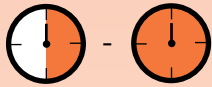


Lesson 4:

Garden Transitions



Time Allotted

30-60 Minutes

Target Audience

Grades 1-8

Objectives

- Students will observe and evaluate the needs of a garden according to the season
- Students will create a list of garden tasks according to season and formulate a plan to implement them
- Students will prepare the garden space for the coming season

Materials

- Clipboards
- Writing utensils
- Paper
- Hand tools
- Rakes
- Shovels
- Marker board or chart paper
- Mulch materials, ie: hay, glass-clippings, leaves, newspaper, pine needles (optional)
- Cover crop seed, ie: rye, buckwheat, clover
- Garlic seed
- Cool-weather crop, ie: spinach, lettuce, arugula, beets, radish, carrot
- Native wildflower seed

Summary

Students will apply knowledge from the Harvest Calendar lesson and translate the seasonal changes on a farm to their garden space. Just as on a farm, a garden's needs change with the seasons. In this lesson, students will identify both the season and necessary seasonal tasks required to care for the garden. Note: Students should complete the Harvest Calendar lesson prior to this so they have a better context for discussions during this lesson.

Background

Following the method section are Recommended Seasonal Task and Activities lists corresponding with the following two seasons of transition.

Putting the Garden to Bed (Fall):

As the weather cools, days shorten, and the gardening season comes to a close, there are a number of things that must be done to help prepare the space for winter. Fall is a great time to get in the last plantings (September - October) of cool season crops with short maturation time such as lettuces, spinach, or radishes, as well as planting garlic for spring. For any crops planted in cool weather, be sure to heavily mulch with straw to protect plants from temperature change.

Prepare for the Growing Season (Winter):

During the winter months, while the garden is dormant, a gardener must begin preparing for the coming spring. Winter is a great time for planning next year's plantings, ordering seed, new equipment and materials, and, in late winter, starting indoor planting.

Method

1. **Ask:** What season is it? What changes are associated with this season (temperature, precipitation, sunlight)? How might these changes affect our garden?
2. **Ask:** What were some tasks farmers performed during this season? Are there any tasks on this list that we may need to perform in our garden to prepare for the season change?
3. Students should survey their garden space to see if there are additional tasks needed. Divide the class into small groups and assign each group a section of the garden for which they will provide care and make observations.
 - Have the students draw a physical garden plan. This illustration will not only help show where different tasks are needed, but is invaluable when planning for future seasons.

- Fall: Make note of any perennial plants that will return as well as any observations regarding growth - were there certain areas where plants did not grow as well? Pests? These notes will be helpful for spring planning.
 - Spring: Have the students decide what to plant and estimate how much seed they will need. This will be determined by what they decide to plant, how large the plants get, and how many plants will fit in their space. Use the Seed It! Plant It! Grow It! Sow It! Worksheet following this lesson to help guide and track the process.
Ask: Will they need more soil? New materials for new beds? Pots? Trees?
4. Have the students come up with a list of 2-3 tasks each month for the season for these transition times:
- September, October, November -> preparing for winter
 - December, January, February, March -> preparing for spring
5. Gather the students back together and have them organize their proposed tasks by month to come up with a seasonal work-plan.
6. Finalize the work-plan making any necessary adjustments/additions and assign tasks and responsibilities.

Task List and Activities by Season:

Putting the Garden to Bed

Fall for preparations for Winter (September/October/November)

- Weed — This is often a time when late season weeds have gone to seed. Pulling them now will help reduce the chance of new weeds next year.
- Bulbs — Dig up and store any summer bulbs (if applicable).
- Reduce water — Encourage hardier species, such as fuzzy herbs (savory, thyme, rosemary, oregano, lavender, etc.), to enter dormancy by reducing watering.
- Save seeds — When seeds are thoroughly dry, and seem ready to fall off the plant, cut seed heads and lay them out flat or upside down in a paper bag in a warm, dry place, until seed heads are completely dry. Separate individual seeds from debris and chaff (leaves, stems). Lay out cleaned seeds and continue drying for another week before storing, picking out any seeds that seem lighter.
NOTE: Do not save seeds from hybrid varieties as many will not breed true the following year; try to source non-hybrid varieties for a school garden to save money and allow for seed saving practices.
- Garlic — Now is the time to get a head start on spring by planting garlic. Be sure to choose cloves from a nursery, seed catalog, or another gardener; most garlic found in grocery stores is not suitable for growing in cooler climates. After the first killing frost, plant the cloves with the pointed side up, 2-4" deep, about 6" apart. Water. After 3-5 weeks, heavily mulch the soil using straw or chopped dried leaves to help protect the cloves from temperature fluctuations.
- Plant — September and October before the first killing frost are good times to get a last planting in for harvest. Choose cool-season crops with shorter maturation such as spinach, lettuce, or arugula and leafy root crops such as carrots, radish, beets, or turnips. The greens of root crops are edible and can be lightly harvested while the root is maturing.
- Plant — Begin planting cover crops and wildflower seeds 4-6 weeks before the first killing frost to help suppress weeds, build your soil, and help control pests and diseases. Some suitable cover crops are clover, buckwheat, and rye (most cold-tolerant).

- Compost — Rake leaves and dead disease-free garden plants and add them to your compost pile.
- Mulch — Be sure to mulch any bare soil to help with moisture retention, suppress weeds and regulate temperature. Appropriate mulch materials are a mix of (weed free) leaves, hay, grass clippings, pine needles, or newspaper (color-free).
- Test your soil — Take a pH test of the soil in different areas of the garden; continue this practice throughout the year to determine which plants prefer or achieve certain pH levels and how this affects growth. Knowing the pH of different areas in your garden may also factor in to your choice of cover crop and next years crops (as certain plants can “fix” certain deficiencies or surpluses in the soil).
- Inventory — Take note of all remaining seeds, plants (potted and perennial), and tools; have the students create a garden tool guide with illustrations of the tools used in the garden and what they are used for. This will be useful for future gardeners and can be updated as more tools are added to the library/inventory.
- Care and repair — Clean and oil all tools before storing for the winter. Make any repairs to tools, beds, fences, etc. as needed (this is also a great activity for Winter, especially for older students with access to a “shop” classroom).

Preparing for Spring: Winter preparations for Spring (December, January, February)

Before the first thaw:

- Clean up — Clean up any debris that has collected in the garden over the winter.
- Plan — Using notes and inventory from the fall, order seed catalogs and begin mapping the season’s planting and seed orders. For continuous harvest throughout the season, plan plantings based on germination and maturation of seeds. Once plants reach maturation, they can be harvested and the plot can be replanted with the same or a different crop. Another consideration is “companion planting” - pairing complementary plants to aide in pest control and maintain balance.
- Order — Place seed orders and materials orders for tool and bed and fence repair (if necessary).
- Plant — Begin planting cool season crops such as spinach, radishes, beans and peas indoors.

After the first thaw:

- Till cover crop — After the ground has thawed, begin tilling under cover crops as needed, allowing them to decompose and replenish the soil with nutrients.
- Plant — Begin sowing warmer season crops such as tomatoes, peppers, eggplant, cucumbers and herbs indoors.
- Beds — Repair and refill beds with soil/mulch as needed.
- Transplant — When danger of frost has passed, begin transplanting seedlings into the garden. In Illinois, the official last freeze typically occurs in May, so be sure to choose hardy varieties and mulch for protection.
- Weed — Keep an eye on weeds as the season warms up and pull weeds to keep them under control.

Extensions

- Bird feeders — Build bird feeders for the winter and keep them stocked—have students observe which birds come to the garden during the winter. Perhaps compare this to spring/summer and discuss migration (some birds do not migrate).

- Bird guide — Create a garden bird guide complete with how to attract certain birds (or not). Birds can be incredibly useful for organic pest control and plant pollination.
- Scarecrow — Build a scarecrow and either read a fiction book related to scarecrows or have older students research the history of scarecrows and other methods for keeping certain “pests” from a garden.
- Tree guide — Try to identify trees in the neighborhood or schoolyard and have students create a schoolyard/neighborhood fall tree guide, describing the colors, shapes, and seed pods each tree may form during each season.
- Butterflies and bugs — Hatch butterflies and/or ladybugs. You can order butterflies and ladybugs online from sources including: <http://educationalscience.com/butterflycultures.htm>, <https://www.insectlore.com/>, and <http://www.thebutterflysite.com/rearing.shtml>

