Seedlings for Schools 2021–22 Final Report

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FLORIDA Wildflower FOUNDATION

Program Description, Criteria and Timeline

The Seedlings for Schools (SFS) grant provides Florida native wildflowers, classroom resources and professional guidance on garden establishment to public and private K–12 schools throughout Florida. The gardens serve as outdoor classrooms where nature-based education can increase students' awareness of Florida's wildflowers and their role in Florida's natural ecosystems.

Grant applications were accepted from March 1 through June 15. To apply, teachers completed an online application and provided three photos of their garden site. Criteria for eligibility includes a suitable area for growing wildflowers and a commitment by teachers to use their garden as a tool to teach students about the importance of Florida native wildflowers.

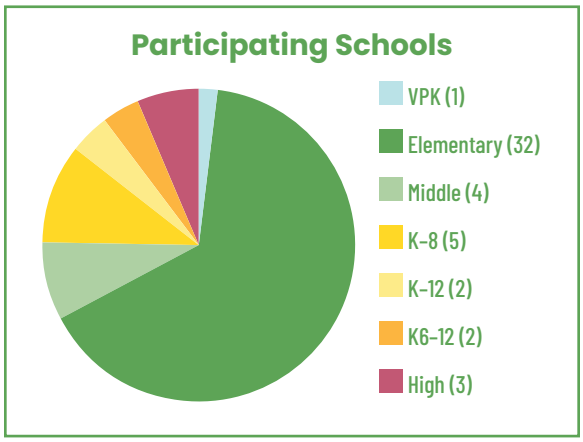
Recipient teachers are required to submit a final report in December, including three photos of the planted garden. Teachers are asked to describe the success of the gardens and the interaction of the students as they planted and cared for their wildflowers. Information is also gathered about the use of the garden in achieving Florida curriculum standards. Those who complete the survey are eligible to re-apply for an additional seedling shipment in the spring.

COVID Challenges

Seedings for Schools Grant recipients faced a challenging year in 2021 as students returned to school during the COVID pandemic. There were many questions and uncertainties about the use of outdoor classrooms and the proximities of the students to each other and their teachers. Masks were utilized outdoors as well as in the classrooms.

Grant Awards

Sixty-five teachers applied during the 2020 and 2021 application periods. In June 2021, 49 schools were awarded grants, representing one VPK, 32 elementary, four middle, five K–8, two K–12, two K6–12 and three high schools in 20 Florida counties. This included 24 schools held over from 2020 due to COVID. Approximately 4,887 students were impacted by wildflower gardens, according to estimates received from teachers. Across all schools, an average of 54% participated in the free lunch program.



Plants were shipped to each school over a four-week period in August and September. We thank our partner, Green Seasons Nursery in Parrish, Florida, for growing and shipping the native wildflowers to all schools in time for fall planting. Each school received 15–20 wildflower seedlings of Swamp milkweed (*Asclepias incarnata*), Leavenworth's tickseed (*Coreopsis leavenworthii*), Narrowleaf yellowtops (*Flaveria linearis*), Blanketflower (*Gaillardia pulchella*), Frogfruit (*Phyla nodiflora*), Black-eyed susan (*Rudbeckia hirta*) and Tropical sage (*Salvia coccinea*). The cost for plants and shipping was $50 per school, for a total of $2,450.

Seedlings (Left to right): Swamp milkweed, Threadleaf tickseed, Frogfruit and Black-eyed Susan

Thirty schools reapplied for a spring shipment of native wildflower seedlings. In March 2022, one pre-K, 20 elementary, two middle, five K–8 and two high schools received rooted liners containing five Swamp milkweed, five Dune sunflower (*Helianthus debilis*), and 10 each of Tropical sage and Black-eyed Susan. The cost for plants and shipping remained at $50 per school, for a total cost of $1,500.

Garden Sites

Garden designs ranged from small plots in school courtyards to grow boxes to dedicated outdoor learning spaces. Fourteen plots were less than 100 square feet; 12 were greater than 100 square feet. Thirteen were grow boxes. All gardens were reported to be a permanent part of the school landscape to be employed year after year for teaching purposes. Seventy-four percent of the gardens received full sunlight. Half were reported to be occasionally moist and 31% were irrigated as needed.

Left to right: Glades Central High School, Idyllwilde Elementary, Fernandina Beach Middle School

Growing Conditions

The teachers all predicted success with their wildflower gardens; but in reality, few schools have the adequately drained native soils most suitable for growing wildflowers and grow boxes are often filled with bagged media or heavy compost. The wildflower species selected and shipped to the schools are adaptable to a range of garden conditions to remediate growing conditions that are not ideal — and our native wildflowers are resilient.

FWF recommends no fertilization; mulch is optional. This year, 72% of gardens were not mulched and 11 gardens used leaves, pine straw or recycled wood mulch. In the past, weeds were a problem for most school gardens, but this year, 77% reported weeds were under control. This is likely due to better garden preparation advice, including the recommended removal of existing grasses and weeds before planting.

Most schools prepared their sites with hand tools and manually removed sod. Cardboard mulch was used by two schools, and two others solarized to kill existing turf. Eleven gardens were less than 100 square feet; six were greater than 100 square feet; and eight were garden boxes filled with commercial soil.

In the fall, two gardens were destroyed: one was inadvertently sprayed with herbicide by custodial staff, and one was trampled by foot traffic from young children who were not aware of the plants.

Top: Seminole High School
Bottom: Sheridan Hills Elementary

All of the spring plantings were successful except one, which had sandy soil with shell fragments that was not conducive to the species of plants they received. All others reported blooming Florida native wildflowers throughout April and May.

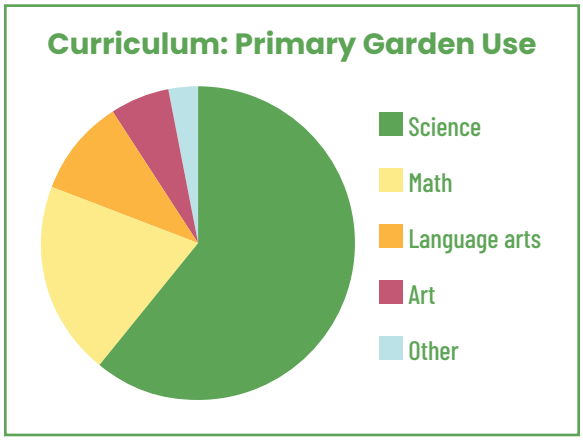
Gardening Partners

Although students took an active part in planning, planting and caring for their wildflowers, volunteer partners also helped with maintenance. Several schools worked with their after-school gardening clubs like 4-H, Green Teams, Eco-Clubs, and Gifted Student and Magnet programs. Participating community organizations included PTA groups, UF/IFAS Extension Master Gardeners, Florida Native Plant Society members, Keep Nassau Beautiful, and Lowe's Garden Center. Local churches, native nurseries, landscaping companies and, of course, parents also provided helping hands.

Gardens as Educational Tools

Although 87% of teachers used their gardens primarily for science curriculum, they were also used in other major interdisciplinary studies, incorporating math, language arts and art. Lessons using the 2021–22 gardens included:

- Plant anatomy, plant life cycles, plant identification
- Seed development, plant propagation
- Pollination, insect identification and life cycles
- Native plants and invasive plants
- General horticulture procedures and best management practices for pest control
- Environmental science and biology
- Water conservation
- Florida history
- Mathematical data and measurement
- Digital media (videos, photography)
- Language arts (poetry, prose about nature, flowers)
- Mental health (Social and Emotional Learning(SEL), calming effects of gardening)
- Grace and courtesy curriculum
- Joy of gardening



For many young and disadvantaged students, the wildflower garden was their first hands-on gardening experience.

A student at Round Lake Elementary School in Leesburg said:

"I never paid attention to plants and flowers before, and now everywhere I go I look at how beautiful they all are."

Students learned wildflower names, growth habits and growing conditions from the SFS wildflower information guide included with the plant shipments.

Gardens provided opportunities for personal observation of many insects and to learn about critical interactions that Florida wildflowers provide. Many school lessons focused on butterflies and the importance of pollinators.

Joanne Ewart of Sheridan Hills Elementary in Hollywood noted:

"Students learned about the native insects that are attracted to the native plants that we received. Students learned the importance of creating areas for native wildflowers so that insects will have opportunities to move about different communities and find food, shelter, and a place to lay their eggs. Students learned about propagation and collected seeds with the goal of planting them in their own backyards."

Advanced Achievers Academy

Teacher Mary Hess describes the value of the garden for K–5 students at Goldsboro Elementary:

> *"Kindergarten uses the garden to find colors in the environment and use their five senses to discover their world. First and second grades use the garden for observation of the natural world. Third grade uses the garden to study the structure and function of plants. Fourth grade uses it for pollination. Fifth grade studies native, non-native, and invasive plants on campus."*

Students at Southshore Montessori in Apollo Beach created notebooks for weekly observations of growth, flowering, butterflies and more. Teacher Chris Hammad reports:

> *"In math, children graphed the time and height for growth. In language arts, students wrote sentences detailing what they observed. In science, students learned how the soil, water and sun work together to help the plants thrive. Children learned that planting native plants has been proven to help butterflies, birds and bees. Also, that they don't need fertilizer, require less pesticides, and can help decrease pollution."*

New Gate Elementary

Promoting Gardens to Others

Teachers publicized their Florida wildflower garden in school newspapers, newsletters, websites, Twitter, Instagram and Facebook pages. Some teachers said their whole school was aware of the garden even though they did not interact directly with the garden.

Other Florida Wildflower Foundation Resources

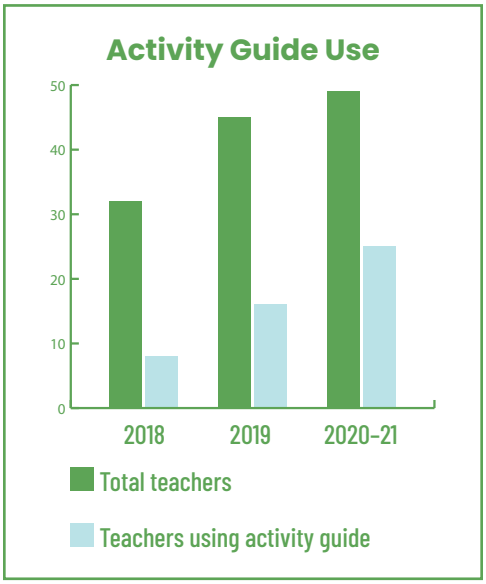
Each grant recipient received a link to FWF's Seedlings for Schools resource web page: www.FlaWildflowers.org/classroom-resources. The page features additional information on choosing and planting Florida wildflowers, and links to other websites on native plants, wildlife and insects, and the environment. The site includes links to classroom and garden activities and listings for books on nature education.

Seventy-two percent of teachers reported using some or many of these resources to help plan classroom activities.

Teachers also received a digital copy of FWF's *Wild About Wildflowers! Activity Guide*. This comprehensive guide features activities designed to help students achieve a variety of educational goals. The activities are aligned to third- and fourth-grade Florida state standards, but many are suitable for students of all ages.

It was encouraging to see that, in the fall, 64% of teachers reviewed the guide, and half of those teachers used actual activities from the guide or adapted them for their students' age level. In the spring, 90% said they reviewed the guide.

It should be noted that, in fall 2022, Foundation staff and volunteers will undertake an expansion of this guide to include lessons that emphasize the importance of Florida wildflowers for habitat connectivity and ecosystem health, and to teach students how to identify wildflowers, where to find wildflowers, how they are named, and much more.



Programs like Seedlings for Schools that connect students with the environment around them are an important piece of Florida education. Continuing in these steps will provide a brighter future for Florida citizens as the habitat for Florida wildflowers and their associated ecosystems continue to shrink. Even these small school gardens can serve as an important connection to share vital scientific information and provide habitat in our urban areas.

Survey excerpts

Below are teacher comments from the December 2021 and May 2022 surveys that illustrate how their gardens have influenced outdoor and indoor teaching experiences.

Abess Park Elementary, Jacksonville; Misty Fleming

Our first grade students did participate in the garden preparation, planting and maintenance. Better planning on our end would have included more students in the garden preparation. This program has exceeded our expectations. We had no idea it was going to be so easy to maintain! We will continue building on this garden with the students' help. Thank you so much!

We used the garden to show why we need to take care of the earth and how other living things need it to survive.

Please be patient with us as we grow our garden. We are still limited under COVID on some activities. We have two teachers on our team learning first grade and the curriculum. We have new curriculum we are all learning. Our planning time has decreased, taking away time from us for planning and preparing for the extra enrichment activities. Our students are coming to us with minimal exposure to plants and how to care for them. We aren't giving up, though! Thank you so much for everything and we look forward to partnering with you to further the education of Florida wildflower benefits.

> *We used the garden to show why we need to take care of the earth and how other living things need it to survive.*
>
> *— Misty Fleming, Abess Park Elementary*

Advanced Achievers Academy, Florida City; Hazel Arroyo

Plants arrived on Sept. 28, and we immediately opened the box. We could not start planting right away because it was late in the afternoon, close to dismissal time, but we planted them early the following morning. We made sure that plants stayed well-kept overnight. Since I teach Environmental Science to grades K through sixth, I chose a second grade class and ESE (Exceptional Students) class and divided the plants between these groups for the planting activity.

Fourteen second graders and 12 ESE students, helped by one high schooler and three behavioral therapists, were engaged in the project. The high school student taught a lesson on seeds, plant and plant part functions, and the elements plants need to survive and thrive. We have been learning about seeds and plants, in particular native plants, and the pollinators that these attract.

We have together visited the garden every week to water the plants as needed, and have enjoyed watching them grow. The project has been successful and matched our expectations and the reality of the garden. We did not encounter any problems, and we planned and prepared the area days before the planting activity.

Advanced Achievers Academy

In connection to our school being an Everglades Champion School, we used the plants to create a native garden and learn about native vs. invasive species, pollinators, the conservation status of species (which are threatened or endangered), and have learned about ways to conserve our natural environment. We have plans and space available to continue expanding garden areas around school premises, to both enjoy natural classrooms and continue spreading awareness about habitat loss and ways in which we can all take action and make a positive impact.

Students felt involved in all stages of the project, which made it all more special, and gave them both a sense of pride and responsibility. Thank you so much for making this possible.

Arbor Ridge K-8 School, Orlando; Amanda Ferguson

So far, everything has been 100% student driven. The students unpacked the seedlings, cleared the area, planted the seedlings, watered and weeded everything, and kept up with our makeshift fencing.

We used the garden in all areas: science for the life cycle of plants, language arts for poetry and writing about flowers, math for measuring the area and deciding where the flowers were planted, and health/SEL for the calming aspect of learning in a garden.

Our Green Team students took part in the garden prep and planting. Our expectation was a lush garden, but unfortunately it looked very weedy. I'm not sure if I reported the soil type wrong, or it was just too hot. We're still having blooms, so I don't think it was unsuccessful, but it definitely looks more like a weed garden than a wildflower garden.

Ashton Elementary, Sarasota; Kelly Griffith

Our two second grade classes joined forces with two fifth grade classes who were working on vegetable plants and we planted our seedlings together! That way, the vegetables could benefit from other plants that attract pollinators. The second grade classes watered and checked the garden twice daily on school days, and the fifth grade classes monitored growth and used the garden for additional science and math activities. Now the second grade will continue to use the garden as we review lifecycles and habitats in our science curriculum. The rest of the school has access to the garden for enriching their curriculum as well!

Ashton Elementary

Laminated signs that feature photos and descriptions of each native Florida wildflower were designed for other teachers who wanted to bring their classes through the garden for a lesson. Students use the garden to support their science curriculum for the parts of a plant, a plant's life cycle, and interdependence. Our garden is a beautiful and educational addition to our elementary school campus!

Boca Raton Elementary, Boca Raton; Rachel Bennett

The box of seedlings arrived in very good condition. My garden club students planted them among some other established Florida native butterfly plants. It was the perfect condition for the seedlings. They have all survived and are thriving. My students weed and water to maintain our garden beds. They are enthusiastic about taking care of the plants. Lots of the classes have visited the garden and noticed the Monarch caterpillars on the milkweed. As a garden club, we talked about invasive species and how they can crowd out native plants.

My classes discussed why it was important to plant native plants and that native plants are adapted for the sandy soil and dry weather we have in South Florida. I used the *Wild About Wildflowers* guide. It was very helpful and informative.

Chiles Elementary, Tampa; Lori Hanson

This year has been tough for us. The two teachers that manage the garden were elearning teachers last year and were not on campus. On-campus teachers were not allowed to have students stay after school for clubs or extra programs. The garden became overgrown, and it has been a major project trying to clean up the area. There is a conservation area next to the school garden. The trees and vines from that area grew and extended over the fence by a great amount and shaded out our wildflower area. Many plants died back but we are trying to revitalize the area now by trimming the over-hanging branches and vines to open the area to more sunlight.

Upcoming lessons will be on seed dispersal, types of plants, plant anatomy and water conservation.

Cocoplum Nature School, Delray Beach; Melanie Stefanovic

Cocoplum Nature School

The wildflowers have been a very welcome addition to our brand new nature school. Our school is in the beginning stages; so many of our plants are newly planted, so tending the garden has been easily managed as we are watering the whole space at the same time. Students were active in planting and have been extremely helpful keeping the garden watered and tending to the fence around the garden to protect the plants from being trampled or eaten by iguanas.

We discussed the difference between native and invasive plants, which also led into a discussion on all native and invasive species. We have surrounded the garden with a wire fence to protect it from iguanas. The students noticed iguanas avoid shiny things and have added some foil plates among the plants to deter them. We discussed what plants need to survive, measured rainfall, and then ensured we provided the plants with extra water as needed. We have yet to use the wildflower curriculum; however, we are in the process of adapting some of it into our learning discoveries.

Cranberry Elementary, North Port; Candy Duff

Our students not only have a pollinator garden, but we also tend to 18 raised beds where we plant fruits and vegetables. We plant, raise, harvest and cook or prepare our things in the garden. Students enjoy tending to every aspect of the garden and the addition of native flora helps our students understand the difference between native and invasive species, and why the difference is important to our environment. We visit the garden a minimum of weekly and ensure the watering and weeding needs are met. We have also learned about how we can care for ourselves and the environment by gardening. We use the garden to meet our standards in fourth grade for learning about plant parts, reproduction and the need for pollination.

Crossroads Academy, Belle Glade; Juliette Franklin

The students planted the native flowers. They also checked weekly for weeds and watering! They were excited when we got our first caterpillars. They decimated the Swamp milkweed and they have yet to flower. The only problem we encountered was the yellowtops didn't survive and the milkweed was eaten and covered in aphids. Some are still holding on, so there is hope that they will flower in the future. It is a beautiful garden to admire as you enter our campus! Thank you.

Science used [the garden] for pollinator study and the benefits of native plants. The math teacher had the students help figure out the size of the garden and the placement of the native plants. [The garden was used to] inform [students about] the important job of pollinators and about pesticides and the damage they do to the environment. We are trying to instill a love of the earth so they understand the importance of protecting our fragile earth.

> *We took a bare ugly spot and made a beautiful garden that greets everyone who visits our school campus, while also making a home for pollinators.*
>
> *— Juliette Franklin, Crossroads Academy*

We took a bare ugly spot and made a beautiful garden that greets everyone who come onto our school campus, while also making a home for pollinators. The garden teaches the students about native plants and pollinators… and about the importance of protecting the earth.

Fernandina Beach Middle School, Fernandina Beach; Katie Haynes

Keep Nassau Beautiful worked with us and provided and built the garden box that the plants were planted in. Once it was built, the students helped by lining the bed, filling it with bags of soil, and planting the plants. They signed up to water the plants on Mondays, Wednesdays and Fridays. At our meetings, we weeded the bed and then learned about the variety of plants and the organisms living on and benefitting from the plants. The students were very involved in the process.

The students learned about the difference between native and invasive plants. We explored a variety of both types of plants and discussed the importance of native and pollinator plants.

We use [the garden] for our ecology units in each grade level. We also have a garden club that meets weekly with our master gardeners to tend to the garden and continue education. The gardens give students a real-world application and hands-on experience to understand the concepts in class.

Thank you for sending quality plants for the students to care for. They love watching their garden grow and learning through hands-on experiences like this!

Foundation Academy, Jacksonville; Karen Wassmer

We had three areas planned for the wildflowers. All students took part in preparing for the garden in 2020 and 2021. They ensured the area was free of weeds. They added plants they purchased to the garden area and relocated milkweed from other areas. They collected a couple hundred milkweed seeds from the plants for a spring 2022 planting. All these wonderful wildflowers attract pollinators to their square foot garden beds. I believe this was a big success because the students love working in the wildflower area and enjoy collecting the Monarch caterpillars for their Monarch waystation.

Foundation Academy

Goldsboro Elementary, Sanford; Mary Hess

We take pride in the gardens on the campus of our school. By students planting the flowers, they take ownership in learning about native plants, what a plant needs to grow, and pride in seeing their plants flourish. The gardens continue to provide learning experiences for all students as they walk to lunch, play at recess, and use them as a learning tool for concepts taught in the STEM curriculum. Many in-school field trips provide opportunities for students to learn about the natural world up close. They can use their five senses, observe, record data, analyze, ask questions, and see how insects and humans interact with the world around them.

Kindergarten uses the garden to find colors in the environment and use their five senses to discover their world. First and second grades are using the garden for observation of the natural world. Third grade uses the garden to study the structure and function of plants. Fourth grade uses it for pollination. Fifth grade studies native, non-native, and invasive plants on campus.

The garden is used daily for observation. Multiple classes pass by it every day during transition times. It is also used as a formal teaching tool to talk about native plants, pollinators, pollination, life cycles, sensory adaptations, parts of a plant, and types of soil.

> *The gardens continue to provide learning experiences for all students... They can use their five senses, observe, record data, analyze, ask questions, and see how insects and humans interact with the world around them.*
>
> *— Mary Hess, Goldsboro Elementary*

I look forward to this project every year. The flowers add such beauty to our landscape. They promote learning opportunities and a conversation piece for those walking by. Students love to take ownership by planting plants — a perfect hands-on lesson to learn about how plants grow and the parts of a plant. I am thankful that the process is easy to obtain the plants: sending plants in the mail, with email reminders. Thank you so much for providing opportunities for our students to get outside and learn.

Gove Elementary, Belle Glade; Shelly Miller

The wildflower garden is in an area where an existing rock garden was already in place. It has a butterfly house from last year that will be used again in the spring. There are several native plants in this area. The garden is marked “Jardin” with stones, and there is a small rock path through the middle of the space. Students painted the rocks to represent Florida wildlife and insects.

The 4H Club and other fourth and fifth graders learn about native and non-native plants and animals through science and garden lessons taught during the STEM Fine Arts class.

Greenacres Elementary, Green Acres; Sara Oropesa

Green Acres Elementary

Our garden club weeded the garden bed over two of our meetings. They were so excited to see the unboxing of the plants when they arrived. We planted them in the bed and watered them. We weeded and watered them regularly at our garden club meetings. They also made/decorated a sign for our garden bed so that others would know it was a native wildflower bed. We had trouble with weeds (as usual) and some of the plants didn't survive. Our club continues to meet until May, so we will keep caring for it. We have also saved seeds from some of the dead flowers that we will plant to help our garden continue to grow. It is not the perfect garden, but the students are loving the overall experience, so I would call it successful in their eyes and hearts!

The students learned about native plants and how they survive better in our environment. They also learned about plant life cycles and what plants need to survive. They really loved the hands-on experience of preparing, planting and taking care of the garden.

While our garden was not perfect, the experience of preparing, planting and taking care of the garden was such a blessing to these students! Thank you for allowing us to share this with them!

We started a butterfly garden a few months ago and already have monarchs that have visited. We have caterpillars as well as caterpillars that have made their chrysalis and emerged. My students are watering and monitoring the eggs, caterpillars, chrysalis and adult monarchs. They are also researching the native plants and making signs for the garden. We also have made a sign showing the monarch life cycle.

I teach English/Language Arts, so I use the garden for creative writing, research and reflection, as well as to teach leadership, teamwork, empathy and respect for our planet. I measure success through observation, their writing, initiatives that they start as a result of the garden, and their ability to answer questions about the garden.

This has been the most wonderful thing to do with my garden club and for the school. We were lucky enough to be granted extra plants due to our schools shutting down in 2020. I have enjoyed watching it grow along with my students!

Hunters Green Elementary, Tampa; William Caldara

My students prepped, planted and maintained the gardens. They had a great time planting and keeping the garden in good shape. They loved how many bees and butterflies showed up to the gardens. We tied the garden into plant reproduction including pollination and germination.

Idyllwilde Elementary, Sanford; Karen Grimm

The kids love the garden. We had students help plant the seedlings and added perennial flowers, herbs, vegetable seeds and butterfly attracting plants that I purchased with my own money. The garden is in a location so that every day the kids pass by and look at it. Many can be heard saying, "I wonder what has grown or bloomed today?" They also ask what type of flower or vegetables are growing. Additionally, teachers on campus comment on it daily, saying how good it looks!

> *Every day the kids pass by [the garden]. Many can be heard saying, "I wonder what has grown or bloomed today?"*
>
> *— Karen Grimm, Idyllwilde Elementary*

We did studies on seeds, seedlings, plant growth and comparing plants and/or growth. We also did studies on parts of flowering plants; why native plants attract birds, butterflies and other insects; and why it is important to help pollinators. [The garden

provided opportunities] to teach about how native plants help attract birds, butterflies and other insects to impact their life cycle; [and] to learn about some common flowering native plants and how they survive better in the Florida climate.

In all grade levels, they observe and learn about the growth of plants [as it relates] to where they are planted and the amount of shade vs. sun they receive. They also learn about the flower parts with hands-on activities. Upper grades learn the names of Florida native plants and how these plants help our environment. They also get to have hands-on experiences tending to the plants, further developing their leadership abilities (we are a Leader in Me school). They also further their understanding of the importance of native plants and the role we can play to help our environment continue to flourish.

Our project has really promoted the desire of our students to do more growing and more learning from the garden area. We even will be starting a garden club next year with more students than we have ever had.

JD Parker Elementary, Stuart; Brittany Sapienza

The garden went mostly as planned. I scheduled a garden workday to prep the area. We pulled weeds, laid new soil and sectioned off the area with new bricks. The tricky part was getting up all those stubborn weeds, so the project took a little longer than expected. The students didn't get to do the actual planting of the seedlings, but they definitely put in a lot of hard work to get the ground ready.

Once they started seeing things bloom, their excitement grew. A small Green Team crew and I have been out there trying to maintain the area of weeds and enjoying watching things bloom. The only thing I wish I could change is keeping the grassy weeds away naturally. It is such a chore. We have another garden workday planned where I hope we can pull some more weeds and then get some mulch laid. But I am so happy for that little area to be beautifully wild for now!

JD Parker

John I Leonard High School, Green Acres; Nicole Black

I teach ceramics; many of my students have joined my gardening club. We seek to integrate arts and community endeavors into our gardening practices in the future. We have also merged with our school's "Show and Heal" club which is a mindfulness/meditation club. We begin our meetings with mindful movement and meditation in the garden as a large group.

To be entirely honest, this year has been difficult in many ways. The students have helped with every aspect of garden preparation and maintenance, but due to COVID absences, gardening meetings have been less frequent than I had planned. My expectations have to remain flexible, and my priority remains to provide students and staff with a safe, beautiful space where we can learn, center and grow together.

Lehigh Elementary, Lehigh Acres; Rob Morrison

The students loved preparing and planting the plants in the garden at our school! They participated in weeding before the plants arrived, planting the new arrivals in the garden, and placing pine straw afterward. Other classes have become involved and have helped with watering and conducted lessons in the garden on plant growth and the metamorphosis of butterflies. Unfortunately, many of the plants did not do as well as we hoped. I think the plants that came were very small and seemed a little dried out. Also, we may have placed some of them in a location where they did not do well. We may have a

> *The students loved preparing and planting the plants in the garden at our school! ...It has also gotten the students to enjoy being outside and less afraid of "being dirty."*
>
> *— Rob Morrison, Lehigh Elementary*

building supervisor that got a little carried away in weeding.

Many of the students involved in our fifth grade Everglades Club are able to identify the native species that they will be exposed to on our three-day camping trip. It has also gotten the students to enjoy being outside and less afraid of "being dirty." Second grade students have been to the garden to identify the different stages of plant growth and have conducted metamorphosis lessons in the garden involving the many butterflies that frequent the area.

We have used the garden to help identify native wildflowers, and students have said they have noticed some growing near their house. They were surprised to realize the flowers grew naturally around them. Students were allowed to work on the vocabulary lesson while sitting outside near the garden, instead of working indoors. Students appreciated the fresh air and change of scenery!

Lockhart Middle School, Orlando; Joanna Theus-Yocum

We used the garden with math, science, art, mental health activities and our EBD unit. Students have sitting areas for instruction, reflection and a no phone zone. Our garden club used the garden to learn about best choices for landscape, care, weeding and invasive species, in addition to animal, human and environmental impacts. They also learned vocabulary such as annual, perennial and seed dispersal. We absolutely loved this project! Thanks so much.

Lutz Elementary, Lutz; Clare Choate

We used [the garden] for lots of discussion around Earth Day, as well as with our seeds and plant unit, as well as life cycles. It was a great project.

Millenia Gardens Elementary, Orlando; Michelle Carralero

I have used the garden in the discussion of life cycles as well as discussions of Florida history. I have even used the garden to cover measurement and data curriculum in math. We have discussed Florida's native flora and fauna and discussed how our local environment/ecosystem is unique.

Thank you so much for the help and opportunity. My students really enjoyed the experience. I plan to look into the curriculum provided for some more ideas. I would love to be able to know what flowers are being shipped in advance so that our students can look up, create placards, research and discuss their flowers before they come in real life. Thanks again from all of Millennia Gardens Elementary.

Millenia Gardens Elementary

Mossy Head Elementary School, Mossy Head; Kelcie Lawrence

Our students took part in this experience. Students helped with the preparation of our beds by pulling all the weeds, dead grass and sticks from the soil. They helped mix the new soil in with the old soil.

Every day we went outside to observe our plants, the bugs that were living in the soil, and the weeds that had formed. Students also helped water them 2–3 times a week. Our expectations matched the actual reality. Our garden was successful, and students gained so much knowledge about the life cycle of a plant and plant needs.

Neptune Middle School, Kissimmee; Kimberly Lytle

I teach ancient history. As such, I teach students to appreciate the importance of plants. Without plants, cultures would not have developed, and our existence would be in jeopardy. Each ancient river valley civilization studied plants and used them for food, medicine, dyes, etc. Ancient Egypt and Rome raised bees to harvest honey.

The opportunity to create a wildflower garden was vital for the students to understand and appreciate the importance of wildflowers in our local community. Many of our students live in apartments. They do not have the ability to grow vegetables or flowers. By creating this garden, the students were able

to learn about the local wildflowers, the conditions necessary to nurture the plants and the act of caring for a living organism.

Students were able to study how the plants fit into our local flora and fauna. We even had a stray cat give birth in the garden and were able to watch the kittens batting at the flowers in play. Luckily, we caught them and gave them good homes. The expectations did match the reality of the garden. Former students assisted in the care before school and after school. Students who are challenging in the classroom excelled in the garden.

The only issue we had was the accidental spraying of one part of the garden from a county office worker. Even though he had been told the flowers were going in and to not spray that area, he forgot and came back the next month and sprayed. We only lost a couple, but it was sad for the students to see them die. Yet, as a teachable moment, it showed the importance of caring for the plants and how indiscriminate spraying can wipe out plants and animals.

With each unit of study, we addressed the types of plants found within the culture we were studying. The plants provided vital food and medicinal sources. We then looked at the plants that we were growing in the vegetable and the wildflower garden. Students were taught about the necessity of wildflowers to bring in pollinators, which in turn helped the vegetable garden. We did an experiment where we prevented several bean and tomato plants from being pollinated. The students saw that without pollinators that the plants did not produce.

We greatly appreciate the opportunity that you have given us.

New Gate Elementary, Sarasota; Jenni Presley

New Gate Elementary

The children loved planting the new seedlings! My kids, who already had experience from the last round, were helping their new friends find the right spots to dig and reminding them to water afterward. It's always beautiful to see them light up with a contribution to the community. And our older friends have taken on the task of watering the plants outside the fence for us. We use the garden for all curricula! We are always working on language skills, studying interesting insects and counting flowers. The responsibility of contributing to the garden is one of the biggest pieces of our Grace and Courtesy curriculum.

With [SFS] grants over the past few years, the garden has really become a magical space. The children are always so excited to receive and plant the new flowers, and our whole campus has taken a role in making sure the garden is watered and tended. The most popular lesson is always butterfly metamorphosis, but we also get to appreciate the other insects that are drawn to the flowers. A huge lesson for the toddler community is learning to appreciate and love the flowers without picking them, and instead respecting them as essential food for pollinators.

We spend every day in the garden, so there are always care of environment lessons. The garden space also factors into our social/emotional work, too, as the children learn to regulate behavior for appropriate spaces.

Parkway Christian Middle School, Davie; Alyssa Lavoro

We learned about the basics of each wildflower and the care required. We came up with several garden designs and then picked one based on space availability, student foot traffic and sunlight availability. We grew out the seedlings in 1-gallon containers first, then planted some in a small planter and the rest in the ground near a small vegetable garden we have. Most of the wildflowers have been doing great and have been blooming on and off. We're still waiting for the plants to continue to fill in and grow larger.

We used the plants we received as a springboard for learning about native plants and their importance to our ecosystem. We learned about pollinators, and general plant care with growing out the plants, planting them properly, and mulching and watering to maintain them.

Pelican Island Elementary, Sebastian; Diane Lott

Students were very excited and surprised to see what was in the box when the shipped plants arrived! The garden was prepped and ready from last year's planting. The students picked a plant from the selection you provided, dug the hole, prepped it with water and planted the plant. They love digging! They watered the newly planted using our rain barrel water and hose when needed.

We use the garden to teach the difference between native and non-native plants. Our students were amazed with the pollinators that visited and we discussed the pollinators' importance and needs. We also explored: plant identification, plant life science, plant growth and the joy of gardening.

Robert Lewis Stevenson School of the Arts, Merritt Island; Richard Hattal

We learned a lot about the general aspects of gardening. The most important lesson we learned was about pre-planning our garden. We did not allocate enough space for each different type of plant. Initially, the frogfruit took over the garden and began choking off some of the other flowers. We cut it back and as a result, the other plants began to thrive. We allowed students to "plan" the placement of the flowers and they soon learned the importance of understanding how each different type of plant grows and that they require different amounts of spacing to thrive. Our garden was/is a little congested, but an overall success as we have regular pollinators visiting our garden.

Robert Lewis Stevenson School of the Arts

Thank you for the opportunity! This is a great program!

Round Lake Elementary, Leesburg; Gail Weidner

Our students were responsible for the care of the entire garden. They cleared all the weeds and tilled the soil to prepare it for planting. They planted all the plants and were responsible for watering them daily if it did not rain. The students' experience far exceeded our expectations as they were so excited about watching the plants grow and bloom. One student said, "I never paid attention to plants and flowers before and now everywhere I go I look at how beautiful they all are."

> *I never paid attention to plants and flowers before and now everywhere I go I look at how beautiful they all are.*
>
> *— Student, Round Lake Elementary*

We used the information that was provided with the plants and through the website to teach the students about the different plants that they were planting. We had a spelling test on how to spell the plants and practiced pronouncing their Latin names.

Seminole High School, Seminole; Jerry Cantrell

The students at Seminole High School owned the responsibility of design, placement and care of the plants. There are three educators involved in the oversight of the students working in the gardens. Our objective is to provide insight for the students and allow the students to grow from their educational experiences. The students are using the gardens for interdisciplinary education, which is what we wanted to achieve. However, they are taking the learning beyond the modest thoughts of our concept and creating experiences that are amazing and their own.

Seminole High School is gaining terrific learning experiences with this grant. Students in our AP Language classes read Mary Shelley's Frankenstein and created poems from a Nature Walk based on an interpretation of her writing. A video from the Nature Walk exemplifies interdisciplinary learning through collaboration within language arts, science, digital media, and SHS Beautify.

Science has used the garden in biology studies as well as environmental science. Language arts has used it to create poems. Digital media has used it to create videos for Seminole High School's Morning

Show. SHS Beautify has used it to obtain additional grants to continue growing the gardens.This experience has been a positive, rewarding learning journey for our students at Seminole High School.

This has been an excellent opportunity for Seminole High School to infuse STEAM into its curriculum. The plants began the idea of working together. Seventy students joined in an after-school STEAM club, SHS Beautify, to improve the school's aesthetic appearance. This was joined by multiple science, language arts, visual arts and Spanish classes to enhance curriculum being taught. The STEAM activities gained through wildflower planting will continue for years. We look forward to having additional opportunities to grow with Seedlings for Schools!

Sheridan Hills Elementary, Hollywood; Joanne Ewart

Sheridan Hills Elementary

Students prepared the soil for the wildflowers in a raised garden bed. Students took part in the planning of plant placement and the planting and care of the bed. Unfortunately, while weeding, students wrongly identified the weeds from the plants and pulled up some of the frogfruit. That is a lesson that we discussed so that students developed a better understanding of differentiating the weeds from our desired plants. The students have really enjoyed the wildflowers and have learned all about the pollinators that they attract.

We integrated this with science lessons to observe and study the life cycles of the insects that use the plants for survival. We also discussed the life cycle of the plants in the bed. Students learned about the needs of the plants when planning out where we would put the raised bed, and the soil and amendments that we would use for planting success.

Students learned about the native insects that are attracted to the native plants. They learned the importance of creating areas for native wildflowers so that insects will have opportunities to move about different communities and find food, shelter and a place to lay their eggs. They also learned about propagation and collected seeds with the goal of planting them in their own backyards.

Thank you for continuing to offer this program to schools. We love adding wildflowers to our garden area and we have plans to spread them around our newly installed food forest next school year.

South Plantation High School, Plantation; Jody Berman

Our garden was planted by the ninth – 12th grade students in the Everglades Ambassadors after school club. They prepared the planting beds, designed the layout and installed the plants. They watered and weeded for the first few weeks. Once the garden was established, they were joined in maintenance efforts by the ninth grade students in our magnet program. These students are learning about gardening for good and the importance of soil, pollinators and best management practices for pest management. The wildflower beds are adjacent to some of their food plots and have been incorporated into their lessons and garden program. The wildflowers more than met our expectations — students are engaged by the experience and the fun of watching the plants grow and the wildlife that they have attracted. They have cleared a new space behind our building and are hoping to create additional wildflower gardens in that area.

I was able to plant [the spring seedlings], but they had poor survival. The timing of their arrival and our spring break made it such that iy took awhile to get them in the ground; and then we had a heat wave, so many did not make it.

I once again worked with the school's environmental club to plant the seedlings. They assisted in all aspects of the plantings, but unlike in the fall, I was not able to have consistent help from them in caring for the seedlings. My expectations for the spring garden were not met due to poor engagement with the students and heat stress for the plants. I think it was just a convergence of bad luck, and the only suggestion I might make would be to ship plants to south Florida earlier in the year so that they have a better chance of survival.

Southshore Montessori School, Apollo Beach; Chris Hammad

The garden was prepped ahead of time. The children assisted in planting and watering the seedlings. They created an observation notebook where they noted what they noticed every week: growth, flowering, butterflies, etc. They learned about the different types of plants they were planting and how they are all native to Florida.

In math, children graphed the time and height for growth. In language arts, students wrote sentences detailing what they observed. In science, students learned how the soil, water and sun work together to help the plants thrive.

Children learned that planting native plants has been proven to help butterflies, birds and bees, and that they don't need fertilizer, require less pesticides and can help decrease pollution.

Tropical Elementary, Merritt Island; Erin Rice

The project has been awesome. Students took a lot of pride in finding spots for many of the plants. They chose areas that were ready to dig into. We visit the gardens during dry weeks to water. We visit to weed and nurture the plants. Some students like to talk to the plants since it encourages growth.

The expectation did match our reality. I knew about 50% might not survive due to shade, squirrels and students. We had loss to crummy locations, but the students have to learn through trial and error. We have squirrels on campus that eat EVERYTHING. I even saw one eating a hibiscus bloom one day. Some spots were in high traffic areas, and they got stepped on by younger students. It was sad and we roped sections off, but to no avail.

[The garden] was used by the gifted student program. Last year, we used the social distancing to our advantage and beautified many gardens on campus. We continued that this year and used some wildflowers to fill in dead spots, expand our gardens and create some new ones. We constantly try to look at if a plant is a "weed" or not and how to determine that. We read articles about plants, design garden spaces, and bring in design and science into the unit.

We love talking about "weeds" like Florida snow that is so pretty, but also invasive. We learned about Melaleuca — the good, bad and ugly things about it. We discuss invasive vs. native plants and why native plants are vital to the life cycle of bees and butterflies. It is peaceful to visit the gardens and spend time in nature. We are excited for the growth and changes they will provide each season.

I measure success by listening to the students as they work. They absorb the vocabulary and demonstrate understanding with their actions. I enjoy seeing them dig into nature with gusto and positivity. They care about the plants and the environment.

This program is awesome. We love getting some bonus plants for our gardens and garden boxes on campus. Improving the gardens has been so good for our mental health, campus beautification, and overall fun factor. Thank you for all your hard work!

Administrator Comments

I would like to thank Green Season's Nursery for growing and shipping their beautiful wildflower liners to the schools. Quality plants make a huge difference in the success of these small gardens. This year's grant recipients seemed really engaged in teaching students about the value of native plants and wildflowers to the Florida ecosystem. The importance of pollinators was also embraced by the students, and I look forward to contributing more lessons and activity sheets to help teach the necessity for connected habitat throughout our state. I was also heartened by the reports of the gardens being used for SEL curriculum (Social and Emotional Learning) to help students to become better human beings.