

Challenge 4A: Million Orchid Project - (Challenge Schools) Habitat Hotspots

YOUR CHALLENGE:

The Million Orchid Project (MOP) is the largest botanical citizen science program in South Florida that focuses on restoring rare, native orchids. This year we're bringing our biggest conservation project yet to Challenge schools! As the global climate warms, geographic ranges of tropical plants can expand to areas that were once too cold for them. For this Challenge, we want you to design and run a survivorship experiment that tests how a critically endangered ground orchid species grows in two different environments, or microhabitats, in your schoolyard. These two microhabitats can be chosen by you and your teacher — it could be a sunny space, a shady space, in an existing pollinator garden, under a tree, or somewhere else you have in mind.

Fairchild will provide you with 10 Florida-native orchids — plant half of them in one of your chosen microhabitats and half in another. Follow the provided MOP research protocol to collect environmental data while tending your orchids. Create a social-media-style graphic carousel that explains what microhabitats you chose and why, at least one graph showing data you collected and what it means, and why it is important to run experiments like yours on endangered plants. Your scientific findings are crucial to determining ideal planting spots for restoring these critical species!

MANDATORY TEACHER

WORKSHOP: September 27, 2025

SUBMISSIONS AND DATA SHEETS

DUE: March 20, 2026

 Digital Entry Form for each submission required

Participants per submission: Student Group

POINT SYSTEM:

Maximum Points	100 points per submission <u>2 submissions per school</u> = 200 max points
Bonus Points	50 pts for completed datasheet

✓ SUBMISSION REQUIREMENTS:

- Mandatory Teacher Workshop and plant/material pick up on September 27, 2025 at Fairchild from 9:30 am-11:30 am
- Social-media-style graphic carousel which showcases the experiment conducted including selecting the microhabitat, at least one graph derived from their school's collected data, and background information. (6-8 slides)
- Last slide of carousel includes student first name(s) and last initial(s), student grade level(s), teacher name, school name, and text saying "Million Orchid Project" and "2025-2026"
- Digital Entry Form.
 - Video link should be added to digital entry form
 - Video can be uploaded to Instagram, Google Drive, YouTube, or school video sharing program and then link provided (*please ensure that link is open access*)
- Bonus points for data sheet completed by March 20, 2026
- Two submissions (social-media-style graphic carousels) per school. Schools will only use one datasheet for their middle school MOP experiment.*

Challenge 4: Million Orchid Project

Prior Knowledge:

To be successful, students should be familiar with these concepts:

- Different plants have different adaptations which help them survive in their respective ecosystems.
- Resources (light, oxygen, water, etc.) that plants need to survive.
- The Earth's climate is constantly changing. Currently, the average temperature of the atmosphere is increasing.
- Public communication and persuasive writing.
- The concept of audience targeting and tailoring messages.
- Collaborative skills for working on a team project (if applicable)

Standards/Learning Targets:

Subject	Strand	Standard(s)
Science	Earth and Space Science	SC.7.E.6.6 Identify the impact that humans have had on Earth, such as deforestation, urbanization, desertification, erosion, air and water quality, changing the flow of water.
	Science and Society	SC.8.N.4.2 Explain how political, social, and economic concerns can affect science, and vice versa.
English Language Arts (B.E.S.T.)	Expectations	ELA.K12.EE.6.1 Use appropriate voice and tone when speaking or writing.
	Communication	ELA.6.C.1.3 Write and support a claim using logical reasoning, relevant evidence from sources, elaboration, and a logical organizational structure with varied transitions.
		ELA.6.C.2.1 Present information orally, in a logical sequence, using nonverbal cues, appropriate volume, clear pronunciation, and appropriate pacing.
		ELA.7.C.4.1 Conduct research to answer a question, drawing on multiple reliable and valid sources, and generating additional questions for further research.
		ELA.8.C.5.1 Integrate diverse digital media to emphasize the relevance of a topic or idea in oral or written tasks.
Virtual Arts	Skills, Techniques, and Processes	VA.68.S.1.1 Manipulate content, media, techniques, and processes to achieve communication with artistic intent.

For more detailed information and resources, please visit the Middle School Challenge 4 webpage.

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Learning Goals/Objectives:

By the end of this Challenge, students will be able to:

Tend orchids native to South Florida and the Caribbean.

Communicate their research findings via a social-media-style carousel to a general audience.

Develop an understanding of the significance of conserving native orchid species.

Differentiation:

Students who speak English as a Second Language may complete their infographic in their first language.

We strive to be inclusive of all students' learning needs. If you have questions about specific accommodations, please email us at challenge@fairchildgarden.org.

For more detailed information and resources, please visit the Middle School Challenge 4 webpage.



Check out these
**Social-Media-Style
Carousel Examples**



Carousel on Poaching from
National Geographic



Carousel on Invasive Species
from Reserva:
The Youth Land Trust