

# The Fairchild challenge: engaging teenagers, schools and communities

**Summary** The Fairchild Challenge is a competitive, multidisciplinary environmental education programme for teenagers, composing a series of dynamic activities and projects called Challenge options. These give teenagers opportunities to research, write, debate, create, perform, interview, imagine, speak out, design, build, conserve, and ultimately improve their botanical and environmental awareness, scholarship and stewardship.

The Fairchild Challenge is launched at the beginning of each school year, and ends with an awards ceremony in May where all schools surpassing the annual goal of points are presented with the Fairchild Challenge Award. The programme was initiated as a pilot in 2002 and the response by teachers and students has been heartening. From 1,400 high school students in its first year, the Fairchild Challenge now engages over 16,500 middle and high school students annually.



beauty and value of nature? What kind of programme would attract a diverse range of students with respect to interests, abilities, talents and backgrounds?

In order to address some of these issues, we designed and initiated the Fairchild Challenge programme to give teenagers opportunities to research, write, debate, create, perform, interview, imagine, speak out, design, build, conserve, and ultimately improve their botanical and environmental awareness, scholarship and stewardship.

*"Thank you for giving our students open-ended educational opportunities, which inspire them to implement their talent and expand their knowledge"*

**Wafa Khalil,**  
MAST Academy teacher

Above: Karen Frey, Californian artist, working at Fairchild Tropical Botanic Garden with students involved in the art challenge option (Photo: Fairchild Tropical Botanic Garden)

## Introduction

Fairchild Tropical Botanic Garden houses an impressive collection of tropical and subtropical plants and our programmes are designed to explore, explain and conserve these green treasures. At Fairchild, we measure success by the number of species saved and lives changed. Thus, we focus intently on conservation and education. Our conservation efforts occur locally, nationally and internationally and, for over 20 years, our school programmes have been engaging elementary school students in meaningful, hands-on, programmes and activities that stimulate these young learners at many levels.

## History

As Fairchild's education programmes approached their 25th year, we identified a void in our audience of learners, namely, middle and high school students and their families, neighbours and communities. We then began asking the big picture questions: what appeals to students in the 11-18 age range? How can we engage teens and pre-teens in learning about things such as the importance of conservation, the role of wetlands, the value of renewable energy sources, the need to identify and control invasive species, the essential task of biodiversity monitoring, and all of the reasons why they might appreciate the

Right: A student discusses his solar cooker design with Dr Jack Fisher for the Fairchild Challenge research project option (Photo: Fairchild Tropical Botanic Garden)

*"I learned to look at plants with a different perspective and to encourage others to do positive things for the environment"*  
**Miami Killian,  
 Senior HS student**

Books like Richard Louv's *Last Child in the Woods*, *Saving our Children from Nature Deficit Disorder* (see resources section p31) reminds us that, in the words of Robin Moore, natural settings are essential for healthy childhood development because they stimulate all the senses and integrate informal play with formal learning (Louv, 2005, p 85-85).

**The Fairchild Challenge programme**

The Fairchild Challenge is a competitive, multidisciplinary environmental education programme for middle and high school students composed of a series of dynamic activities and projects called Challenge options. The programme was initiated as a pilot for high schools in 2002, and expanded, due to demand, to include middle schools in subsequent years. The response by teachers and students has been extremely heartening. From 1,400 high school students in its first year, the Fairchild Challenge now engages over 16,500 middle and high school students annually, and that number is likely to increase.

The programme runs annually and is composed of a series of multidisciplinary Challenge options. At the beginning of each school year,

teachers and students are given the year's specific Challenge options, requirements, point allocations, and deadlines.

Designed for students of diverse interests, abilities, talents, and backgrounds, this free annual competition offers separate but related Challenge options for middle and high schools, grades 6-8 and 9-12, respectively. Schools or students can choose to enter any number of the annual Challenge options. Best entries are sent to Fairchild to be evaluated and awarded points by panels of experts. The Fairchild Challenge is launched annually at the beginning of each school year, and ends with an Awards Ceremony in May.

All schools surpassing the annual goal of points are presented with the Fairchild Challenge Award at the Awards Ceremony. Additionally, top-scoring schools are awarded up to \$1,000 for their environmental programmes. Individual students and teachers also receive recognition, t-shirts, family passes to the garden, prizes and awards.

*"I learned that any change in the environment no matter how miniscule can cause possible imbalance in the ecosystem and could even lead to the endangerment of certain species"*  
**South Miami Senior HS student**

**The Fairchild Challenge options**

The annual list of Fairchild Challenge competition options may include:

- create/restore/expand/interpret school gardens or natural habitats
- engage communities through environmental outreach
- investigate freshwater flow and quality
- write/perform original verse on environmental topics
- explore cultural uses of plants through intergenerational interviews
- create artwork inspired by tropical plants
- design and produce environmental skirts or public service announcements



- create Challenge t-shirt designs
- conduct field work during environmental Immersion Day
- link people and plants through photojournalism
- perform an outdoor theatre scene. Write to decision-makers on environmental issues
- describe plant/animal interactions.
- draw environmental cartoons
- exchange botanic information with students in other countries
- compare enviro-friendly/unfriendly products
- reduce/reuse/recycle at school or in your community
- write testimonials documenting a lifestyle change to better the environment
- produce research/opinion papers and projects.
- debate environmental issues and policies

Specific topics within the research and debate Challenge options may include: environmental justice, genetically-engineered plants, renewable resources, energy-efficient vehicles, native and invasive plants, Comprehensive Everglades Restoration Plan, sustainable development, comparison of local, national and global strategies, importance of wetlands, limited pesticide use, energy-efficient subsidised housing, alternative fuel sources, mass transit, the Kyoto Protocol, water conservation, solar cookers, native seed germination, climate change, LEED certified 'green' buildings, urban forestry, and ecotourism, to name a few.

The Fairchild Challenge, by design, seeks to foster interest in the environment by providing opportunities for teenagers to: appreciate the beauty and value of nature, develop critical thinking skills, understand the need for conservation and biodiversity, tap community resources, become actively-engaged citizens, and recognize that individuals make a difference.

Below: High school students put their points of view forward during a Fairchild Challenge debate competition (Photo: Fairchild Tropical Botanic Garden)





Clearly, the annual Challenge options are intended to **appeal** to students' sense of play and creativity, to **empower** them to seek information and voice opinions, and to **encourage** them to experiment with ideas, projects and skills.

During the last election year, one of the Challenge options asked students to write to elected officials, praising an environmental decision or expressing concern about one. More than 1,100 local students responded to that Challenge option and wrote letters, and many got responses. The Lifestyle Change Challenge option empowers students in different ways; some students time the length of siblings' showers, send us copies of water and electric bills, cultivate vegetable, butterfly and/or native plant gardens, badger (bother!) parents to trade their sports utility vehicles (SUVs) for hybrid cars, interview grocery stores, family members and neighbours about recycling practices, document parents' littering habits, and more. Other teens have participated in intergenerational interviews in English, Spanish and Haitian Creole with elders willing to share ethnobotanical stories with them; others exchanged botanical and environmental information with students in other countries. One student wrote that participating in the Fairchild Challenge made her feel important and needed. Last year's solar cookers were so impressive and effective that the best ones were sent to villagers in Haiti. At one high school,

teachers and administrators wrote about the profound connections established in the school's student body when regular classes teamed up with exceptional student classes to tackle the school garden Challenge option. Indeed, the ripple effect of this programme is far-reaching and difficult to describe or quantify.

*"You are doing an important service for the community, showing everyone that science and nature are closely linked to everything else we do. I'm looking forward to another year of participation"*  
**Cathi Rivera, teacher,  
 Glades Middle School**

### Programme outcomes

Feedback from students, teachers, parents, donors, sponsors, evaluators, volunteers and others indicate that we are helping to build communities of learners who appreciate the beauty and value of nature. Indeed, the Fairchild Challenge is allowing us to:

#### 1. Reach broad audiences of learners at the middle and/or high school level

In four short years, the programme is actively engaging over 16,500 teenagers with diverse interests, abilities, learning styles, and cultural backgrounds. An impressive 85% of

students stated that they would recommend the Challenge to other students. This feedback suggests that the diverse, interactive, open-ended and multi-sensory design of the programme appeals to students.

#### 2. Promote civic-minded thinking on local and global issues

Many Challenge students are able to debate the social, economic, scientific and political aspects of a multitude of environmental issues and learn how to earn a voice in their communities. The programme challenges students to design and implement initiatives, and celebrates civic-minded young citizens who are working to improve their schools, homes, neighbourhoods and communities

#### 3. Engage a wide variety of schools

The programme is designed to complement existing school curricula, and provide resources for schools to participate equitably. Teachers in large, small, public, private, and Title I schools (public schools where over 50% of students qualify for free or reduced lunch from the government) embrace the programme and enrol their schools annually. In addition, we work with the Miami-Dade County Public School supervisors

Left: A high school student helps restore a native habitat for the environmental immersion day challenge (Photo: Fairchild Tropical Botanic Garden)

Below: Middle school students visiting Fairchild's Chihuly exhibition of naturally inspired glass sculptures (Photo: Fairchild Tropical Botanic Garden)



Right: A high school student pointing to his artwork for this year's Challenge option 'The Art of Palms' (Photo: Fairchild Tropical Botanic Garden)



and specialists to identify and list all of the state educational standards addressed, in multiple disciplines, in the Fairchild Challenge programme. The language school administrators speak is curriculum standards. Therefore lists of these multidisciplinary standards serve as an important translator for the programme.

#### 4. **Influence pedagogy and promote interdisciplinary learning**

Teachers and students repeatedly report that the open-ended learning opportunities often span the curriculum, forging connections among a broad cross-section of the school community. Interdisciplinary learning opens doors for what some call productive collisions, where learning is meaningful and sustained (Bransford, 2006). In addition, the multiple formats of the Challenge options appeal to different learning styles, interests and abilities. The net effect of the programme surpasses the individual projects as students and teachers work together across classrooms in cross-curricular projects with a real-world context that is meaningful to students.

#### 5. **Involve local organizations and institutions**

Over 23 colleges, universities, nature centres, organisations, county offices, community centres, groups, etc. are involved at some level in the programme. Community involvement opportunities are numerous and inviting, and professionals from scientists to artists volunteer their time and talent

to work with Fairchild Challenge students and teachers. Their involvement ranges from hosting students during Environmental Immersion Day Challenge option and sitting on evaluation panels to serving on committees and celebrating the programme and its participants. These enthusiastic community volunteers allow Fairchild to offer specialty classes like our Art of Palms student workshop for over 250 students. Palm biologists and accomplished artists joined us to host students from each school who are attempting the Art of Palms Challenge option this year. Last year the art option focused on tropical fruit.

#### 6. **Include funders, sponsors, donors**

Donors and potential donors have an interest in improving education and celebrating young people. They enjoy being a part of one or more of the many evaluation panels for the Challenge entries and events. Major donors are clearly affected by, and delighted with, first-hand knowledge of how engaged students are in the programme. The awards ceremonies are also very celebratory and inclusive.

#### 7. **Celebrate teenagers as gateways to communities**

By nature, teenagers are bright, articulate, confident, assertive, fearless, and funny. But they are also confused, angry, shy, selfish, and narcissistic. Often, they are looking for something bigger than themselves to embrace, and, when their voices are heard, they feel

important and needed. The open-endedness of many of the Challenge options allows them to be creative and effective in asking and answering questions and solving problems. The celebratory nature of the programme, with built-in layers of success, promotes their sense of accomplishment and empowerment. In addition, student work and images are used frequently to showcase, celebrate and market the programme.

#### 8. **Promote the programme as a replicable model**

Cities and towns nationally and internationally are seeking strategies to educate and engage their public. The Fairchild Challenge is proving to be a replicable model; more than 25 educators, representatives and others from cities across the country and as far as Canada, Costa Rica and Singapore, have participated in the first level of discussion and training required to replicate the Fairchild Challenge programme at their sites.

*"So often teachers struggle to connect students with real life experiences in a vacuum but, through The Fairchild Challenge, we were able to bring the world to them in all its beauty and complexity. As an art teacher I would especially like to commend you on the magnificent interdisciplinary nature of the Challenge activities. They truly inspired creative thinking"*

**Art teacher**

Ultimately, we think a programme like the Fairchild Challenge can help develop diverse populations of teenagers who are creative, civic-minded, critical thinkers. Teenagers are at an interesting time in their lives; many believe they can do anything, and they have passion, time and energy. The Fairchild Challenge sends a message to adolescents in transition to adulthood, namely: your opinion matters! And so we give them opportunities to research, build, debate, compose, perform, interview, advocate, persuade, create, dream, speak out, and, we hope, make a difference.

## Conclusion

Fairchild Tropical Botanic Garden is committed to working with our community through our programmes, events, and volunteer opportunities. The Fairchild Challenge is proving to be an effective way to engage thousands of teens and pre-teens, and by extension, their schools, families, friends, neighbours and communities. We presented multidisciplinary opportunities for civic-minded engagement in environmental issues and were warmly and resoundingly welcomed.

As the Irish dramatist and poet William Butler Yeats (1865-1939) said: "Education is not the filling of a pail, but the lighting of a fire..." Here's to the millions of flames we will nurture if we can engage our communities in meaningful ways.

To learn more about the Fairchild Challenge: e-mail: [challenge@fairchildgarden.org](mailto:challenge@fairchildgarden.org) or log on: [www.fairchildgarden.org](http://www.fairchildgarden.org)

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*"I learned that plants are extremely important to the survival of all living things"*

McMillan MS student

## Résumé

Le Défi de Fairchild est un programme compétitif multidisciplinaire d'éducation à l'environnement destiné aux adolescents. Il est composé d'une série d'activités et de projets dynamiques appelés options de défi. Ceux-ci donnent aux adolescents la possibilité de rechercher, de rédiger, de discuter, de créer, de mettre en scène, d'interviewer, d'imaginer, d'exprimer, de concevoir, de construire, de conserver pour finalement améliorer leurs connaissances et leur prise de conscience et de responsabilité en matières botanique et environnementale

Le Défi Fairchild est lancé au début de chaque année scolaire et se termine avec une cérémonie de remise de prix en mai, où toutes les écoles ayant atteint le score de points de l'année reçoivent le prix du Défi Fairchild. Le programme a été initié en tant que projet pilote en 2002 et la réaction des enseignants et des étudiants a été encourageante. La première année ils étaient 1.400 étudiants des classes supérieures, ils sont maintenant plus de 16.500 étudiants de lycées toutes classes confondues qui s'engagent dans le Défi Fairchild.

## Resumen

El Reto Fairchild es un programa educativo multidisciplinario para adolescentes, se compone de una serie de actividades dinámicas y proyectos llamados 'retos opcionales'. En estos se da a los adolescentes la oportunidad de investigar, escribir, crear, actuar, entrevistar, imaginar, dar discursos, diseñar, construir, conservar y finalmente mejorar su conocimiento en botánica, medio ambiente, becas y responsabilidades.

El Reto Fairchild comenzó al inicio del año escolar, y termina con la ceremonia de premios en mayo, cuando todas las escuelas presentan la meta anual de puntos logrados y entonces se otorga el premio 'Reto Fairchild'.

El programa se inicio como piloto en 2002 y los maestros responsables han sido estimulados. Durante el primer año se comenzó con 1, 400 estudiantes de educación secundaria, a la fecha, cada año el Reto Fairchild atrae mas de 16,500 de estudiantes de escuelas secundarias y colegios.

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Left: Students display their LEED certified green building model for the Fairchild Challenge research project (Photo: Fairchild Tropical Botanic Garden)