

Horticulture

Flower Gardening

ALL LEVELS

Resources:

- Extension Bulletins
- Internet Sites
- Visit greenhouses and botanical gardens
- Library

Skill and Knowledge Targets:

- Types of flowers and perennial plants that can be successfully grown in the average garden in Michigan.
- How to identify pests and manage them safely.
- How to identify the necessary components of good garden soil and how to maintain or enhance the quality of the garden soil.
- Safe use and care of garden tools

BEGINNERS

1. Learn cultivation requirements of 3-6 kinds of annuals by growing in garden or container.
2. Identify an additional 10 kinds of plants (include perennials and annuals)
3. Learn about different kinds of soil
4. Learn to identify beneficial insects and other bugs.
5. Learn names and habits of 2 most common weeds found in their garden.
6. Learn about basic design concepts - leaf texture, color of flowers, which plants go in back.

Suggested Projects:

1. Collect and save seeds from annuals like cosmos and scarlet runner beans. Make a note about the color and size of the plants, which plants were most like parent plants.
2. Make at least 2 fresh flower arrangements. Identify the flowers that have fragrant blooms. Identify which flowers lasted longest in a vase.
3. Grow scarlet runner beans, red petunias and red salvia, watch for hummingbirds.
4. Take soil samples and examine closely - look for worms, small rocks, and organic matter. Mix a sample up with water and place in clear container, observe the layers as they settle out and identify.
5. Use magnifying glass to study healthy and unhealthy leaves. Look for insects, water, mildew, as well as the characteristics of the leaves themselves.
6. Use a calendar to keep track of planting days, weather events, first and other garden activities.

INTERMEDIATE

1. Learn cultivation requirements of 4-7 kinds of flowers (bulbs, perennials or annual) by growing in garden or container. Include some that need something "extra" to do best - deadheading, pinching, and growing on a trellis.
2. Learn which and why insects are helpful or destructive. Identify which plants attract or repel certain insects.

3. Identify why organic matter is important in garden soil. Learn how to add or maintain levels of organic matter in garden.
4. Learn what plants prefer shade, which do best in full sun. Identify plants that grow best in poor soil and which need to have better soil.
5. Identify 10 new plants or flowers and be able to name, describe and classify. This will become progressively more complex but can include such characteristics as perennial/annual/bulb, one-time/continuous/repeat bloomer, fine/coarse foliage and other traits.
6. Learn how to condition cut flowers for fresh arrangements.
7. Identify 5 most common weeds in garden and how to control - pulling, mulching, hoeing, and crowding out.

Suggested Projects:

1. Design and plant a theme garden - all one color, attractive to butterflies, fragrant foliage or flowers.
2. Start a compost pile with leaves, grass clipping and vegetable scraps from kitchen. Check for worms in pile every week or so, are there more at the bottom or at the top? Do they seem to prefer the moister spots?
3. Start 6-10 plants from seed in a sunny window that can be observed daily. Marigolds, cosmos and zinnias are good starters.
4. Make a special occasion arrangement - birthday, 4th of July, wedding.
5. Pull up a dandelion, wild onion, quack grass, clover and other weeds. Look at the roots, leaves and flowers/seeds. How does the plant spread? What would be the best way to get rid of most of the weed?

ADVANCED

1. Learn the cultivation requirement for 4-7 kinds of flowers by growing in garden or container.
2. Identify what plants belong in the same botanical families as well as which have similar pests or soil requirements.
3. Learn about the macronutrients (nitrogen, phosphorus and potassium) and the micronutrients (calcium, iron, etc.). Learn about pH levels.
4. Identify 10-15 most common weeds, reproductive habit, growth cycle and best means of control.
5. Learn methods of managing water in garden. Identify multiple means of adding water or controlling loss - mulching, soaker hoses, and sprinklers. Learn how to check garden soil for moisture.
6. Learn what hybridization means and advantages and disadvantages to gardeners. Learn how to tell if plant varieties are more resistant to diseases over specific plant families.

Suggested Projects:

1. Make potpourri from flowers and leaves of fragrant plants.
2. Design or maintain a flower garden for a school or other community area.
3. Design and build a trellis for climbers like morning glories or clematis.
4. Start several varieties of dahlias from seed. Start 3-4 plants of each variety in a sunny window. The small varieties (Figaro is one) will flower the first year from see. The larger ones may take two seasons. The tubers can be dug and stored in cool area (50-65) degrees.

5. Plant a window box or container garden. Design it to match or complement the house or building.

Vegetable Gardening

ALL LEVELS

Resources:

- Extension Bulletins & Internet Sites

Skill and Knowledge Targets:

- Types of vegetables and herbs that can be successfully grown in the average garden in Michigan.
- How to identify pests and manage them safely.
- How to identify the necessary components of good garden soil and how to maintain or enhance the quality of the garden soil.
- Safe use and care of garden tools.

BEGINNERS

1. Learn cultivation requirements of 2 kinds of vegetables or herbs by growing in garden or container.
2. Learn how to harvest vegetables or herbs.
3. Learn about different kinds of soil
4. Learn to identify beneficial insects and other bugs.
5. Learn about 4-6 new herbs or vegetables. Members should be able to name several specimens and describe how they grow and how they are used.
6. Learn names and habits of 2 most common weeds found in their garden.

Suggested Projects:

1. Grow ornamental vegetable-gourds, Indian corn or a showy herb-purple basil, dill or borage.
2. Pre-sprout large vegetable seeds like beans and corn a few days before planting time. Plant some seeds without pre-sprouting. Record which plants are ready for harvest first?
3. Grow novelty vegetables-cherry tomatoes, purple beans, mini-pumpkins.
4. Take soil samples and examine closely-look for worms, small rocks, and organic matter. Mix a sample up with water and place in clear container, observe the layers as they settle out and identify.
5. Use magnifying glass to study healthy and unhealthy leaves. Look for insects, water, mildew, as well as the characteristics of the leaves themselves.
6. Use a calendar to keep track of planting days, weather events, first and other garden activities.

INTERMEDIATE

1. Learn cultivation requirements of two new kinds of vegetables or herbs by growing in garden or container. Include some that need something "extra" to do best-thinning or pinching for example.
2. Learn which and why insects are helpful or destructive. Identify which plants attract or repel certain insects.
3. Identify why organic matter is important in garden soil. Learn how to add or maintain levels of organic matter in garden.

4. Learn what plants make good partners - radishes and carrots, sweet corn and pumpkins. Learn what plants shouldn't be grown in the same place the next year - broccoli following cabbage, tomatoes following potatoes for example.
5. Identify 6-8 new herbs or vegetables, be able to name, describe and classify. This will become progressively more complex but can include such characteristics as warm weather/cool weather, one-time/continuous harvest, vine/bush, legume, and root/fruit/leaf.
6. Learn how to preserve seeds and leaves of herbs.
7. Identify 5 most common weeds in garden and how to control-pulling, mulching, hoeing, and crowding out.

Suggested Projects:

1. Grow tomatoes with and without black plastic mulch. Record which plants had first tomatoes, which had most.
2. Start a compost pile with leaves, grass clippings and vegetable scraps from kitchen. Check for worms in pile every week or so, are there more at the bottom or at the top? Do they seem to prefer the moister spots?
3. Start 6-10 plants from seed in a sunny window that can be observed daily. Tomatoes, peppers, cabbage or broccoli are good first choices.
4. Plant herbs to attract butterflies. Dill and parsley are favorites of swallowtail butterflies. Look for the caterpillars with bright yellow rings around their body.
5. Pull up a dandelion, wild onion, quack grass, clover and other weeds. Look at the roots, leaves and flowers/seeds. How does the plant spread? What would be the best way to get rid of most of the plant?

ADVANCED

1. Learn the cultivation requirement for 2-4 new herbs by growing in garden or container.
2. Identify what plants belong in the same botanical families as well as which have similar pests or soil requirements.
3. Learn about the macronutrients (nitrogen, phosphorus and potassium) and the micronutrients (calcium, iron, etc.). Learn about pH levels.
4. Identify 10-15 most common weeds, reproductive habit, growth cycle and best means of control.
5. Learn methods of managing water in garden. Identify multiple means of adding water or controlling loss - mulching, soaker hoses, and sprinklers. Learn how to check garden soil for moisture.
6. Learn what hybridization means and advantages and disadvantages to gardeners. Learn how to tell if plant varieties are more resistant to diseases over specific plant families.

Suggested Projects:

1. Devise 3 and 4 year crop rotation plans. Identify plants that follow other plants within one season - zucchini after early peas or that can be planted together - corn and pumpkins. How does this help in controlling pests and keeping the soil in good condition.
2. Make gourd birdhouses to attract birds to garden. Observe which birds like to hunt for bugs in garden, which areas of the garden are the most popular.
3. Grow several different kinds of peppers. Sweet peppers can be green, red, yellow or even chocolate brown, they can be bell or banana shaped. Hot peppers come in almost

all the same colors and can be very small or fairly large. Which ones grew best? Which ones were the best for eating?

4. Start several varieties of tomatoes from seed. Start 3-4 plants of each variety in a sunny window. Slicing, paste, cherry, early, yellow are all categories for tomatoes. (Each category has several choices including some that are resistant to certain diseases or pests.)

Resource:

See them Sprout Series www.4-hmall.org

Container Gardens

Demonstrate with the containers what they have learned about seed or plant selection, soil, fertilizing, design and originality. Plants can include all varieties (vegetable, flowers, house plants, carnivorous, etc.). Have to be exhibited in the garden at fair.

Rules:

1. All plant exhibits to be started from seed or small starter plant.
2. All plants should have one variety per specimen (example only 1 basil plant per container).
3. Each containers plant must have something in common.
4. Containers need to be a minimum size of 12-24 inches. Something different than a regular round pot get creative.
5. Each container should have a design plane, a layout of what plants are planted and where they are planted.

4-H Conservation Guidelines

The following are guidelines for providing learning experiences in the conservation project area.

THE GUIDELINES FOR ALL MEMBERS

- Understand what Natural Resources are; how to enjoy them, how and why they exist.
- Understand how Natural Resources inter-relate with each other, the environment and people
- Become involved in making the environment of our communities and state better for people through the responsible utilization, development and preservation of our Natural Resources (Water, Soil, Forests, Wildlife, Air and Energy)
- Explore career opportunities in areas related to Natural Resources and Environmental Conservation.

IDEAS FOR LEARNING EXPERIENCES IN THE VARIOUS AREAS

Basic Conservation

- Learn about the inter-relationship of one natural resource to another. Get acquainted with the ecosystem.
- Learn about ecology. Research wild animals and their habitat.
- Conduct outdoor activities with each of the five parts of the environment. Use of environmental activity guides such as Project WET, Project WILD, or Project Learning Tree