



BC Agriculture in the Classroom Foundation

Harvest Bin Project – Gardening Basics

Weed ID – Gardening's Most Wanted

Students will become Weed Investigators as they work to identify weeds that may be present in their Harvest Bins, including learning common names, appearances, and ways to remove them from the garden. As an assessment of their learning, students will research and create a wanted poster on a weed found in their Harvest Bins or in their communities.

Subject Levels/ Suggested Grade

Grade 1-3 Science

Grade 1-2 Social Studies



Written by Amy Stafford, Education Specialist 2019/2020

Grade and Subject	Curricular Competencies	Content Connections
Grade 1-3 Science	<p>Demonstrate curiosity and a sense of wonder about the world</p> <p>Observe objects and events in familiar contexts</p> <p>Ask questions about familiar objects and events</p> <p>Sort and classify data and information using drawings, pictographs and provided tables</p> <p>Experience and interpret the local environment</p> <p>Communicate observations and ideas using oral or written language, drawing, or role-play</p> <p>Safely use appropriate tools to make observations and measurements, using formal measurements and digital technology as appropriate</p>	<ul style="list-style-type: none"> • classification of living and non-living things • names of local plants and animals • structural features of living things in the local environment • similarities and differences between offspring and parent • biodiversity in the local environment
Grade 1-2 Social Studies	<p>Explore different perspectives on people, places, issues, or events in their lives</p> <p>Use Social Studies inquiry processes and skills to ask questions; gather, interpret, and analyze ideas; and communicate findings and decisions</p>	<ul style="list-style-type: none"> • relationships between a community and its environment • natural and human-made features of the local environment • diverse features of the environment in other parts of Canada and the world • relationships between people and the environment in different communities

Teacher Background

In this Garden Basics lesson, students will be exposed to the concept of weeds and weeding in the garden. Being able to correctly identify weeds and properly remove them from the garden will allow for their crops to flourish.

By definition, a weed is any plant that is growing out of place and competing with desired plants for nutrients, water and sunlight. While a plant may be considered a weed in one area of the garden, it is important to emphasize to students that weeds are not exclusively “bad” plants – and in other contexts, they may be extremely beneficial.

Although growing in raised beds usually helps to avoid the prevalence of weeds in the garden, they can still pop up from time to time. It is important to take care of weeds when they are small and easy to remove, before they develop seed capsules that can further spread in the garden. Weeding is especially important while your garden plants are still young and establishing their root systems, as any competition for nutrients and sunlight can cause crop failure.

The first step to weed removal is successful identification – pulling out the wrong plants means a waste of earlier hard work! This is something that new gardeners will become familiar with only through practice, and when first starting in the garden, it may be helpful to create a plant identification chart that shows images of common weeds in your area at different life stages. By having students create their own “wanted posters” for common garden weeds, they will be better able to identify plants that are having a negative impact on their school garden and participate in their successful removal.

Materials

- Weed Samples – either live, dried, or on a poster/presentation (see attached list of common garden weeds at the end of this package)
- Harvest Bin Garden or other area to be weeded
- Weeding supplies – bag or bucket to place weeds in, disposable or gardening gloves, trowels (only needed for larger weeds)
- Student handouts:
 - Weed Wanted Poster

Procedure

1. Hook: Ask students to define the word “weed” in the context of gardening. Is a weed always a weed? Why or why not?
2. Go over weed poster or samples with your class. Have your students comment on which plants they have seen before, and list some facts about each plant (how big do they get, what colour are the flowers, the shape of the leaves, etc.). This list can be used to help students in their research for the wanted poster.
3. If students are unfamiliar with the concept of a wanted poster, show them a few examples from the Internet. You can choose to look at realistic historical wanted posters, or ones that are fictional as in the style of the weed wanted poster (see attached example of a dandelion at the end of this package).

4. Dividing the weeds you would like the class to profile amongst your students (you can choose to have multiple students do one weed, or for each student to choose a different weed depending on what grows in your region), have them begin to create a wanted poster. Categories that could be present on the wanted poster include
 - a. Weed names – encourage your students to make a fun “wanted poster” style nickname for your weed (ex. Dandy the Dangerous Dandelion), or include Latin and Indigenous if available
 - b. Physical features – colour, size, leaf shape, flower shape and colour, etc.
 - c. Reason for being wanted – does it choke out plants? Steal nutrients from the soil? Block the sun?
 - d. Method of removal and disposal if found
 - e. Any other creative additions – encourage them to add a reward, contact information, and other illustrations.
5. When the posters are completed, display them either in the classroom or compile them to be used as a garden resource

Extension Activities

- Use this lesson with other Harvest Bin Project – Gardening Basics learning activities as part of your gardening year.
- Have a “weed expert”, such as a botanist, horticulturalist, or agrologist, give a talk to your class about how weeds are handled in large scale agriculture productions.
- Research and define “noxious” weeds in your area. What is the difference between a weed and a noxious weed?
- Participate with your class in a community weed pull event.
- Explore other garden “pests” such as insects, birds, and animals, and how they are dealt with in the garden.

Credit

The lessons in this Harvest Bin Project - Gardening Basics series were adapted from the activities used in the Pencil Patch Garden of Learning school visits. They are designed to be used together to help teach the fundamentals of gardening to students of all ages.

Weed Wanted Poster

Name: _____

Date: _____



Weed Wanted Poster




Name: _____




Date: _____


Common Garden Weeds in BC

For more information, please visit the Invasive Species Council of BC website

<https://bcinvasives.ca/>

Name of Weed	Description	Image	How to Remove
Burdock	Burdock plants grow up to 2m tall, and are identified by erect coarse stems that have a reddish tinge. Mature leaves are large, heart shaped and very hairy underneath with wavy or toothed edges. Pink to purple flowers form clusters along the stems and bloom between July and October.		In order to remove the plant fully the large taproot system that grows deep underground must be tilled and removed. Most broadleaf herbicides are also useful for control.
Canada Thistle	Canada thistle has purple or white flowers, with spiny, dark-green leaves, growing to 0.3-2m in height at maturity.		Mowing the plants before the bud stage and regular cutting or tillage of garden can help wear down plant reserves and reduce populations. Plants that are removed must be bagged before taking to a designated disposal area.
Common Tansy	Common tansy has yellow disc flowers that resemble buttons in a flat-topped cluster at the top of the plant. With fern-like leaves, common tansy can grow 0.4-1.5m in height at maturity.		Hand pulling may be used in areas where mowing and herbicide application are not feasible. Gloves and other protective clothing should be worn to prevent skin irritation.

Dandelions	Dandelions have bright yellow flowers growing on hollow stalks that may hug the ground or reach as high as 70cm. The deeply toothed leaves emerge from the crown of the plant at ground level. The plants have a milky latex that oozes out if leaves or stems are broken.		Dandelions can be pulled out of soil with relatively little effort if weeded while small. Be sure to pull out the taproot as well as the leaves and stem of the plants and to weed the plant before the seeds can be dispersed.
Orange Hawkweed	Hawkweeds have bright orange, orange-red, or yellow ray flowers with several flower heads in clusters at the top of each plant. Leaves are long and oval-shaped, and cluster in a rosette formation at the base of fibrous, black-haired stems. Stems contain a milky fluid. Hawkweeds can grow up to 30-60cm in height at maturity.		Small infestations can be hand-pulled however great care needs to be taken to ensure that roots and stolons are carefully bagged and disposed of and not spread.
Oxeye Daisy	Oxeye daisy has daisy-like flowers at the end of course, slender stems, with lower spoon-shaped leaves. Central yellow disks grow 10-20mm wide and white ray flowers 1-2cm long. The plant can grow up to 1m in height at maturity. Oxeye daisy is often confused with the ornamental Shasta daisy, which has larger yellow disk (2-3cm) and white ray flowers (2-3cm)		Pulling or digging up plants, ensuring that all roots are removed, may reduce oxeye daisy populations. New shoots may emerge from remaining root portions. Follow-up treatments will be required as seeds can remain viable in the soil for many years

<p>Spotted and Diffuse Knapweed</p>	<p>Spotted knapweed has hairy, deeply-cut leaves and purple flowers (occasionally white) on one or more upright stems. Flowerhead lower leaves have a black-tipped fringe that gives a spotted appearance.</p> <p>Diffuse knapweed has hairy, greyish-green, split leaves on many branches growing from a single upright stem. The flowers are white or sometimes purple, with small, sharp, rigid spines on the bracts.</p> <p>Diffuse and spotted knapweed both have a taproot and grow to around 1m in height.</p>		<p>Pulling, cutting or mowing is most effective when completed prior to seed set. If the plants have not yet flowered, the removed plants can be left onsite, but stems should be twisted, bent or otherwise crimped. Wherever possible, the root system should be removed to prevent re-sprouting; however, stem removal and prevention of seed set is most important.</p> <p>Contact with spotted knapweed can cause skin irritation so gloves should always be worn to handle the plants.</p>
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