M-DCPS MUSEUM EDUCATION PROGRAM
http://divisionoflifeskills.dadeschools.net/asp/va_museumeducation.asp

FAIRCHILD TROPICAL BOTANIC GARDEN
EDUCATION RESOURCE GUIDE
2015-2016
Nadia Earl, Museum Educator

Fairchild Tropical Botanic Garden
10901 Old Cutler Road, Coral Gables, FL, 33156
Phone: (305) 667-1651
www.fairchildgarden.org

Resource Guide Link
https://docs.google.com/forms/d/1-wucEdXF1P3X-u2hzryzliwkWr1Si0NAhDAxqaQO-Mg/viewform?usp=send_form
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Museum Educator, Fairchild Tropical Botanic Gardens
Division of Academics, Visual & Performing Arts
   Ms. Nadia Earl
Welcome to the Museum Education Program. Thirty-four years ago, the Art Education Program developed the Museum Education Program, a collaborative effort between Miami-Dade County Public Schools, local museums, and galleries. This program is designed to provide all students attending art classes, kindergarten through senior high school, with an opportunity to view and discuss original works of art and architecture in a museum, historic site, or gallery setting.

Museum educators, who are Miami-Dade County art teachers, guide students through interdisciplinary tours of modern, classical, contemporary, and student-produced art. Specially designed educational resource guides emphasize the connection between art, language arts, math, science, social studies, and career awareness. On-site and follow-up art, reading, and writing activities reinforce the concepts explored through the museum tour. These multi-curricular experiences serve to foster student awareness of the link between themselves and artists who express personal thoughts, feelings, and experiences through works of art. The art reflects the cultural, historical, social, and economic climate of the times in which it is created.

The Museum Education Program represents twenty-one museums, galleries, and outreach programs. The museum educators are art teachers who have been chosen for their ability to plan tours, develop educational resource guides, and create relevant and interesting tours of permanent collections and traveling exhibitions. This unique program has become a nationally recognized model by the National School Boards Association as one of the outstanding curriculum ideas in the United States.
MUSEUM EDUCATION PROGRAM PREVIEW

This exhibition preview has been prepared to assist art teachers in the correlation of resources in the visual arts galleries with the authorized curriculum of the Miami-Dade County Public Schools, Miami, Florida.

MUSEUM / GALLERY:  Fairchild Tropical Botanic Garden

EXHIBITION TITLE: Permanent Collection: Dale Chihuly, Daisy Youngblood, Yoko Ono, Lee Adams and William Lyman Phillips

EXHIBITION DESCRIPTION: Large scale, hand blown glass sculptures, bronze sculpture, installation, botanical illustrations and landscape architecture

EXHIBITION DATES: On-going

SUGGESTED APPROPRIATE STUDENT LEVEL:

Yes - Secondary  Yes - Middle  Yes - Elementary

MEDIA/TECHNIQUE:
O Drawing  O Painting  O Textile/Fiber  O Mixed Media
O Photography  O Sculpture  O Architecture  O Ceramic  O Printmaking
O Craft  O Jewelry  O Art History  O Watercolor

DESIGN ELEMENTS:  (Key: O Major Focus  O Minor Focus)
O Line  O Shape  O Color  O Space  O Texture

DESIGN PRINCIPLES:  (Key: O Major Focus  O Minor Focus)
O Balance  O Rhythm  O Contrast  O Tension  O Proportion  O Emphasis

ARTISTIC STYLE:
O Naive  O Non-Objective  O Expressionistic  O Utilitarian / Functional
O Decorative  O Conceptual  O Abstract  O Realism  O Surrealism
O Other _______________________________________

CONTENT / MEANING:
O Figurative  O Portraiture  O Landscape  O Imaginary Events  O Satirical
O Common Events  O Psychological  O Religious  O Political

Nadia Earl

(Signature)
**Fairchild’s Purpose**
Since 1938 Fairchild Tropical Botanic Garden has assembled an outstanding collection of tropical plants, with an emphasis on palms, cycads, flowering trees, flowering vines and fruit trees. Many of these plants and trees are collected from the forests of South America, Asia and Africa. These collections serve as an important resource for scientists from all over the world. Not only is Fairchild a valuable resource but also a major cultural and visitor attraction. Fairchild’s mission is to save tropical plant diversity by exploring, explaining and conserving the world of tropical plants. Fundamental to this task is inspiring a greater knowledge and love for plants and gardening so that all can enjoy the beauty and bounty of the tropical world.

**David Fairchild (1869-1954)** David Fairchild was one of the greatest plant explorers of all time. At the age of 22, he created the Section of Foreign Seed and Plant Introduction of the U.S. Department of Agriculture. For the next 37 years, he traveled the world in search of plants of potential use to the American people. His far-reaching travels brought many important plants to the United States, including mangos, alfalfa, nectarines, dates, horseradish, bamboos and flowering cherry trees. Dr. Fairchild retired to Miami in 1935, sharing his vast knowledge and experience in tropical plants with Col. Robert H. Montgomery, who founded the botanical garden and named it in honor of David Fairchild.

**William Lyman Phillips, Landscape Architect**
William Lyman Phillips is best known for his work in Florida during the 1920s to 1950s. His projects include Crandon Park (Key Biscayne), Fairchild Tropical Botanic Garden (Coral Gables), Matheson Hammock (Miami), Mountain Lake Sanctuary (Lake Wales) and Royal Palm State Park (now part of Everglades National Park). Phillips received his master’s degree in landscape architecture from Harvard. In 1933 he designed parks and supervised their construction for the C. C. C. (Civilian Conservation Corps) --Greynolds Park, Bakers Haulover, Matheson Hammock to name a few. From 1938 until his retirement, he worked at Fairchild Tropical Garden, first as part of a C. C. C. project, then as the garden’s landscape architect. Phillips liked to use found materials from the site to construct benches, walls pavilions and bridges. He created vistas to achieve long views and small garden rooms in which to view the native environment.
Descriptions of Permanent Exhibitions

*Standing Gorilla, 2002 by Daisy Youngblood.* Imagine hiking through the thick forests of central Africa and suddenly coming face to face with a full-grown lowland gorilla. The largest males can get up to six feet tall and 400 pounds. A fully erect gorilla can be a very imposing sight. Daisy Youngblood's Standing Gorilla, 2002, reminds us of the power and also its fragility. Lowland gorillas are endangered and are losing their habitats each day due to man's intrusion into their forests. The gorilla's powerful form and delicate features are at once a warning and a plea.
*End of Day Tower, 2005* by Dale Chihuly.

Born in 1941, in Tacoma, Washington, Chihuly was introduced to glass while studying interior design at the University of Washington. After graduating in 1965, Chihuly enrolled in the first glass program in the country at the University of Wisconsin. In 1968, Chihuly was awarded a Fulbright Fellowship to work at the Venini factory in Venice, Italy. While in Venice, Chihuly observed the team approach to blowing glass, which is critical to the way he works today. Chihuly is accredited to bringing the art of blown glass to the realm of fine art.
The *Wishing Grove* at Fairchild
By Yoko Ono

*Wishing Grove* is one of many installations that began in 1996 and have appeared throughout the world as determined by Yoko Ono. When approached by Fairchild trustee Lin Lougheed in the summer of 2010, Ono agreed to sponsor a *Wishing Grove* at Fairchild. It is located on the north end of the vine pergola.

Visitors can write a personal message or “wish” and place it in the wishing grove. Periodically volunteers remove the messages which are then stored in a clear plastic container in the Visitor Center. Eventually the wishes are transferred to the Imagine Peace Tower on Videy Island, Reykjavik, Iceland. The tower of light, projected from a white stone monument has the words “Imagine Peace” carved into it.

Wings of the Tropics Rules

You will be visiting our new Wings of the Tropics Exhibit in The Clinton Family Conservatory. Here you can enjoy hundreds of exotic butterflies year round and hummingbirds in 10,000 square feet of tropical paradise.

Please help us keep our butterflies and hummingbirds safe by following these important rules:

- Do not touch or feed animals.
- Food and drink are not permitted in the conservatory.
- Watch your step! Butterflies sometimes land on the ground.
- Do not run.
- Do not yell.
- Stay on the path.
- Do not pick plants.
- Check your clothing and belongings before exiting the conservatory to ensure no butterflies leave with you.

What to expect while you are in the butterfly conservatory:

- Before entering the conservatory, you will be asked to form a single file line outside of the building. A volunteer at the door will give important instructions; please be sure to listen carefully and follow all directions.
- A maximum of 5 people will be allowed to enter and exit the building at a time due to the strict USDA containment rules. Groups will be able to meet up once through the doors of the conservatory. For this reason, it is very important to follow the required 1:10 child to adult ratio.
- There may be as many as 2000 butterflies in the building at any given time, therefore there may be butterflies flying in close proximity. If any student is scared or uncomfortable, please notify a staff person or volunteer guide as soon as possible and ask the student not to panic; butterflies are not harmful.
- Volunteers will be with your group as well as inside of the conservatory to give you important information and answer questions about the exhibit. Please listen to them carefully to ensure a safe learning experience.
Wings of the Tropics Butterfly Guide

- **Morpho peleides**
  - Common Morpho

- **Caligo atreus**
  - Magnificent Owl

- **Parides iphidamas**
  - Transandean Cattleheart

- **Heliconius cydno**
  - Cydno Longwing

- **Idea leuconoe**
  - Paper Kite

- **Graphium agamemnon**
  - Tailed Jay

- **Myscelia ethusa**
  - Mexican Bluewing

- **Hypolimnas bolina**
  - Great Egg-fly

- **Heliconius doris**
  - Doris Longwing

FAIRCHILD TROPICAL BOTANIC GARDEN
Native Butterflies of South Florida

**Zebra longwing**
*Heliconius charithonia*  
*Zebra heliconian*

**Giant Swallowtail**
*Papilio cresphontes*

**Julia Butterfly**
*Julia Heliconian*

**Gulf Fritillary**
Passion Butterfly  
*Agraulis vanillae*

**Monarch Butterfly**
*Danaus plexippus*  
Milkweed butterfly

**Atala**
*Eumaeus atala*
Vocabulary

1. **Landscape Architect** – an architect who designs parks and gardens in artistic ways.
2. **Vista** – an attractive wide open space.
3. **Sculpture** - is three-dimensional artwork created by shaping hard or plastic materials such as stone (either rock or marble), metal, or wood. Some sculptures are created directly by carving; others are assembled, built up and fired, welded or molded.
4. **Installation Art** - describes an artistic genre of site-specific, three-dimensional works designed to transform the perception of a space.
5. **Found Objects** - common or unusual objects that may be used to create a work of art; specifically refers to scrap, discarded materials that have been “found” on the side of a street or in the trash.
6. **Texture** – is the way a surface feels or looks. For example it is the physical appearance of paint, paper, stone or a leaf. Texture is received through the sense of touch. Some textures are smooth, rough, shine, wet, slimy, hard, soft and translucent.
7. **Cycads** – are plants with short squat trunks with a crown of large, palm or fern like leaves. Cycads were very plentiful in the Mesozoic Era. They resemble palms but have naked seeds on the scales of cones; cycads are the oldest living plant known to man.
8. **Decomposers** – are organisms (bacteria, fungi, worms) that feed on and break dead decaying plant and animal matter thus carrying out the natural process of decomposition.
9. **Adaptations** - Changes in an organism's structure or habits that allow it to adjust to its surroundings.
10. **Rainforests** – are very dense, relatively warm, wet forests. They are havens for millions of plants and animals.
11. **Subtropics** - the zones of the Earth immediately north and south of the tropic zone, which is bounded by the Tropic of Cancer and the Tropic of Capricorn, at latitude 23.5 ° north and south.
12. **Preservation** – the activity of protecting something from loss or danger.
13. **Atala** - a butterfly native to Florida which lays its eggs exclusively on the native Florida cycad, the coontie. When coontie became endangered, so did the Atala.
14. **pro·bos·cis** (prō-bōs′ĭs)  
   *n. pl. pro·bos·cis·es or pro·bos·ci·des* (-bōs′ĭ-dĕz′)  
   1. A long flexible snout or trunk, as of an elephant.  
   2. The slender, tubular feeding and sucking organ of certain invertebrates, such as insects, worms, and mollusks.
Suggested Pre-Activity

The Giving Tree

Subject: Art, Language Arts

Location: Outdoor / Classroom

Key Vocabulary: Biography, Nutrients, Fungi, Decompose, Carbon dioxide, Oxygen, Adaptations, Fire-Resistant, Prop Roots

Florida State Standards: The processes of critiquing works of art lead to development of critical-thinking skills transferable to other contexts. The 21st-century skills necessary for success as citizens, workers, and leaders in a global economy are embedded in the study of the arts. Connections among the arts and other disciplines strengthen learning and the ability to transfer knowledge and skills to and from other fields.

Objectives The student will be able to: a) state two reasons explaining the benefits of trees b) develop a biography of a chosen tree in a natural environment and c) Illustrate the trunk, branches, leaves and texture of a tree.

Method: The student will read a short story about the benefits of trees. They will choose a tree in the natural environment and write a biography of that tree.

Background: Trees are very important to us, yet they often go unappreciated. A living tree creates shade; serves as a home for insects and small animals; serves as support for air plants and ferns (if the bark is rough enough); returns nutrients to the soil when its leaves fall; removes carbon dioxide from the air; and releases oxygen into the air so that animals can breathe. A dead tree provides food for fungi, insects and other decomposers. The dead tree will become part of the soil and provide nutrients for new seedlings. Our environment requires trees, and we must take the time to notice their importance.
**Materials:**
2. Drawing Paper (2 sheets per person)
3. Colored Pencils

**Procedures:**
1. Take your class outside under a large tree and read The Giving Tree.
2. Discuss how the tree gave of itself. How do trees give of themselves in their natural environment?
3. Students will write a biography of their favorite tree.
4. Students will use drawing paper to sketch their tree.
5. Illustration & Biography of a Tree
   a. Identification: What kind of tree it is?
   b. Birth Place: The place where their tree is living (i.e. Big Cypress National Preserve)
   c. Tell if it is young, old or dead (dead trees are important).
   d. Characteristics: Draw the bark, leaves, branches and seeds of the tree.
   e. Special Adaptations: Special adaptations are characteristics that help a tree survive in its environment. Three examples are the fire-resistant bark of the slash pine, the protruding roots (or “knees”) of the cypress, and the ability of the gumbo limbo tree to create new trees from branches or stem.
   f. Contributions to its Environment: See background.
   g. Describe why you chose this tree over all others.
   h. Illustration: Using colored pencils, illustrate your tree.

**Evaluation/Critique**
Students will share their biographies and drawings. Students will emphasize what contributions the tree has made and why they chose their tree.
Suggested Post Activity

**Botanical Illustration**

**Subject:** Art, Science  **Location:** Outside/Classroom

**Vocabulary:** Botanical Illustration, Shape, Symmetry, Texture, Measuring and Scale, parts of a leaf (see diagram), Petiole (pĕt′ē-ŏl′)

**Florida State Standards:** The processes of critiquing works of art lead to development of critical-thinking skills transferable to other contexts. The 21st-century skills necessary for success as citizens, workers, and leaders in a global economy are embedded in the study of the arts. Connections among the arts and other disciplines strengthen learning and the ability to transfer knowledge and skills to and from other fields.

**Objectives:** The student will produce three drawings. Through plant illustration, the students will learn (1) observation skills, (2) drawing abilities, (3) math skills, and (4) an understanding of plant biology.

**Materials:** 9” x 12” white drawing paper, Different pencil lead types, pen & ink, brush & ink, rulers, geometric forms for reference, and watercolor wash paper (optional)

**Background:** Discuss and view the Smithsonian Catalogue of Botanical Illustration and artists at [http://botany.si.edu/botart/](http://botany.si.edu/botart/)

**Procedures:** Take students outside to collect a variety of leaves with stems. Provide students a variety of fruit & vegetables to choose from. The student will create three of the following: a sketch, one technical drawing and one cross-
section of a fruit or vegetable. Show contrast, illustrate the subject life size and emphasize details. Using the leaf anatomy, label the parts of your leaves.

1. Technical Drawing: Using a ruler, the students will identify the length and the width of their leaves and draw a two-dimensional representation. Students will show scale, details and patterns.

2. Sketch
Using pen & Ink, sketch a few leaves with their stems. Show details and texture. Use cross-hatching.

3. Cross-section
Using a knife, slice your fruit or vegetable in half. Slice one half into sections. Discuss volume and the relationship between your fruit sections and geometric forms. Use your ruler, measure out the dimensions of your fruit. Draw and show pattern and symmetry.

Evaluation
Did the students demonstrate knowledge?
   a. kinds of drawings
   b. leaves and fruits drawn to scale
Did they recognize and label the parts of a leaf?

Follow Up
Create a botanical illustration portfolio using cardboard, binder rings and duct tape. Thread the binder rings through the cardboard and drawing paper and clasp. Duct tape the edges. For homework, assign students to sketch from nature.