
Weed Cards

Activity Overview

Students will identify non-native and/or invasive plants in their restoration site and create a set of labeled identification cards to be used by anyone weeding the restoration.

Objectives

Students will:

- Identify non-native and/or invasive species
- Learn how to press and label plants
- Learn how to create a useful resource for others to use

Subjects Covered

Science

Grades

4 through 12

Activity Time

90 minutes total

Collect/press samples: 45 minutes

Identify plants/make cards:
45 minutes

Season

Spring, fall, summer

Materials

Newspapers, cardboard, heavy books or phone books, pressed weed samples, cardstock paper, black markers, plant field guides such as *Newcomb's Wildflower Guide* or the *Golden Guide to Weeds* (multiple copies), clear contact paper or laminating machine

Source

Kathy Palmer from Urban Ecology Center, Milwaukee, WI

Modified from Earth Partnership for Schools K-12 Curriculum Guide, University of Wisconsin Board of Regents.

Background

Being able to properly identify non-native and invasive species (also called weeds) in a restoration is an important step in managing a restoration. Weeds can outcompete native plants, depriving the native plants of space, food, water, or sun in order to thrive. Weeds can be prolific reproducers and change the soil chemistry and micro-organisms in order to gain their competitive edge. It is important to be able to identify weeds and remove them, especially over the summer months before they flower and set seed.

Activity Description

1. Take small samples of suspected weeds, or other undesirable plants, from the restoration. It is easiest to identify a plant when it is flowering. Identify the plants in the classroom by using field guides or books. Determine their common and scientific names. Determine if they are non-native plants or invasive native plants.
2. On the newspaper, write the name of the plant and place the corresponding plant sample next to it.
3. Pile all the newspapers on top of each other. Place a piece of heavy cardboard on top of the pile. Place heavy books or a phonebook on top of the cardboard to press down the pile. Add additional weight if necessary. Allow at least 1 week to press and dry the plants.
4. Carefully deconstruct the pile of newspapers and plant samples.
5. Cut cardstock paper to fit the size of the plant sample. Write the common and scientific name at the top, and at the bottom, write "Remove from Restoration!"
6. To preserve the sample, place clear contact paper over the card or put through a laminator. Avoid using glue because this can damage the plant sample.
7. Cards can be used by anyone weeding the restoration. Hand a card to each person weeding the restoration and ask them to remove all of that kind of plant. If there are more weeders than cards give them a live plant sample from the restoration plot to use instead of the card.
8. Cards can be kept with the restoration supplies and be used by all teachers - even those who do not know what plants are in the restoration.

Weed Cards

The following grasses and plants may become weedy in a schoolyard garden:

Grasses:

Barnyard grass (*Echinochloa crusgalli*)
Bluegrass (*Poa sp.*)
Brome grass (*Bromus sp.*)
Crabgrass (*Digitaria sanguinalis*)
Foxtail grass (*Alopecurus carolinianus*)
Quackgrass (*Agropyron repens*)
Redtop grass (*Agrostis alba*)
Reed canary grass (*Phalaris arundinacea*)
Witchgrass (*Panicum capillare*)

Plants:

All mustards - especially dame's rocket (*Hesperis matronalis*) and
garlic mustard (*Alliaria petidata*)
All thistles (except Swamp thistle)
Alfalfa (*Medicago sativa*)
Birdsfoot trefoil (*Lotus corniculatus*)
Black medic (*Medicago lupulina*)
Burdock (*Arctium minus*)
Campion (*Silene latifolia*)
Chicory (*Cichorium intybus*)
White sweet clover (*Melilotus spp.*)
Yellow sweet clover (*Melilotus spp.*)
White clover (*Trifolium repens*)
Red clover (*Trifolium pretense*)
Creeping Charlie (*Glechoma hederacea*)
Shasta daisy (*Leucanthemum x superbum*)
Dandelion (*Taraxacum officinale*)
Curly dock (*Rumex crispus*)
Canada goldenrod (*Solidago canadensis*)
Japanese knotweed (*Polygonum cuspidatum*)
Lily of the valley (*Convallaria majalis*)
Mullein (*Verbascum thapsus*)
Purple loosestrife (*Lythrum salicaria*)
Queen Anne's lace (*Daucus carota*)
Peppergrass (*Lepidium virginicum*)
Pigweed (*Amaranthus retroflexus*)
Leafy spurge (*Euphorbia esula*)
Velvetleaf (*Avutilon theophrasti*)
Crown vetch (*Coronilla varia*)

Woody plants and vines:

Buckthorn (*Rhamnus cathartica*)
Honeysuckle (*Lonicera x bella, tatarica, morrowii*)
Multiflora Rose (*Rosa multiflora*)
Oriental bittersweet (*Celastrus orbiculatus*)
Common bindweed (*Convolvulus sp.*)

Weed Cards

Plants with human health concerns:

Handle these plants with caution—use both gloves and tools, or call in a restoration specialist!

Poison hemlock (*Conium maculatum*)

Wild parsnip (*Pastinaca sativa*)

Nightshades (*Solanum sp.*)



Poison ivy (*Rhus radicans*)

Stinging nettle (*Urtica dioica*)

Ragweed (*Ambrosia artemesifolia*)

Spotted knapweed (*Centaurea maculosa*)

Extensions

- Using the new cards, go outside and weed your restoration plot.
-  Create a short instructional video, digital presentation, pamphlet, or write an instruction booklet on how to use the weed cards.
- Collect samples of native plants and make “Native Plant” cards. Write “Keep in Restoration” on the cards.
-  Create a site-specific digital field guide for all weed and native plants found in the restoration site.
- Construct a plant key using the cards. See Earth Partnership for School “Construct a Key” activity.
- Visit an herbarium and learn how plant samples are used for studying plant distribution and other research.

Additional Resources

- Czarapata, Elizabeth J. 2005. *Invasions of the Upper Midwest: An illustrated guide to their identification and control*. Madison: University of Wisconsin Press.
- Royer, France, and Richard Dickinson. 1999. *Weeds of the Northern U.S. and Canada: A guide for identification*. Edmonton: University of Alberta Press and Renton: Lone Pine Publishing.
- “Weeds of the North Central States.” 1981. University of Illinois at Urbana-Champaign. (Available at County Extension Offices.)
- Yatskievych, Kay. 2000. *Field guide to Indiana wildflowers*. Bloomington: Indiana University Press.

Websites

- Indiana Native Plant and Wildflower Society (INPAWS) Invasive Plant Species: <http://www.inpaws.org/Invasive%20Plants%20in%20Indiana.html>
- INPAWS - Common Invasive Plant Species of Indiana Brochure: <http://www.inpaws.org/InvasivePlants.pdf>
- E Nature: http://www.enature.com/native_invasive/invasives.asp
- National Gardening Association: <http://www.garden.org/home>
- Purdue University Weed Science: <http://www.btny.purdue.edu/weedscience/>

Weed Cards

- Purdue University—Indiana’s “Most Wanted” Invasive Plant Pests: <http://extension.entm.purdue.edu/CAPS/>
- The Nature Conservancy Invasive Species—Indiana: <http://www.nature.org/wherewework/northamerica/states/indiana/howwework/art24965.html>
- Kids Gardening: <http://www.kidsgardening.com/>
- Bureau of Land Management Learning Landscapes Invasive Species: <http://www.blm.gov/education/LearningLandscapes/explorers/lifetime/invasive.html>
- Midwest Invasive Plant Network (MIPN): <http://mipn.org/>
- National Park Service - Alien Plant Invaders of Natural Areas Fact Sheets: <http://www.nps.gov/plants/alien/fact.htm>
- National Invasive Species Information Center: <http://www.invasivespeciesinfo.gov>
- Weed Science Society of America: <http://www.wssa.net/weeds/ID/index.htm>
- University of Wisconsin—Weed Identification and Management: <http://www.weedid.wisc.edu/weedid.php> (Be sure to enter Indiana as the Search Location located in the upper right corner of page.)

Assessments

- Describe what clues you use to identify a plant.
- Explain at least three strategies weeds develop to compete with native plants in a young restoration.