

Beatrix Farrand Garden
At Bellefield



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Overview of Bellefield Garden

Beatrix Farrand is a well-known landscape gardener, whose work has been famous for fifty years. Farrand is one of the eleven founders of the American Society of Landscape Architects, and calls her work landscape gardening rather than landscape architecture. Beatrix Farrand's Garden at Bellefield has matured over the years, becoming one of Beatrix's surviving gardens. Bellefield's design was influenced by both American colonial and formal European gardens and landscapes. It elegantly captures the concept of a "garden room" and is influential to gardens today. When comparing Beatrix Farrand's garden at Bellefield with other famous Farrand gardens that are in existence, there are many similarities that can be traced back to European influence. Farrand's development as a landscape architect can also be traced through comparison between the gardens. The ecosystems at Bellefield determine the flora and fauna that are found. The flora determines the fauna that live in any garden. Farrand set up her own practices in New York with no qualifications since gardening was an unacceptable activity for woman during the Gilded Age. Her donations to the University of California at Berkeley, and many awards received from notable critics have continued the celebration of her work.

Lesson Plan

Understanding Process of Transpiration and Horticulture

Standards Addressed: (NYS Standards)

Science

Standard 1: Analysis, Inquiry and Design Students will use mathematical analysis, scientific inquiry, and engineering design as appropriate to pose questions, seek answers, and develop situations.

Standard 4: Science Students will understand and apply scientific concepts, principles, and theories pertaining to the physical setting and living environment and recognize the historical development of ideas in science.

Standard 6: Interconnectedness: Common Themes Students will understand the relationships and common themes that connect mathematics, science, and technology and apply the themes to these and other areas of learning.

Standard 7: Interdisciplinary Problem Solving Students will apply the knowledge and thinking skills of mathematics, science, and technology to address real-life problems and make informed decisions.

The Arts

Standard 4: Understanding the Cultural Contributions of the Arts Students will develop an understanding of the personal and cultural forces that shape artistic communication and how the arts in turn shape the diverse cultures of past and present society.

Social Studies

Standard 1: History of the United States and New York Students will use a variety of intellectual skills to demonstrate their understanding of major ideas, eras, themes, developments, and turning points in the history of the United States and New York.

Career Development and Occupational Studies

Standard 1: Career Development Students will be knowledgeable about the world of work, explore career options, and relate personal skills, aptitudes, and abilities to future career decisions.

Standard 2: Integrated Learning Students will demonstrate how academic knowledge and skills are applied in the workplace and other settings.

Lesson Plan

Transpiration: Role of Stems

How DO Plants Raise Water from the Ground to their Highest Leaves



Objective: The lesson takes place in two parts, over the course of two days with each part covering two important objectives.

- 1) Students will understand the process of transpiration, or how flowers and other plants receive the water they need from the ground to survive and grow. Students will have a better understanding of the importance of watering plants and where water goes when it leaves the glass. They will also understand how essential the roots and stem of a plant are in the process.
- 2) In groups, students will further understand the art of horticulture that they will experience at Bellefield by classifying and organizing their own floral arrangements according to color schemes.

Lesson Plan

Materials:

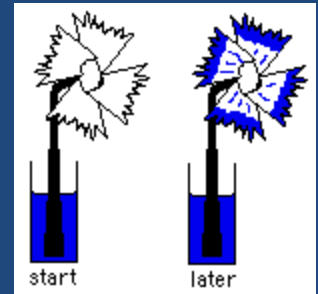
- White carnations (that have been taken out of water for six hours) three for each student
- Six transparent cups
- Red, blue, yellow and green food coloring
- Water
- Paper towels
- Plain piece of Styrofoam



Introduction: The garden at Bellefield's beautiful flowers need care and nutrients, just like humans need food. Water and sunlight are of primary importance to the flowers. Flowers have important components such as roots, a stem, leaves and petals that are needed in order for a flower to be healthy and grow tall and strong. Scientists call the process of flowers collecting their water transpiration. The roots of the flower are needed to seep up the water that travels up the stem of the plant to the leaves and petals.

Preparation: This lesson will be done over the course of two consecutive days and has two important parts. Students will have already visited or will be planning to visit Bellefield for a class trip. They will have an understanding about the different colors and flowers. They will know and appreciate the care and time it takes to grow a beautiful and healthy garden. Because there is a lot of materials that are needed to be distributed, it is important to already have the classroom set up into 4 or 5 stations with six cups of water without food coloring for the first part of the lesson.

Lesson Plan



Procedure:

Part 1 (Day 1)

1. Separate students into 4 or 5 groups.
2. Introduce the lesson.
3. Show the students the different colors available and walk around with the food coloring to change the colors of each of the cups on the table.
-Since there are six cups, students need to learn about mixing colors to create two colors beyond the original four. They should decide together what colors to make.
4. Distribute three carnations to each student.
5. Have the students place each of their flowers into the color of their choice.
6. Allow students to ask questions while their carnations begin to soak up the coloring. It is also a good time to review terms such as:
Transpiration and how it is like the process of sipping water through a straw and is used to pull water up the stem of a plant
Cohesion and how water stays together because it sticks to itself
Capillary action is the process of small tubes distributing water to all parts of the plant
7. If flowers in water are within reach, place them in an area where they will receive ample sunlight.

**Allow a day, or at least an afternoon to pass. Colors will be most vibrant after 24 hours. To speed up the process, do not place flowers in water for 6 hours before placing them in the water with food coloring.*

Lesson Plan

Part 2 (Day 2)

1. Talk more about Farrand's garden and how it is arranged (patterns, borders, etc.)
2. Set up the stations as in part 1, and have the students rejoin their stations.
3. Allow students to observe the changes in the flowers' colors. Be sure to answer questions and point out that the stem and leaves will also have a tint of color.
4. Have the students take out their flowers and arrange them by color on paper towels.
5. Allow the groups to work together to arrange a floral arrangement according to color or whatever else they decide by poking the stems into the Styrofoam.
6. Once the groups have completed their arrangements, ask them to come to the front of the class and describe why they arranged their flowers as they did.

Conclusion: The students will gain deeper understanding of how flowers obtain their water and nutrients. The group tasks should allow the students to collaborate creative ideas on organization and further understand how much effort actually goes into creating beautiful gardens. This lesson will be informative, use group work, and hands-on experiments that the students will hopefully enjoy.



Guidebook for Bellefield Garden



4097 Albany Post Rd
Hyde Park, NY 12538
(845) 229-5320



Hours of Operation: 7 days a week, 7am-sunset (Closed Christmas, Thanksgiving, and New Years Day)

Website: www.beatrixfarrandgarden.org

Admission: Bellefield serves as a National Park Service office, but is open to the public and is free of charge.

Historical Description: In 1912, Farrand designed an enclosed formal garden and surrounding wild garden for Senator Thomas and Mrs. Sarah Newbold, at Bellefield, their estate in Hyde Park. A walk through the garden offers just a glimpse of Beatrix Farrand's love for landscape in America during the turn of the century. Farrand's designs catered to the specifics of the site and desires of her clients. Bellefield is now part of the Roosevelt-Vanderbilt National Historic Sites. As of 1994, the garden is preserved under the National Park Service.

The Site: Bellefield garden consists of axial lines linking the mansion and its landscape, influencing Beatrix Farrand's symmetry and softness of line. She exquisitely used perennial plants in combinations based on color harmony, bloom sequence, and texture exhibiting the features of fine English-style gardens. Stretching from the Mansion's terrace to an arched oak doorway with a green lawn, one quickly realizes this is not a common backyard garden. The mixed borders are a color-themed mass of lilies, phlox, cleome and snakeroot in shades of pink, white and purple. The arrangement of colors become whiter as the garden narrows.

Directions:

From the New York State Thruway (I-87): Exit 18 (New Paltz), take 299 east to 9W south, follow signs to Mid-Hudson Bridge. After bridge crossing follow signs to Route 9 north. The Bellefield Garden is part of the Home of Franklin D. Roosevelt National Historic Site. The park entrance will be about 5 miles on the left. Follow signs for "Bellefield - park offices".

**Turn left at the end of the entrance drive (there's a small "Bellefield" sign). Walk to the side terrace. Down a few steps is the garden.

Bibliography

<http://www.beatrixfarrandgarden.org/events.html> A website listing a variety of information about various aspects of the Bellefield Garden. This site includes historical information, information about upcoming events, a plan for visitors, information about how to volunteer, and a photo gallery. This site lists other websites having to do with other Beatrix Farrand Gardens and local sites of interest in the Hudson River Valley area.

<http://www.princeton.edu/~gradcol/perm/farrand.htm> A website containing information regarding the life and accomplishments of Beatrix Farrand.

<http://www.doaks.org/> Information about types of gardens, garden landscapes, garden studies, garden archeology, publications of various gardens, photos of gardens studied, and employment opportunities in different gardens.

<http://members.aol.com/savegarlandfarm/> Story of Beatrix Farrand's last garden and last 3 years of her life and accomplishments. Biographical information and description of the Garland Farm.

http://www.yalealumnimagazine.com/issues/01_05/old_yale.html Background information on Beatrix Farrand and descriptions of garden and landscaping at Yale University.

<http://www.harkness.org/> Information on Harkness Memorial State Park Website, and Beatrix Farrand's work at Reef Point and her transition to Garland Farm.

<http://www.promisek.org/garden/garden.htm> A Beatrix Farrand Garden in Connecticut. Website for the garden by Promisek Incorporated which protects Connecticut Historical Gardens.

<http://www.coa.edu/html/gardens.htm> Website with descriptions of the gardens at College of the Atlantic. There is a description of Beatrix Farrand's Garden which was created on the school's campus.

<http://www.hillstead.org/gardens/index.html> Beatrix Farrand's Hill-Stead Sunken Garden. This garden built in 1920 is now part of the Hill-Stead Museum.

<http://content.cdlib.org/view?docId=tf558004cz&chunk.id=bioghist-1.8.4&brand=oac> Biography of Beatrix Farrand.

<http://siris-archives.si.edu/ipac20/ipac.jsp?uri=full=3100001~!243543!0> Lists various archives of every Beatrix Farrand Garden. Archives contain information on each garden, photo galleries, and location of each park.

<http://www.bullishall.com> Informational newsletter about restoration and preservation in the Hudson River Valley.