About the Garden Lessons

Over the course of the Garden Lessons, we will walk educators and young gardeners through the process of starting a garden from planning to harvest to putting the garden to bed for the winter. Inside, you will find activity guides, curriculum connections, and tips and strategies for successful school gardening.

Printable worksheets accompany each lesson and can be compiled into a single Garden Journal to practice record-keeping and support future growing success. This hands-on series of Garden Lessons will support educators, youth leaders, and students to start and tend to a garden project. These lessons were originally adapted from the Nova Scotia School Garden Resource Guide (2014).

Getting youth in the garden offers them opportunities to shape their food system, learn healthy food choices, and connect with nature, all while building resiliency in a changing climate and having fun along the way.

Grow Eat Learn
Nourish Nova Scotia

Goals of Lessons

- Grow food and engage in hands-on learning
- Gain food literacy skills
- Demonstrate connections between the food web and climate action
- Support youth well-being and connection to the more-than-human world

Gardening & Climate Action

Look for these climate action icons in Grow Eat Learn resources to learn more about the connections between gardening and the climate!



Habitat Creation & Biodiversity



Circular Systems



Growing & Processing Food



Water Care



Soil Care



Climate Justice

Adapting to climate change is critical for our food system. Through gardening, students participate in the food web. They learn about food production and its interdependence with plants, animals, and weather.

Garden Lesson 8

Putting the Garden to Bed

Introduction

Complete this lesson in late October or November.

When the garden has been harvested, it's time to wrap up for the season. This is known as "putting the garden to bed." It includes removing or covering the plants that are left and packing away tools and supplies. Putting the garden to bed reduces the amount of work that needs to be done at the beginning of the next growing season. It is also an important step in taking care of the garden soil. The tasks can be completed over multiple days or weeks. It is best to finish putting the garden to bed before the weather is too cold and the ground freezes completely.

Lesson 8 will cover the process of closing your garden, planning for next year, and a brief lesson about crop rotation.

NS Curriculum Outcomes

Grade 1 Science

The Environment:

- Analyze daily and seasonal change in the environment
- Analyze interconnection of living things and the environment

Grade 1 Social Studies

- Implement age-appropriate actions for responsible behaviour in caring for the environment.

Grade 3 Science

Soil Studies:

- Investigate how water interacts with soil in the environment
- Analyze the interconnectedness of soil, living things, and the environment

Plant and Seed Studies:

- Investigate how various plant parts change over the life cycle
- Investigating plant roots and describing how they spread through the soil.
- Students are able to sort seeds using one or more attributes.
- Students are able to describe the various attributes of their seeds.

Food, People, Plants:

- How do we as humans help plants to grow?

Skills

Science

Observe, Question, Identify, Investigate, Research

Visual Arts

Draw, Colour, Design, Create

Social Studies

Environmental care, Observation

Climate Connections



Habitat Creation & Biodiversity

This activity guides students to put the garden to bed in a way that provides food and shelter for over wintering pollinators, birds, and other wildlife.



Soil Care

Taking care of soil by leaving roots to decompose and adding mulch helps prevent erosion, store carbon, and grow healthy soil for next growing season.



Circular Systems

The activity in this garden lesson encourages composting by turning healthy plant matter into next year's fertile soil, reducing the need for other soil inputs.

Grade 4 Science

Habitat:

- Learners will investigate a variety of local natural habitats.
- Learners will analyze interconnectiveness of and within local habitats, inclusive of a Mi'kmaw perspective.

Grade 5 Science

Weather:

- Learners will investigate weather.
- Learners will investigate how weather impacts daily life.

Grade 6 Science

Biodiversity:

- Learners will analyse diversity of life in nature and significant relationships within the natural world.

Activity 1: "Tucking In" the garden

1. Harvest as long as possible before putting the garden to bed! Pay attention to the weather forecast; if there is a frost warning, spread old sheets over plants to protect from frost. Container gardens can also be covered or you can put the plants inside overnight in a garden or a shed.

2. Once harvesting is complete, it is time to close the annual garden for the season by doing the following with students:
   - Remove diseased or insect-damaged plants and place them in the green bin, not the garden compost.
   - When possible, leave healthy seed-bearing plants standing
   - Tidy the bed by cutting remaining annual plants at their base, leaving the roots in the soil to break down. Plant tops can be left as mulch and insect habitat or added to the garden compost.
   - Finally, add a layer of mulch, such as straw or raked leaves, to protect the soil from erosion, prevent spring weeds, and return nutrients to the soil as it decomposes.

Annual plants produce fruit/vegetables and die within one year.

Examples:





Tips and Tools

While leaving some debris in the garden benefits wildlife and creates habitat, it is best to take a balanced approach by removing the diseased or weedy material and then following up with a protective mulch or planting cover crops. This helps build the soil health and also suppress invasive weeds from growing; making less work in the spring.

Activity 1 Materials

- Garden gloves, pruners, rake
- Mulch (like straw or raked leaves)
- Compost and shovel
- Rag and sanitizer for tools



Nourish Resource Features

Fall is seed-saving and garlic planting time! Find plants that have gone to seed and save some for next year. Consider planting garlic to harvest next summer. Learn more with our Fall Planting Guide.

3. Trim **perennial plants** by removing dead/broken branches, leaving healthy stems. This helps the plants rest and grow back strong in spring. Spread a layer of compost and mulch on top to keep the plants warm and protected during the winter. If the perennials are growing in moveable containers, move the pots to a bright indoor space to help them survive the cold months.

Perennial plants produce fruits/vegetables and die back above the ground in the fall. Their roots stay alive underground, allowing the plant to grow back year after year.

Example:


asparagus


many herbs (ex: oregano, sage, thyme)

4. Clean and sanitize garden tools to prevent the spread of disease. Wiping tools down with a rag and 70% isopropyl alcohol can work well. Safely store away your tools and any bags of soil or other supplies.

Activity 2: Planning your next garden

One last step that you may want to consider before finishing for the season: planning for next growing season!

There are many plant "families" or groups or plants that react differently with soil and add or use up different nutrients. Rotating a new family into the soil each growing season can make the garden grow stronger and healthier. This is called **crop rotation.**

Here is an example of a **common rotation** between four plant families (leaf, fruit, legume, and root) and which nutrients they add or use up:

Leaf
For example, spinach and lettuce use a lot of nitrogen to make phosphorous

Fruit
For example, tomatoes and peppers use phosphorous and a little nitrogen to make potassium

Root
For example, carrots and garlic use potassium and any leftover nitrogen

Legume
For example, beans and peas help put nitrogen back into the soil when roots are left to rot

Tips and Tools

Mulch and healthy soil will help next year's garden to hold water like a sponge, so less water is wasted and future plants will stay hydrated longer.

Plants with seed-heads intact, like sunflowers become natural bird feeders in winter. So leave them standing and cut in the spring.

Activity 2 Materials

- *Mapping this year's garden* worksheet
- *Create a Garden Map* (from Lesson 1) worksheet
- *Plant Families* worksheet
- *Create a Crop Rotation Map* worksheet
- Pencils and erasers

Did You Know?
Three of the most important nutrients for healthy plants are n**itrogen (N), phosphorous (P), and potassium (K)**. Each nutrient has a different function and crop rotation helps add them strategically.

- **Nitrogen (N)** helps plants grow strong green leaves.
- **Phosphorous (P)** helps plants grow seeds, flowers and fruit.
- **Potassium (K)** helps plants grow strong, healthy roots.

1. Distribute and complete worksheet *Mapping this year's Garden*, to create a crop rotation plan. Alternatively, if students filled out worksheet *Create a Garden Map* from Lesson 1, refer back to it to see what was planted and where, at the beginning of the growing season.

2. Explore the idea of crop rotation with students. Use worksheet *Plant Families* to sort the plants you grew this year and others you might like to try next year into their "families."

3. Optional: For the health of the soil and next year's plants, have students complete the *Create a Crop Rotation Map* worksheet. Use this year's *Garden Map*, the *Plant Families* worksheet and the rules below as a guide:

- Grow fruiting plants where roots grew.
- Grow root crops where legumes grew.
- Grow legumes where leafy greens grew.
- Grow leafy greens where fruiting plants grew.

Additional Resources

Put Your School Garden to Bed
https://kidsgardening.org/resources/gardening-basics-put-your-school-garden-to-bed/

Seven Ways to Nurture Soil in Fall
https://kidsgardening.org/resources/gardening-basics-nurture-healthy-soil-in-fall/

Farm to School: Seed Saving
https://www.youtube.com/watch?v=2iQkDSKPEHM

Seed Sorting & Dispersal Activity
https://www.schoolgardens.org/_files/ugd/38f0d3_d066fee058bc43ffa91e1928e487c9bf.pdf

Find more resources at nourishns.ca

Tips and Tools

Keep this year's garden map along with a crop rotation plan for next year. This becomes a helpful resource when you start making next year's garden plans.

It's time to celebrate all that you've grown, eaten, and learned!

Congratulations on planning and planting the garden, observing and interacting with the ecosystem, harvesting and enjoying the food, and putting your garden to bed for the season.

As your growing space hibernates for winter, you've already begun planning for fertile soil and abundance next year.

Well done!

Plant Families

Sort the plants you grew this year (or wish you grew!) into the groups below.

Leaf 

Fruit 

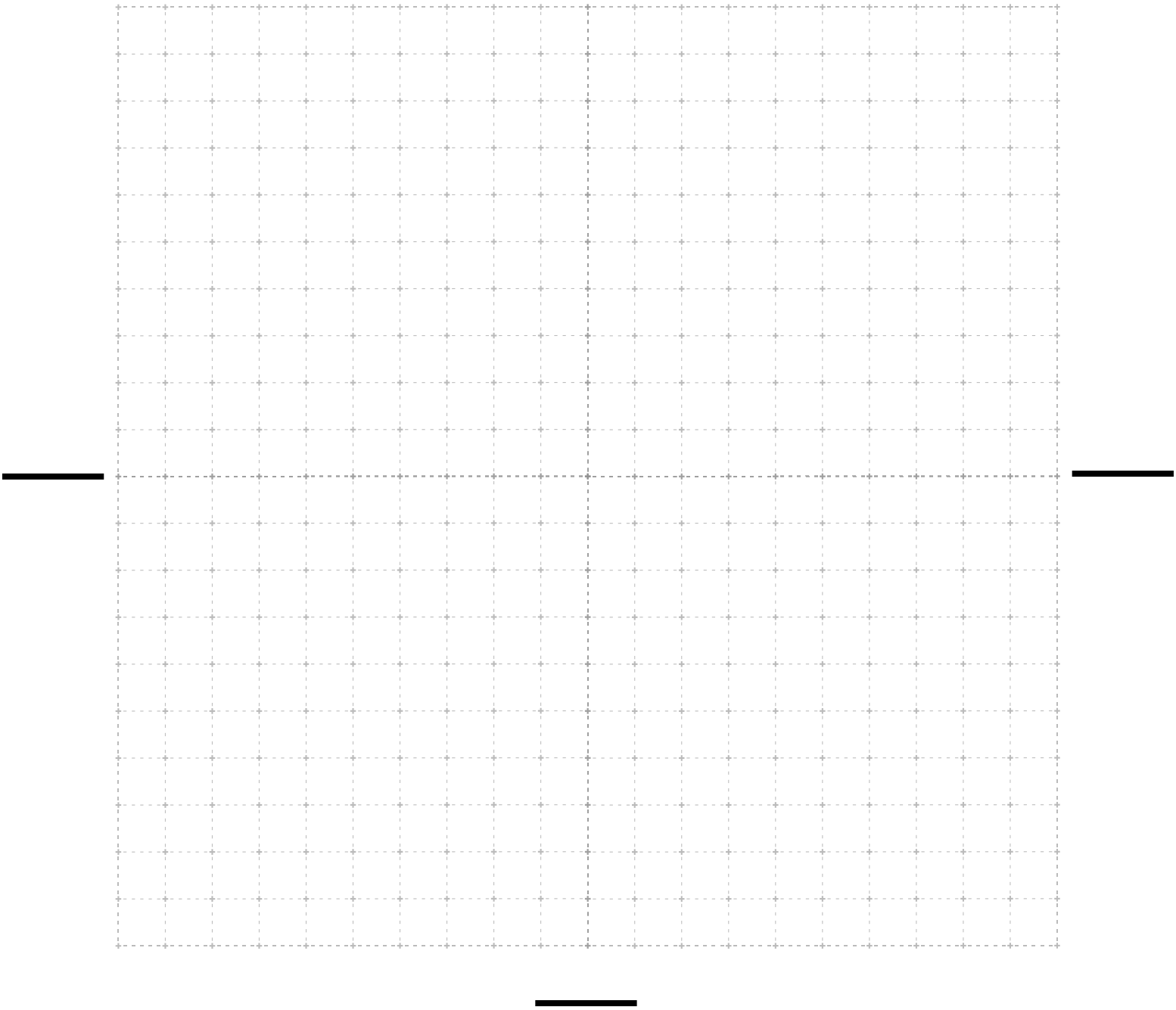
Legume 

Root 

Draw a map showing where each plant grew in the garden this year.

1. Draw the garden from above—like you're a bird looking down. Sketch the garden beds, pots, grow bags, or any containers you planted in. Add the measurements of the garden.
2. On the bold lines around the edges, mark north, east, south, and west.
3. Draw and label the location of the plants that grew in the garden this past growing season.

20__ Garden Map



What I will plant next year

Draw a map of what you'll plant and where next year, focusing on crop rotation. For each, label plant name and family. Think about which plants grow well together. Look up companion planting for ideas. Include the year and directions north, east, south, and west on the provided lines.

20__ Garden Map

Here's an example of how you can rotate crops in your garden:

