantain seeds and may spread them.*

Although common plantain and narrow leaf plantain are not native to North America, Native American People quickly adopted them as medicine. Both are often called “Indian Band-Aid” among Coast Salish Communities, and common plantain is often called “frog leaf.”

Plantain Medicine: Choose information from the plantain overview that is appropriate for your students’ skill level. For example:

- Plantain is a drawing agent used to pull infection, splinters, pus, and dirt out of wounds, bee stings, spider bites, etc.
- It has **antimicrobial** properties
- It helps wounds to heal more quickly

### MAKE A PLANTAIN POULTICE

10–20 MINUTES

**Share:** You can harvest plantain leaf by pinching off the base of leaves that are healthy looking.

**Ask:** *What is important to consider before harvesting plantain?* Give students a chance to respond. Fill in missing information including:

- Make sure you have the right plant! Does it have parallel veins, and little or no hairs?
- Avoid harvesting plantain from roadsides or areas that might be contaminated or sprayed with herbicides or pesticides. These can make us sick!
- How can you honor the plant? Some people have traditions of thanking the plant with a song, a prayer, or an offering. Leave the place as beautiful, or more beautiful, than you found it by cleaning up, picking up garbage, etc.

Explain A Poultice: Choose knowledge that is appropriate for the age level you are working with. For example:

- Whether you are in the city, the woods, or even your own kitchen, a healing plant like plantain is usually close at hand.
- To use a **poultice** simply means to place an herb on a wound to promote healing.
- Think of using a poultice when you need to draw out an infection, poisonous substances, or foreign objects from your skin. Poultices can also increase circulation, reduce **inflammation**, stop bleeding, and activate your immune system.
- Wounds, boils, cysts, acne, eczema, irritated skin, poor circulation, broken bones, sore muscles, and impaired breathing can be helped by poultices.

### Demonstrate How to Make a Plantain Poultice

**Share:** Making a poultice is quite easy. The simplest technique is to chew up plant material and place it over the afflicted area. If you are making a poultice for someone else, you should mash it up instead of chewing it so you don’t spread germs. A mortar and pestle, 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 before placing them on the wound. In order to keep the

herb in place, cover it with a bandage, a clean cloth, or gauze and tape. You can also make a natural bandage by tying a long plantain leaf around the poultice.

Hands-on: Have students work in groups to prepare a poultice. They can have one volunteer from the group try the poultice on a wound, or each student can make a poultice for themselves.

Other Herbal Poultices: Many plants are used for poultices. For example:

- Yarrow leaf and flower are used to stop bleeding and fight infection
- Chickweed (above ground parts) help to pull out splinters
- Cleavers and the spores on fern fronds ease stings from nettles
- Comfrey leaf is used to help knit broken bones and heal skin
- Willow bark or leaf is used as a pain reliever
- Pitch from evergreen trees helps fight infection and heal wounds

### MAKE A PLANTAIN POSTER

10-20 MINUTES

Drawing or Coloring Activity: Pass out drawing materials, paper, and hand lenses. Make sure each student can see plantain for drawing. Younger students can do leaf rubbings. Older students can make a poster.

**Ask:** *What do you want people to know about plantain?* Students may want to add pictures from the frog leaf story, or draw a first-aid scenario where plantain can be used. Encourage students to follow the ABCDE's of scientific drawing including:

A – Accurate

B – Big – use the whole page

C – Colorful or gives context

D – Detailed – use writing and drawing together. What do you notice about color, texture, shape, size?

E – Explained – “I notice... I wonder... this reminds me of...” What can you draw or write about the story of plantain and its uses?

### TYING IT TOGETHER

10 MINUTES

If time allows, have students share their posters. Finish with an all-group discussion.

**Ask:** *What is the most interesting thing you learned about plantain today?* Give students time to respond as a whole group, popcorn style, or with a partner.

### DIGGING DEEPER

Make Plantain Oil and Salve: See the *Plantain Overview* or the *Herbal Apothecary* module for materials and instructions.

Share More About Poultices: Heating a poultice helps increase absorption of herbs into the skin and also promote 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. If the herb does not stick together you can add a substance like marshmallow root or cornmeal to help it adhere. Spread on the injured area or on a cloth placed directly over the affected skin. 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. Some poultices are applied for a short time while others are best left over night. Make sure to change your poultice a couple of times a day if you are leaving it for a long period of time.

Research Plantain Uses Around the World: Plantain is valued by people wherever it grows. The great playwright Shakespeare mentioned it in many of his plays. Plantain is included in healing books from almost 1,000 years ago! Research plantain and do a report or paper on its uses.