
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 garden.

Objectives

Students will:

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

Subjects Covered

Science

Grades

Grades 4 through 12

Activity Time

45 minutes to collect and press samples

45 minutes to identify plants and make cards

Season

Spring - 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

State Standards

Science:

Discover how organisms meet their needs (F.4.1)

Investigate how organisms respond to internal/external cues (F.4.2)

Understand an organism's behavioral adaptations (F.8.7)

Show organism's place in ecosystems (F.8.8)

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's important to be able to identify weeds and remove them, especially over the summer months before they flower and set seeds.

Activity Description

1. Take small samples of suspected weeds from the restoration (or other undesirable plants); 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. Write the name of the plant on a piece of newspaper, and place the corresponding plant sample next to it on the newspaper.
3. Pile all the newspapers on top of each other. Place a piece of heavy cardboard on top of the pile, and place heavy books or a phone-book 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 de-pile the 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 garden."
6. Place clear contact paper over the card and sample to preserve, or put through a laminator. Avoid using glue because this can damage the plant sample.
7. Cards can be used by anyone weeding the garden. Hand a card to each person weeding the garden, and ask them to remove all of that kind of plant. If there are more weeders than cards, then just give them a live plant sample from the garden to use instead of the card.
8. Cards can be kept with the garden supplies and be used by all teachers, even those who don't know what plants are in the garden.

These plants may become weedy in a schoolyard garden

Grasses:

Barnyard grass (*Echinochloa crusgalli*)

Bluegrass (*Poa spp.*)

Brome grass (*Bromus spp.*)

Crabgrass (*Digitaria sanguinalis*)

Foxtail grass (*Alopecurus carolinianus*)

Weed Cards (cont.)

Explain survival and population growth of species (F.8.9)

Investigate cooperation & competition (F.12.7)

SOURCE

Kathy Palmer from Urban Ecology Center, Milwaukee, WI

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 (*Avutylon 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*)

Field bindweed (*Convolvulus arvensis*)

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*)

Weed Cards (cont.)

Wild parsnip (*Pastinaca sativa*)
Nightshades (*Solanum spp.*)
Poison ivy (*Rhus radicans*)
Stinging nettle (*Urtica dioica*)
Ragweed (*Ambrosia artemesifolia*)
Spotted knapweed (*Centaurea maculosa*)

Extensions

- Go outside and weed your restoration plot with the new cards.
- Write an instruction booklet for how to use the weed cards.
- Collect samples of native plants and make “Native Plant” cards.
- Construct a plant key using the cards. See Earth Partnership for Schools activity, “Construct a Key” 1-12.
- Visit an herbarium and learn how plant samples are used for studying plant distribution and other research.

Additional Resources

Check your state Department of Natural Resources for images of non-native plants.

Books

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

Web sites

- Department of Natural Resources Web sites
- Bureau of Land Management Learning Landscapes Invasive Species Web site
<http://www.blm.gov/education/LearningLandscapes/explorers/lifetime/invasive.html>
- Midwest Invasive Plant Network Invasive Plant Education Materials
<http://mipn.org/EducationMaterials.pdf>
- National Park Service - Alien Plant Invaders of Natural Areas Fact Sheets
<http://www.nps.gov/plants/alien/fact.htm>
- Wisconsin Department of Natural Resources - Invasive Species Fact Sheets
<http://www.dnr.state.wi.us/invasives/plants.asp>
- Wisconsin Department of Natural Resources -- Non-Native Plant Species photo gallery
<http://www.dnr.state.wi.us/invasives/photos/index.asp?SF=Common>
- National Invasive Species Information Center: <http://www.invasivespeciesinfo.gov>
- Weed Science Society of America: <http://www.wssa.net/weeds/ID/index.htm>

Weed Cards (cont.)

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.