



## Seedlings for Schools Grant Program — Linking your garden to curriculum

Science-based concepts that can be explored in the garden include plant biology and anatomy, adaptations, food webs, beneficial insects, pollination and life diversity. Scientific skills include observing, classifying, measuring, predicting, organizing and interpreting, forming hypothesis and identifying variables.

Make a list of your own curriculum goals then make another list of garden tasks and projects that match curriculum standards. Use classroom activities to achieve your goals.

### Science activities

- Discuss life cycles of plants and what they need from their environment to grow.
- All plants and animals need water. Discuss the water cycle, including transpiration, evaporation and condensation of water. What methods do plants use in each process?
- How do plants absorb water from the ground and distribute it to other parts of the plant?
- How can using wildflowers and native plants help conserve water in our landscapes?
- Think about all the various ecosystems in Florida in which plants grow — swamps, forests, coastal dunes. How have wildflowers adapted to these areas?
- Identify similarities and differences in growing conditions for different habitats.
- Plants need sunlight to create energy. Relate photosynthesis to your garden, and research the complex chemical reactions that help change the sun's energy to food for the plant.
- What makes an insect beneficial to the garden? How do insects and plants share a habitat, and what are the advantages to both?
- What is a pollinator, and how do they help wildflowers reproduce?
- What are the names and functions of the parts of a flower? How do flowers of different species vary? What causes these adaptations? Dissect a flower, and use a magnifying lens to examine plant parts. Draw and label the parts of a flower.
- Learn the difference between single flowers and those forming a group or cluster. Learn to identify a spike, raceme, panicle, corymb, umbel and cyme inflorescence.
- Write a scientific description of a plant's flowers, stems and leaves that includes measurements, leaf arrangement, leaf shape, leaf margins.
- All wildflowers produce seeds — how does this process occur?
- Why do all wildflowers have different sizes and shapes of seeds? Compare seeds from several flowers from your garden. What conditions favor germination for wildflower seeds?
- How are seeds transported to new areas? What are mechanisms for seed dispersal that help spread Florida wildflowers?



### **Mathematics activities**

- Create a garden weather station with an outdoor thermometer and rain gauge. Record daily measurements, and create a chart with which to compare the growth of your plants.
- Measure the growth index of plants over time, and display results on different kinds of graphs.
- Use a time-lapse camera to record plant growth.
- Place a garden hose in a large bucket and measure the amount of water collected in 1 minute. Then calculate how much water it would apply to the garden in 15, 30, 45 and 60 minutes.
- One-half inch of water is generally recommended for each irrigation application. Place six empty cans in various parts of the garden, water for 15 minutes, then measure the amount of water in each can with your rain gauge. Calculate the average amount of water, then calculate how many minutes you need to water to apply 1/2- to 3/4-inch of water on your garden. Apply this amount 1–2 times per week as needed when it doesn't rain.

### **English activities**

- Read books and stories about gardens and plants. (Refer to the Florida Wildflower Foundation Seedlings for Schools resource list for suggestions.)
- Write a story about your garden or favorite wildflower.
- Where do scientific names come from? Talk about how some of the Latin names describe plant texture, color or size. Many plants are even named for famous botanists.
- Daily garden journals are a great way to record your observations, feelings, weather conditions and classroom activities.
- Compare growing habits of two different plants using Internet research and reference materials.
- Write and illustrate a story or poem about wildflowers.
- Create a class newsletter with student articles about wildflowers and share it with other students and parents.
- List as many adjectives as you can to describe each wildflower in the garden.
- Write step-by-step instructions for planting a garden.
- Write thank-you notes to volunteers on your garden team.

### **Florida history activities**

- Learn about Ponce de Leon and his explorations in Florida. Find out why he named our state "*La Florida*."
- Research how Native Americans in Florida used native plants and wildflowers for food, shelter and household materials.
- Why are some Florida wildflowers threatened or endangered? What do those terms mean?
- How can we help plants that are threatened or endangered?
- Find out about the State of Florida's program to beautify our roadsides with wildflowers.

### Arts activities

- Create realistic and abstract pictures of wildflowers.
- Collect fresh plant leaves and flower heads with which to create artistic pictures using rollers, paint and stamps.
- Have students create and vote on a unique garden logo.
- Create and perform a play showing all the steps of starting your garden.
- Learn songs about wildflowers and the environment.
- Create artistic wildflowers with tissue paper
- Listen to and talk about the music of local Florida folksingers inspired by nature.

Plan garden time into your weekly schedule and implement lessons around garden activities and experiments. Keep a notebook of your garden activities that include photos. Track volunteer time and record all positive comments from students, parents and community members. It is also important to record your successes and failures throughout the gardening season.

Create a curriculum page in your notebook that matches your activities and curriculum. Use pre- and post-tests to evaluate knowledge gained in the garden.

You can promote your garden in your school and surrounding community with a garden newsletter to send home to parents. Your school website is a great place for pictures and garden updates too. Invite other classes for a garden tour or ask local newspaper and TV reporters to visit and do a feature on your class and garden.

Most of all, have fun and enjoy the process of gardening and educating your class about Florida wildflowers!

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