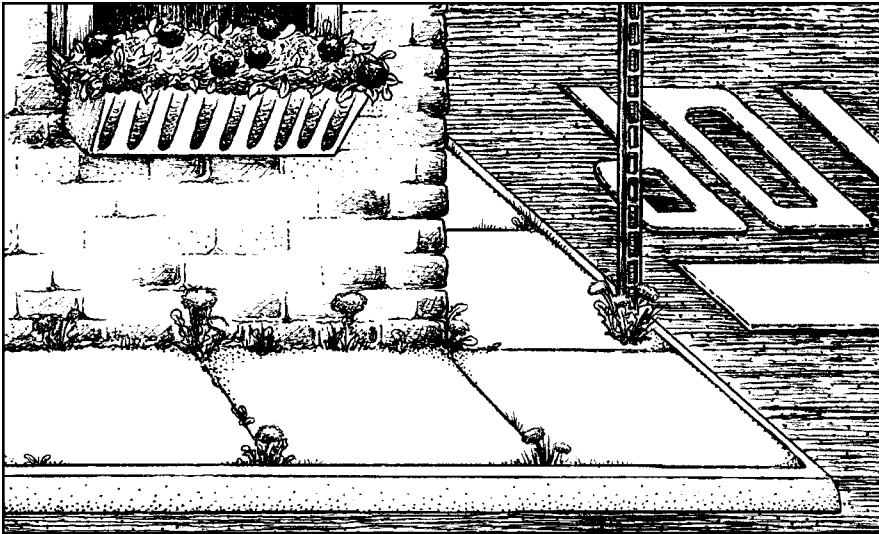


Wild, Wild Weeds



Summary

Using a weed field guide, youth search for wild plants growing around the site. They look for ways that the plants get what they need to survive, and then make fabric art prints out of weed leaves they have collected.

Learning Objectives

Youth will:

- Identify wild plants that live around their school or program site.
- Learn to distinguish ways that one plant differs from another.
- Describe how wild plants get what they need to survive.
- Use leaves to make a plant-pigment art print.

Materials

For the group

- 2 or more small blocks of scrap wood (1" x 3" x 3" or larger), with a smooth surface
- 2 or more clean rags
- 2 or more small hammers
- Roll of tape
- Hand lenses (optional)

For each participant

- Copy of *Wild, Wild Weeds Field Guide*
- Small strip of white or light-colored fabric (about 3" x 3")
- Safety pin
- Several varieties of weed leaves collected in advance (optional; see Preparation)
- Copy of *Things you can do for plants* handout

Correlation to California Content Standards

Science

- Life Science: Adaptations in physical structure or behavior may improve an organism's chance for survival. (Grade 3)
- Life Science: All organisms need energy and matter to live and grow. (Grade 4)
- Life Science: Living organisms depend on one another and on their environment for survival. (Grade 4)
- Ecology (Life Science): Organisms in ecosystems exchange energy and nutrients among themselves and with the environment. (Grade 6)

Visual Arts

- Artistic Perception: Students perceive and respond to works of art, objects in nature, events, and the environment. They also use the vocabulary of the visual arts to express their observations. (Grades K-12)
- Creative Expression: Students apply artistic processes and skills, using a variety of media to communicate meaning and intent in original works of art. (Grades K-12)



Background Information

Streets and buildings cover much of the Bay Area, and city-dwellers rarely think about what lies underneath, or about what lived there before modern development arrived. In some parts of the greenbelt you can get a sense of what the whole landscape may have once been like—blanketed in plants. Even in the most urban areas you can see wild plants if you look carefully—in the cracks of the street asphalt, around the edges of the school playground, or lining the bases of the buildings.

Many of the wild plants that live in the city are what some would call weeds. But keep in mind that whether a wild plant is a weed or not can be in the eye of the beholder. The poet Ralph Waldo Emerson described a weed as “a plant whose virtues have not yet been discovered.”

For gardeners, farmers, groundskeepers, and park rangers, a weed is an unwanted plant. Uninvited, this plant finds an opening, sets its roots, and makes itself at home. It may compete with crops or other plants, affect the health of livestock, break up cement or asphalt, or disrupt the natural ecosystem.

Weeds can also have benefits. Like all plants, they can improve the fertility of the soil and enhance its texture, reduce soil erosion by covering bare spots, attract butterflies and birds, and provide beauty where there might not otherwise be any. For wildlife, the leaves, nectar, flowers, seeds, and fruits of weeds can be rich food sources. Weeds also offer wildlife shelter, safety, and nesting materials. Some weeds are edible to people.

Many successful weeds grow best in “disturbed” areas, where people have changed the natural order of things. You can find them in vacant lots, in playgrounds, along roads, in pastures, and in garden beds and lawns. Rugged and adaptable, these bold survivors can teach us a lot about how nature works. Successful weeds often have one or more of the following characteristics:

- They thrive in a wide range of conditions and with little water. They can often survive in places that other plants can't.
- They grow quickly and are hardy.
- They have strong root systems. Some have long, tough taproots, and if the plant is cut off, the root can grow a new plant.

- They are good at protecting themselves. Some have prickly leaves to keep from being eaten. Some grow so low to the ground that stepping on them doesn't hurt them. Some release a chemical into the soil that prevents other plants from growing.
- They produce large amounts of seeds. A single dandelion plant, for example, can make more than 15,000 seeds in one summer. Or they reproduce well vegetatively—parts of a plant grow into a whole new plant.
- They have tough seeds that live a long time.
- They are not native to this place and so lack the natural enemies that might keep them in check.

Weeds are a good reminder that the greenbelt is not really separate from the city. Nature does not know county boundaries or city limits. These wild plants will grow anywhere their needs are met, whether that is in the greenbelt or on a city block.

Preparation

Step One: Identify a site that has a number of weeds. If there are only a few plants, you will need to bring along a variety of other freshly picked leaves for this activity to supplement any collected by the youth. Try to include different shapes and colors of leaves.

Step Two: Assemble copies of the *Wild, Wild Weeds Field Guide*. First make double-sided copies of the pages. Then fold all the pages, placing the title page on the outside. Staple the pages together into a book.

Procedure

Step One: Introduce the activity by asking the youth if they have been to the Bay Area's greenbelt:

- ? **What was your favorite thing about your visit to the greenbelt?**
- ? **What did you notice about the plants in the greenbelt?**



Native California poppies sprout up in a vacant lot in Oakland.

? **What's the difference between wild plants and garden plants?**

(Wild plants grow without the help of people.)

? **What do wild plants need to grow?**
(Water, nutrients, and sunshine.)

Do you think wild plants could grow in the city?

? **What is underneath sidewalks, houses, and streets?**

(Soil.)

That soil still has nutrients and living things in it. When asphalt or cement gets older it begins to crack, letting in water, sunlight, and seeds. Plants can grow in these cracks—even if the cracks are tiny.

? **What's another name for wild plants that grow in the city?**

(Weeds.)

Step Two: Give each student a copy of the *Wild, Wild Weeds Field Guide*, and take the group outside.

Step Three: Point out the boundaries of the activity and tell the group that they will search within those boundaries for as many different wild plants as they can find. Explain that they are looking for weeds—and that these weeds are usually smallish plants growing in a sidewalk crack, along the base of a building, in an empty field, or any place that is not watered or tended by people.

They may use the field guide to help them find out the names of weeds they see. They will need to look at the picture *and* read the description, and look carefully at the plant to determine whether it is a match. The pictures are not to scale and may be much smaller or larger than the actual plant. Point out that they may discover a weed that is not listed in the field guide and, if so, they can make up a name that describes it.

Step Four: Pair students up with a partner. Give pairs a few minutes to look for plants. Help them compare plants they find with those in the field guide. If they have trouble finding any plants, gather the group and talk about where they might focus their

search. Give them a few more minutes to look. Bring hand lenses for them to get a closer look at the plants, if they are interested.

Step Five: Gather the group together and have volunteers point out one of the wild plants they discovered. They should tell the group whether it was in the field guide and its name. For a few of the plants, ask:

? **What clues did you use to identify this weed?**

? **How does this wild plant get the water and nutrients it needs to live?**

? **Do you see anything about this plant that helps it survive?**

(Help the youth look for features that protect it from being eaten, pulled, or stepped on, or that help its seeds get distributed.)

Step Six: Help the students collect one to three weed leaves each.

Explain that when collecting wild plants, people should remove only one leaf for every four leaves left on the plant.

Step Seven: Show how to make the wild plants into fabric art:

- Smooth a strip of fabric onto a block of wood. Tape it down.
- Arrange leaves onto the fabric with the vein side down (if possible).
- Cover all the leaves with a piece of rag.
- Using a hammer, begin on one end of the leaves and pound firmly and evenly over the entire leaf area. When you hit them, the leaves will transfer color onto both pieces of fabric.
- Remind participants to work safely, being careful not to pound their fingers.
- Lift up the top rag and remove any pieces of leaf stuck to the fabric.

Step Eight: Give the youth the materials for making their own wild plant fabric art. They will need to take turns with the wood blocks, hammers, and rags. Help the group

figure out a fair way for taking turns.

Step Nine: As the youth work, walk among them to offer help and to make sure they are working safely.

You may also engage the group in a discussion about why leaves are important (leaves make food for the plant, leaves are eaten by people and animals, and leaves help people identify plants).

Step Ten: When they are done, give the youth a safety pin for pinning their fabric art onto their backpacks.

Wrap-up Questions

? **How would YOU define a weed?**

? **Weeds have a bad reputation, but what are some good things about them?**

(They keep the soil from washing away, they give wild animals food and shelter, and they can be pretty.)

? **Do you think weeds are friends or foes?**

? **Where do you think these wild plants come from?**

(Weed seeds can be dormant in the soil for a long time. The seeds come from nearby plants, or can get tracked in from further away on shoes or clothing. Originally, some weeds came from the local greenbelt, but many were imported, accidentally or intentionally, from Europe.)

? **Do these plants “know” where the city begins or the greenbelt ends?**

? **What could you do to help plants?**

Distribute the *Things you can do for plants* handout.

Variations

For a younger group, lead a guided wild plant walk. Rather than have them look for wild plants on their own, take the group to a few plants you have spotted in advance. Use the field guide as a visual aid to point out key features of the plant. For the fabric art, have the youth arrange the leaves on the fabric and you do the pounding.



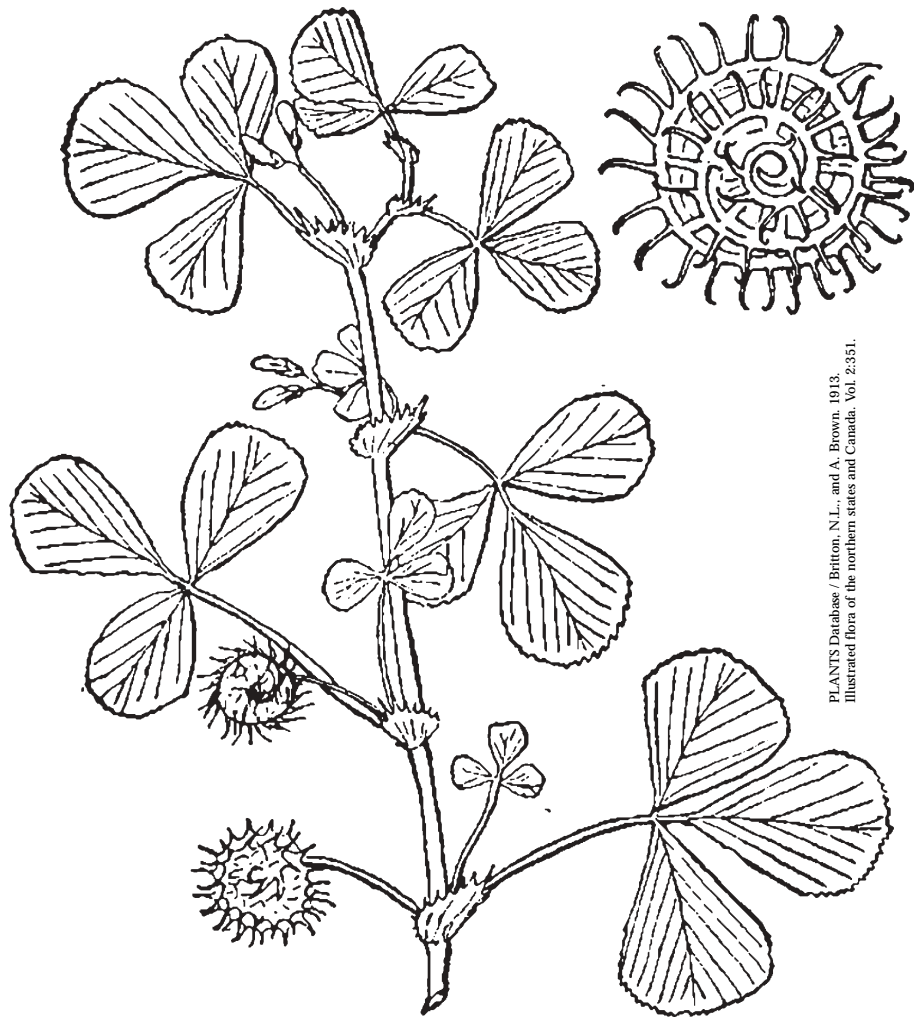
PROTECTING OPEN SPACE AND PROMOTING LIVABLE COMMUNITIES

Greenbelt Alliance
631 Howard Street, Suite 510
San Francisco, CA 94105
(415)543-6771
info@greenbelt.org
www.greenbelt.org

A detailed botanical line drawing of a plant, likely a member of the Malvaceae family, featuring several stems with opposite, ovate leaves and clusters of flowers. The drawing is rendered in a light gray tone and serves as a background for the right side of the cover.

Wild, Wild Weeds Field Guide

**A Guide to Wild Plants
Commonly Seen in Cities
of the
San Francisco Bay Area**



PLANTS Database / Britton, N.L., and A. Brown. 1913.
Illustrated flora of the northern states and Canada. Vol. 2:351.

California Burclover (*Medicago polymorpha*)

This plant has leaves that look like a shamrock or clover. The middle vein of each leaf is usually reddish. When the flower gets older, it forms a prickly seedpod called a burr that can catch onto your clothes.



USDA-NRCS PLANTS Database / Britton, N.L., and A. Brown. 1913.
Illustrated flora of the northern states and Canada. Vol. 2:43.

Storkbill (*Erodium* spp.)

This plant grows a tiny pink flower with five petals. The flower turns into a fruit (not edible) that is long and thin and shaped like a sword or a stork's bill. As the fruit dries it separates into five parts, each with a spiral tail. The spiral tail acts like a screw, winding into the soil and planting the seed more securely.



USDA-NRCS PLANTS Database / Britton, N.L., and A. Brown. 1913. Illustrated flora of the northern states and Canada. Vol. 3:317.

Sowthistle (*Sonchus oleraceus*)

The painfully prickly leaves of this plant are often twisted and curly. If the stem is broken it oozes a milky liquid. The Maori people in New Zealand used the liquid to make chewing gum. (Do not taste this or any weed unless an adult says it's OK!)



USDA-NRCS PLANTS Database / Britton, N.L., and A. Brown. 1913. Illustrated flora of the northern states and Canada. Vol. 2:13.

Chickweed (*Stellaria media*)

This plant has small leaves and tiny star-shaped flowers with white petals. Its slender stems trail along the ground and have a line of fine white hairs along them. At different times people have used this plant in salads, in medicines to soothe the stomach, and to help them lose weight.



Crabgrass (*Digitaria spp.*)

This grass has bright green leaves, and if you look closely you can usually see that they are softly hairy. Flowerheads at the tips of the stems look like fingers. Sparrows and other birds eat the seeds.

USDA-NRCS PLANTS Database / Hitchcock, A.S. (rev. A. Chase). 1950. Manual of the grasses of the United States. USDA Misc. Publ. No. 200. Washington, DC.



Scarlet Pimpernel (*Anagallis arvensis*)

This pretty little plant grows along the ground and has tiny reddish-orange flowers. It is also called “poor man’s weatherglass” because its flowers close up tightly when the weather is bad.

USDA-NRCS PLANTS Database / Britton, N.L., and A. Brown. 1913. Illustrated flora of the northern states and Canada. Vol. 2:716.



Oxalis (Sour Grass) (*Oxalis pes-caprae*)

The leaves of this plant have oxalic acid, which makes them taste sour. (Do not taste this or any other weed unless an adult says it's OK!) Bright green and shaped like shamrocks or clovers, the leaves are often partly closed. The seedpods shoot out many brown seeds.



Dandelion (*Taraxacum officinale*)

This plant hugs the ground with its leaves. Gardeners find this weed hard to pull out of the ground because its taproot can be as long as your leg. The tiny white parachute on each seed helps spread dandelions.



USDA-NRCS PLANTS Database / Britton, N.L., and A. Brown, 1913. Illustrated flora of the northern states and Canada, Vol. 3:389.

Groundsel (*Senecio vulgaris*)

This plant's leaves have bumps all over them. Its yellowish flower always looks closed up. When it turns to seed, it has a puffy seedhead sort of like a dandelion's. This plant can be poisonous to cows, horses, and people.



USDA-NRCS PLANTS Database / Britton, N.L., and A. Brown, 1913. Illustrated flora of the northern states and Canada, Vol. 2:515.

Mallow (*Malva spp.*)

This plant sometimes lies close to the ground and sometimes is a few feet tall. Its leaves are round and wavy. One species of mallow is called cheeseweed because its seedpods look like wheels of cheese. This plant's seeds can live up to 100 years in the ground before sprouting!

Things you can do for plants

- “Adopt” a weed. Find a weed growing at home or at your program site. Look at it every day and watch it grow and change.
- Teach three friends about a weed and what it’s good for.
- Plant seeds in a pot at home or at your program site. Nasturtium flowers are easy to grow. Water the pot when the soil feels dry. Make sure to put a saucer under the pot to catch the excess water.
- Volunteer to plant trees in your neighborhood. The California ReLEAF Network (www.nationaltreetrust.org/releaf/) has information on groups that are planting trees near you. Friends of the Urban Forest plants trees in San Francisco neighborhoods. You can learn more about trees by volunteering to help them on a Saturday morning. They are at www.fuf.net or (415)543-5000.
- Volunteer at the Golden Gate National Recreation Area to find out more about California native plants and weeds while doing fun, hands-on work. Go to www.parksconservancy.org/volunteer/dropin2.html#steward or call (415)4R-PARKS.

Find out more...

- Check your local library for a weed field guide. A field guide is a book with pictures and descriptions to help you identify something in nature. Ask the reference librarian for help finding one about weeds.
- Search the Internet for information about specific plants. A good place to start is UC Davis’s website on common weeds: www.ipm.ucdavis.edu/PMG/weeds_common.html.
- Find out more about California native plants (plants that grew here before the Europeans arrived and brought species from other lands) at www.cnps.org.
- Learn more about plants on a free Greenbelt Outing with a parent or guardian. You can find the schedule at www.greenbelt.org.

