



THE FAIRCHILD CHALLENGE:
**Inventiveness, Friendly Competitiveness and
 Science by Stealth**

In 1980, the Nobel Prize in Chemistry was awarded to three scientists who developed methods to map the structure and function of DNA. The price of a first-class stamp was 15 cents, Voyager reached Saturn, and two visionaries—Sue Steinberg and Rita Perlman—started an education program for fifth graders at Fairchild.

DAVID WHITMAN, FAIRCHILD CHALLENGE PROGRAM MANAGER
 NICOLE GÉRARD, EDUCATION OUTREACH COORDINATOR

For the next 22 years, Fairchild’s learning activities primarily targeted young children. Elementary school students joyfully explored the Garden on most days, but their older brothers and sisters were under-represented. Other botanic gardens made the same observation at their sites: teenagers were scarce.

That phenomenon concerned Caroline Lewis, a former science teacher and principal and now Fairchild’s Director of Education. “Teenagers are bright, articulate, confident, assertive, fearless and funny ... but they’re also confused, angry, shy and self-absorbed,” she said. “Many teenagers are searching for meaning in their lives, for something bigger than themselves to wrap their arms around. Conservation activist Jane Goodall warned that the greatest danger to our future is apathy. To transcend apathy, young people need creative outlets and affirmation. It’s an exciting time of life, when you have passion, time and energy ... and seemingly can do *anything*.”

THE FAIRCHILD CHALLENGE IS BORN

At Fairchild, Lewis set out to provide learning opportunities that create what John Bransford of the University of Washington calls “productive collisions” at the crossroads of different disciplines. She designed the Fairchild Challenge, an annual series of competitive, science-based options for teenagers that

would appeal to students’ intellectual curiosity, and attract participants of diverse interests, abilities, talents and backgrounds.

The Fairchild Challenge is a vibrant, interdisciplinary outreach program for Miami’s multicultural teenagers. By blending content areas to create activities, projects and authentic experiences that use the environment as a primary



context for learning, the Challenge promotes science literacy, civic engagement, creative expression and lifelong learning in students and, by extension, in their respective circles of influence.

Through the Challenge, young people research and evaluate environmental topics critically, become more engaged citizens, and appreciate more fully the beauty and value of nature.

Using the environment as an integrating concept (EIC), the Challenge

delivers “science by stealth” through such diverse disciplines as visual and performing arts, foreign language, creative writing, debate, architecture and gardening. Studies show that students involved in EIC learning have higher scores on standardized measures of academic achievement in reading, writing, math, science and social studies; reduced discipline and classroom management problems; increased engagement and enthusiasm for learning; and greater pride in their accomplishments.

The program has grown swiftly—from 1,400 Miami-Dade County students in 2002 to more than 25,000 this year. Since the Fairchild Challenge Launch Lunch last September, a record



LEARNING AT FAIRCHILD: On stage, opposite top, students from Miami Killian Senior High, perform “In Control.” Opposite, center, Frantz Desir, of Dr. Michael M. Krop Senior High hard at work at Fairchild’s Center for Tropical Plant Conservation for the annual Fairchild Challenge Environmental Immersion Day. Environmental rock stars Santiago Hassig and James Goldberg from Gulliver Academy, above, perform “The Everglades, A Rockin’ Place.”

1,200 teachers from 104 local middle and high schools have registered to participate.

HOW THE CHALLENGE WORKS

Annually, the Fairchild Challenge offers separate but parallel programs for students in grades 6 to 8 and 9 to 12. Schools participate at no charge, and can try any of the annual Challenge options. (See box on page 34). The best entries are sent to Fairchild to be awarded points by panels of judges. Goals are attainable for all schools involved.

“We want this educational experience to be accessible to all, regardless of economic resources, so we encourage and support our community’s most under-resourced schools,” Lewis said. Participating schools can get mini-grants for gardens and habitat restoration projects at schools; sapling tropical fruit trees; professional development seminars; workshops in youth leadership, school gardening, botanical art, botany and ethnobotany; transportation subsidies; media coverage; and resources such as seeds for germination experiments, model solar car kits, art supplies, environmental films and reference books.

Students are also encouraged to become active in their schools and communities. Branden Paillant, a student at Design and Architecture Senior High, captured the spirit of the program when he urged fellow students to “Experiment with Ideas, Seek Information, Voice Opinions.” About 6,000 of his peers are now wearing his first-place Fairchild Challenge 2007 T-shirt design. Through debate, poetry slams, writing, performances, environmental action and “speak out” letters to decision-makers, students express themselves with passion and newfound knowledge. Civic involvement also is supported by offering voter registration at all high school Challenge events.



At Environmental Immersion Day, students from Hialeah-Miami Lakes Senior High take water samples at the Biscayne Bay Aquatic Preserve before boarding a boat to observe marine life.

Fairchild Challenge Satellite Partners

Fairchild Challenge Satellite Partners, below, from Bartlett Arboretum and Gardens, Reiman Gardens, Organization for Tropical Studies and the U.S. Botanic Garden during a workshop. The following sites have trained for the program: **American Horticultural Society** (Virginia), **Bartlett Arboretum and Gardens** (Connecticut), **Botanic Gardens Conservation International** (U.S. & Canada), **Cape Fear Botanical Garden** (North Carolina), **Chicago Botanic Garden** (Illinois), **Chicago Park District** (Illinois), **Cornell Garden-Based Learning Program** (New York), **Cornell University—Cornell Plantations** (New York), **Cox Arboretum** (Ohio), **Desert Botanical Garden** (Arizona), **Durban Botanic Garden** (South Africa), **Fort Ticonderoga—The King's Garden** (New York), **La Selva Biological Station** (Costa Rica), **Lewis Ginter Botanical Garden** (Virginia), **Michigan State University—4-H Children's Gardens** (Michigan), **Minnesota Landscape Arboretum** (Minnesota), **Missouri Botanical Garden** (Missouri), **Phipps Conservatory and Botanical Gardens** (Pittsburgh PA), **Reeves-Reed Arboretum** (New Jersey), **Reiman Gardens—Iowa State University** (Iowa), **Silverglen**



Medicinal Plant Nursery (South Africa), **Singapore Environment Council** (Singapore), **UF/IFAS Pinellas County Extension—Florida Botanical Gardens** (Florida), **University of Wisconsin—Madison Arboretum** (Wisconsin), **U.S. Botanic Garden** (Washington, D.C.), **Wonderland Gardens** (Georgia), and **Woodland Dunes Nature Center** (Wisconsin).

'I FEEL IMPORTANT AND NEEDED'

Challenge events are invariably memorable, showcasing teenagers' energy, inventiveness and friendly competitiveness. Such exchanges—an exuberant sharing of what students have learned—typify what the Challenge hopes to ignite in young people. As one student pointed out, "I am no longer just another high school student ... I feel important and needed ... I now know what it is like to reach out to my community, get published in the newspaper, save water, recycle."

But the Fairchild Challenge is about more than events. Its success is fired by the energy with which teachers have seized the Challenge's opportunities and transmitted their

excitement in the classroom. Mindful of teachers' workloads, the Challenge team has crafted options to dovetail with public school curricula, aligning them with benchmarks of Florida's Sunshine State Standards, which provide expectations for student achievement. Fairchild staff visit schools and are available to provide guidance and encouragement to teachers and students who run into obstacles.

ALL PARTICIPANTS ARE WINNERS

Best of all, everyone can succeed. All participants receive a four-person guest pass to Fairchild and a Challenge T-shirt. Schools surpassing the annual point goal win the Fairchild Challenge Award and a \$200 cash prize. Top-scoring schools get special recognition and cash prizes of \$500 to \$1,000 for their environmental activities. Individual students who excel in the Challenge receive special recognition and prizes—this year, autographed

copies of Michael Grunwald's book *The Swamp: The Everglades, Florida, and the Politics of Paradise*.

Every year, students and teachers select one Fairchild Challenge Student Environmental Role Model from each school, to be honored at the annual Challenge awards ceremonies in mid-May. And thanks to Mario Facella and the Fairchild Palms, in partnership with Costa Rica's Flamingo Beach Resort, the Fairchild Challenge Most Distinguished Student in both the middle and high school divisions this year will be awarded a five-day eco-excursion for two to the Pacific coast of Costa Rica.

Because of the Fairchild Challenge, tens of thousands of teenagers are now involved in Fairchild's environmental

Botanical beauties: Students model their original outfits made exclusively of plants at the Fairchild Challenge Tropical Chic Botanical Fashion Show.



education programs. Happily, they are no longer scarce in the Garden's magnificent setting. It is not surprising, then, that the Fairchild Challenge has become a model beyond South Florida. Across the nation, and as far away as Singapore and South Africa, 27 sites, or prospective "satellite partners," have been trained by Fairchild staff in ways to adopt and adapt the program. Six have already launched the Challenge and others are planning to join the constellation of satellite partners in the near future. (See box on page 34.)

Support for the Fairchild Challenge comes from various donors including the lead gift from the Batchelor Foundation. Visit www.fairchildgarden.org or e-mail challenge@fairchildgarden.org.



Don't miss the Fairchild Challenge 2007 Awards Ceremonies. High Schools: Friday, May 11, 7:00-8:30 p.m. and Middle Schools: Saturday, May 12, 5:00-6:30 p.m. in the Garden House Auditorium. It's free and open to the public.



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Some Fairchild Challenge Options

- Create/expand/interpret school gardens or natural habitats
- Engage communities through environmental action
- Perform original music/dance/theatre/comedy on environmental themes
- Investigate freshwater flow and quality
- Explore cultural uses of plants through intergenerational interviews
- Imagine and describe a world without plants
- Build LEED-certified "green building" models
- Design and race solar-powered model cars
- Create artwork inspired by tropical plants
- Design and produce environmental skits or public service announcements
- Create and explain Challenge and Baynanza T-shirt designs
- Conduct fieldwork during Environmental Immersion Day
- Link people and plants through photojournalism
- Write to decision-makers on environmental issues
- Use plant-based recipes to create edible delights
- Draw environmental cartoons
- Create a Challenge website at school
- Exchange botanic information with students in other countries
- Compare environmentally friendly vs. unfriendly consumer products
- Reduce/reuse/recycle at school or in your community
- Document a lifestyle change to better the environment
- Design and model an outfit made exclusively of plants
- Produce research/opinion papers and projects
- Debate environmental issues and policies

These options change annually.



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