Michigan’s Spring Wildflowers Program Information Sheet

**Theme:** Spring Wildflowers of West Michigan

**Recommended Grade Levels:** 1st, 2nd & 3rd (Adaptable for 4th, 5th & 6th)

**Seasons Offered:** Spring

**Program Length:** 1.5 hours (can be adapted upon request)

**Maximum # of Students:** 60

**Program Synopsis:** Students will become junior botanists learning how to identify some common spring wildflowers by examining the parts of a flower up close with a hand lens. They will also learn more about plant life cycles, the process of pollination and unique functions of each part of the flower through a variety of hands on activities. (Upon request, this program can be adapted to a teacher’s specifications with enough lead time.)

**Key Concepts:** survival needs of a plant (water, sunlight, air, nutrients/good soil), life cycle of a plant (seed, seedling, mature plant, flower, fruit/seeds, and dead growth), parts of a flower and their functions (stem, leaves, flower, pollen, roots, seeds petals, sepals, and stigma), pollination, pollinators, spring wildflower identification, using hand lens, awareness and appreciation of nature

**Teaching Objectives:** Students will …

- Observe a variety of flowers in the preserve and notice the differences between them.
- Learn basic flower identification skills and more about the natural history of some common spring wildflowers of Michigan.
- Learn why flowers are important, the parts of a flower and their functions
- Learn the basic life cycle of a plant and look for evidence in the preserve of plants in different stages of their life cycle (seed, seedling, mature plant, flowers, fruit, seeds)
- Discover what pollination is and some common pollinators and the strategies that plants use to attract pollinators

---

**Tips for a successful field trip**

**Preparing for an Outdoor Program:** Students, teachers and chaperones need to dress for the weather. In inclement weather, outdoor activities may be shortened and conducted inside the nature center; but, unless the weather is severe, we will still go outside. Please have students wear lots of layers, hats, gloves, boots and coats in cold weather and rain gear when needed. Clothes and apparel may get dirty or wet during outdoor programs—please advise your students’ parents of this. During certain times of the year, insect repellent may be needed.

**Before arriving, please remind your students and chaperones of the following:**

- Walk quietly. Quiet hikers see more wildlife.
- Staying on the trails protects both plants and animals that live in the preserve and yourself.
- Stay behind the leader and listen carefully to instructions.
- To care for our plants and animals, we need to be kind and not hurt them.
MI GLCE Standards:

1st Grade:
- S.IP.01.11 Make purposeful observations of the natural world using the appropriate senses.
- S.IP.01.12 Generate questions based on observations.
- S.IP.01.14 Manipulate simple tools that aid in observation.
- S.IA.01.12 Share ideas about science through purposeful conversation.
- S.RS.01.11 Demonstrate scientific concepts through various illustrations, performances, models, exhibits and activities.

2nd Grade:
- S.IP.02.11 Make purposeful observations of the natural world using the appropriate senses.
- S.IP.02.12 Generate questions based on observations.
- S.IP.02.14 Manipulate simple tools that aid in observation.
- S.IA.02.12 Share ideas about science through purposeful conversation.
- S.RS.2.11 Demonstrate scientific concepts through various illustrations, performances, models, exhibits and activities.
- L.OL.02.14 Identify the needs of plants.
- L.OL.02.22 Describe the life cycle of familiar flowering plants including the following stages: seed, plant, flower, and fruit.
- L.HE.02.13 Identify the characteristics of plants that are passed from parents to young.

3rd Grade:
- S.IP.03.11 Make purposeful observations of the natural world using the appropriate senses.
- S.IP.03.12 Generate questions based on observations.
- S.IP.03.14 Manipulate simple tools that aid in observation.
- S.IA.03.12 Share ideas about science through purposeful conversation.
- S.RS.03.11 Demonstrate scientific concepts through various illustrations, performances, models, exhibits and activities.
- L.OL.03.31 Describe the functions of the following plant parts: flower, stem, root and leaf.
- L.OL.03.41 Classify plants on the basis of observable physical characteristics.
- L.EV.03.11 Relate characteristics and functions of observable parts in a variety of plants that allow them to live in their environment.

Program Activities:

Human Flower (Parts of a Flower, their Functions, and Pollination):
(S.RS.01.11, S.RS.02.11, L.OL.02.12, L.OL.02.22, L.HE.02.13, S.RS.03.11, L.OL.03.31, L.OL.03.41, L.EV.03.11)
As a large group, students will learn the parts of a flower and their function as they become a "human wildflower." The process of pollination will also be demonstrated and discussed. By the end of the activity, students will understand what the purpose of the flower is to a plant.
Spring Woodland Flower Observation & Identification: (S.IP.01.11, S.IP.01.12, S.IP.01.14, S.IA.01.12, S.IP.02.11, S.IP.02.12, S.IP.02.14, S.IA.02.12, S.IP.03.11, S.IP.03.12, S.IP.03.14, S.IA.03.12, L.OL.03.41, L.EV.03.11)
In small groups, student will explore the preserve looking for spring wildflowers (both tree and herbaceous flowers). Students will be encouraged to observe these flowers with hand lens and answer questions about what they are observing. Emphasis will be placed on developing basic identification skills and less on the actual name of the flower. Natural history information will be shared as appropriate for the age group and interest levels.

Flower Fantasy (Plant Life Cycle): (S.IP.01.11, S.RS.01.11, S.IP.02.11, S.RS.02.11, S.IP.03.11, S.RS.03.11)
Students will participate in a dramatic reading about the life of a plant. They then will be asked to see if they can find plants in the preserve in the different life stages and observe them.

Pollinator Parade & Bee Dances (Flowers and Their Pollinators):
Students will learn about different pollination strategies that plants use to attract pollinators and the types of pollinators that pollinate flowers by matching pollinators to specific flowers. As time allows, students will learn how honeybees, important pollinators, communicate with each other about where flowers are located. They will become “honeybees” and dance to show other “bees” where the flowers are.

Ideas for Pre & Post Classroom Activities:

Activities:

Story Books: Read plant based storybooks to your class. See the Resources list below for some of our favorites.

Art:

Fruit prints: Collect a number of different types of fruits and cut each in half. Have the students observe the seeds inside the fruit first. Then allow them to use paint to coat the flat face of the fruit and use it like a stamp to create fruit prints.

Michigan Wildflower Coloring Sheets: Visit www.oaklandwildflowerfarm.com to download coloring sheets of some of Michigan wildflowers. Look under the philanthropy section of the website to find the coloring sheets. Provide Michigan Wildflower field guides to the students so they can learn how to correctly color each of the flowers.

Tissue Paper Flower Collages: Provide students with green construction paper and various colors of tissue paper and invite them to create flowers. Use glue to affix the flowers to the paper.

Wildflower Bookmarks: Create a wildflower book mark or window hanging. Collect some beautiful wildflowers then place them between sheets of newspaper under several heavy books and leave them there for several days. After the flowers are pressed, place them on a sheet of contact paper. Lay another piece of contact paper over them to create your book mark. This activity can also be done with wax paper, by ironing the wax paper under a towel to seal it.
Exploration, Observation & Experiments:

Create a Native Plant Garden at Your School: A school yard garden provides multiple opportunities for exploration, observation and experimentation on a variety of subjects. Native plant gardens are relatively low-maintenance that will also attract wildlife so your students can observe a mini-ecosystem complete in action throughout the school year. See the section before on funding sources to help you get started in creating your own school yard garden.

Dissect a Flower: Give each student a flower and first ask them to make a sketch of their flower. Then allow them to carefully take the flower apart starting from the outside and working their way to the center of the flower. Encourage them to draw and label the different parts of the flower they found with both the name of the part and its function. They should look for stem, leaves, sepals, petals, pistil, stigma, ovaries, anthers, stamens, pollen and possibly seeds. Then invite them to redraw the whole flower making sure that they include all of the flowers parts. In our experience, Peruvian lilies work best for this activity are inexpensive.

Honeybee Waggle Dance: Watch these short video clips of a honeybee performing the honeybee waggle dance at www.pbs.org/wgbh/nova/bees/dances.html.

Spring Wildflower Scavenger Hunt: Go on a spring wildflower scavenger hunt around your school year. (Many trees and shrubs have flowers that the students can observe up close.) Create your own scavenger hunt sheet encouraging the students to find and observe a variety of different kinds of flowers. Some ideas are: look for a flower with three petals, a flower with more than five petals, a white flower, a flower on a tree, pollen, a plant with more than one flower on its stem, a flower with an insect on it and a flower that smells nice.

Sharing/Discussion:

Nature Station: Set aside an area in your classroom for students to bring in nature items to display. Have the students share where they found the item, why they think it is special, how it feels, smells, looks, etc. A nature station also creates a unique resource for other sensory activities where students can blindfold each other and try to identify the object by using their other senses such as touch, smell, and hearing.

Writing:

Spring Wildflower Reports: Have students write their own spring wildflower reports by conducting simple research and learning about their plant’s diet, habitat, and unique adaptations. Students could also draw a picture of their wildflower and share their report with the class.

Great Resources for the Classroom

Our favorite storybooks about flowers, seeds, and pollinators:
- A Seed is Sleepy by Dianna Hutts Aston
- Are You A Bee? by Judy Allen and Tudor Humphries
- I Saw It in the Garden by Martin Brennan

Updated JMH 3/19/2012
- On One Flower Butterflies, Ticks and a Few More Icks by Anthony Fredericks
- Planting a Rainbow by Lois Ehlert
- Sunflower House by Eve Bunting
- The Apple Pie Tree by Zoe Hall William
- The Fruit is a Suitcase For Seeds by Jean Richards
- The Legend of the Lady's Slipper by Kathy-Jo Wargin
- The Life & Times of the Honeybee by Charles Micucci
- The Reason for a Flower by Ruth Heller
- This is a Sunflower by Lola M. Schaefer
- Tiny Seed by Eric Carle

Grants & Funding Resources for Creating Outdoor Classrooms:

- Lowe’s Tool Box for Education  www.toolboxforeducation.com
- Seeds for Education  www.for-wild.org/seedmony.html
  The Lorrie Otto Seeds for Education Grant Program gives small monetary grants to schools, nature centers, and other non-profit and not-for-profit places of learning in the United States, including houses of worship, with a site available for a stewardship project.

- WAM/Glassen Educational Grant Program  www.wildflowersmich.org
  The Wildflower Association of Michigan, in a partnership with the Harold & Jean Glassen Foundation, awards grants annually to fund projects involving the creation of an outdoor classroom, the enhancing of an existing site, or other educationally directed projects that support the WAM Mission.

Internet Resources:

- Lady Bird Johnson Wildflower Center Teacher Resources: Exploring the Native Plant World:
  This site contains curriculum guides for Pre-K – 6th grade about native plants. The guides can be downloaded for free.
  www.wildflower.org/teachers/

- Michigan State Native Plants & Ecosystem: This website contains lots of accessible research information for the public to learn more about the importance of native plants for ecosystems and agriculture. Also contains great factsheets about Michigan native plants and their pollinators.
  http://nativeplants.msu.edu/

- Michigan Wildflower Factsheets: The Michigan Department of Natural Resources’ website contains a variety of factsheets about Michigan wildflowers.
  http://michigan.gov/dnr/0,1607,7-153-10370_12146_12213---,00.html

- Pollinators Live a Distance Learning Adventure: The site contain amazing resources for teachers to teach their students about pollinators. It contains a variety of lesson plans, archived webcasts and seminars, links, and citizen science projects you and your students can participate in.
Wildflower Association of Michigan: This site contains a suggested reading and field guide list to learn more about native plants, a list of native plant growers, informative newsletters, information about their annual native plant conference and information about their grant program for school gardens.
www.wildflowersmich.org

Wildones: A national native plant organization, the Wildones provide information about native plants on their website along with informative newsletters and information about their grant program for school gardens. River City Chapter of the Wildones is our local chapter. This group has monthly educational programs and fieldtrips which are open to the general public to attend. The group also assists local teachers with creating native plant gardens for their schools.
www.for-wild.org
www.rivercitywildones.org

Lesson Plans:
- Growing Up Wild: Exploring Nature with Young Children Published by Council for Environmental Education

For questions and/or additional information about this program please contact:
Jeanette Henderson
Program Manager
jmh46@calvin.edu
616-526-7601

Updated JMH 3/19/2012